# COVER SHEET FOR PROPOSAL TO THE NATIONAL SCIENCE FOUNDATION

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# **CERTIFICATION PAGE**

# Certification for Principal Investigators and Co-Principal Investigators:

I certify to the best of my knowledge that:

(1) the statements herein (excluding scientific hypotheses and scientific opinions) are true and complete, and
(2) the text and graphics herein as well as any accompanying publications or other documents, unless otherwise indicated, are the original work of the
signatories or individuals working under their supervision. I agree to accept responsibility for the scientific conduct of the project and to provide the
required progress reports if an award is made as a result of this proposal.

I understand that the willful provision of false information or concealing a material fact in this proposal or any other communication submitted to NSF is a criminal offense (U.S.Code, Title 18, Section 1001).

Name (Typed)	Signature	Social Security No.*	Date
PI/PD		Č e Č	
Mary Carnes	Signature Not Required	N F	
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# Certification for Authorized Organizational Representative or Individual Applicant:

By signing and submitting this proposal, the individual applicant or the authorized official of the applicant institution is: (1) certifying that statements made herein are true and complete to the best of his/her knowledge; and (2) agreeing to accept the obligation to comply with NSF award terms and conditions if an award is made as a result of this application. Further, the applicant is hereby providing certifications regarding debarment and suspension, drug-free workplace, and lobbying activities (see below), as set forth in Grant Proposal Guide (GPG), NSF 01-2. Willful provision of false information in this application and its supporting documents or in reports required under an ensuring award is a criminal offense (U. S. Code, Title 18, Section 1001).					
In addition, if the applicant institution emp implemented a written and enforced confl of his/her knowledge, all financial disclose been satisfactorily managed, reduced or institution's conflict of interest policy. Con	ploys more than fifty persons, the authorize lict of interest policy that is consistent with ures required by that conflict of interest pol eliminated prior to the institution's expendit flict which cannot be satisfactorily manage	d official of the applicant institution is certifying the provisions of Grant Policy Manual Section 5 icy have been made; and that all identified conf ure of any funds under the award, in accordanc d, reduced or eliminated must be disclosed to N	that the in 10; that t licts of in lice with the ISF.	nstitution has o the best terest will have e	
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The undersigned certifies, to the best of h	nis or her knowledge and belief, that:	-			
(1) No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.					
(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of amployee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, Ioan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.					
(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements and that all subrecipients shall certify and disclose accordingly.					
This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$10,000 for each such failure.					
AUTHORIZED ORGANIZATIONAL REPR	SIGNATURE		DATE		
NAME/TITLE (TYPED)					
Diane Barrett, Federal Dire	ctor	Electronic Signature		May 8 2001 5:32P	M
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### **PROJECT SUMMARY**

UW-Madison has been a pioneer in enhancing opportunities for women. Programs and policies exist to mentor women faculty, educate employees about sexual harassment, create opportunities and funds for dual-career couples, and provide tenure clock extensions for parenting. Despite measurable gains, women continue to comprise fewer than 10% of faculty in the physical sciences and fewer than 20% in the biological sciences. It is time to take gender equity efforts to a new level. The proposed initiative will transform UW-Madison into a living laboratory where new and existing programs will undergo rigorous evaluation and modifications made expressly for women in science and engineering. The evolving transformation itself will be subjected to ethnographic and linguistic study.

This proposal presents a comprehensive, multi-layered approach addressing institutional and personal barriers facing women in science and engineering. The research questions to be addressed are 1) what are the climate-related factors, barriers, attitudes, and experiences of women in science and engineering at UW-Madison, 2) to what extent are the current equity programs and the proposed initiatives successful in addressing these factors, 3) to what extent can the eventual institutional transformation model be replicated and extended to other campuses. A National Women in Science and Engineering Leadership Institute (WISELI) will be established to centralize collected data, monitor the success of the proposed efforts, implement a longitudinal data system, and ensure dissemination of best practices.

In addition to establishing WISELI as a visible entity with campus-wide endorsement; new initiatives will include national workshops for academic women as well as chairs and deans; establishing 10 professorships/chairs for women in science and engineering in the Chancellor's endowment goals; awarding Life Cycle Research Grants at vulnerable career junctures; sponsoring Celebrating Women in Science and Engineering Seminar Series; and nominating UW women for prestigious local and national recognition awards. Existing gender equity programs such as the Chancellor's Climate Initiative, dual-career hiring programs, the Women Faculty Mentoring Program, the Committee on Women, Sexual Harassment Information Sessions, and Gender Pay Equity studies will be evaluated for effectiveness and modified as needed for women in science and engineering. While the proposed project focuses on developing women academic leaders, it incorporates interventions to foster networking, mentoring, and role modeling for women graduate and postdoctoral trainees with the goal of filling the academic pipeline. Evaluation, directed by the Learning through Evaluation, Adaptation, and Dissemination (LEAD) Center, will be on-going and will inform development and redirection of initiatives in an iterative process of implementation, evaluation, and modification. Complementing the evaluation, an ethnographic study and linguistic discourse analysis will be conducted by a cultural anthropologist and linguist, respectively. Finally, we will attempt to build multivariate models that identify predictors of gender climate.

The Chancellor has committed to making the program sustainable beyond the funding period by continuing support for a research position dedicated to the institutional study of the status of women, the endowed professorships, and planned efforts to raise funds to make WISELI a permanent element of the campus. The UW-Madison has all of the scientific, historical, administrative, and cultural ingredients to make it an ideal campus to develop and study innovative initiatives for true institutional change for women in science, both locally and as a model for other campuses.

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А	Project Summary (not to exceed 1 page)	1	
В	Table of Contents (NSF Form 1359)	1	
С	Project Description (plus Results from Prior NSF Support) (not to exceed 15 pages) (Exceed only if allowed by a specific program announcement/solicitation or if approved in advance by the appropriate NSF Assistant Director or designee)	15	
D	References Cited	3	
Е	Biographical Sketches (Not to exceed 2 pages each)	31	
F	Budget (NSF Form 1030, plus up to 3 pages of budget justification)	14	
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н	Facilities, Equipment and Other Resources (NSF Form 1363)	1	
I	Special Information/Supplementary Documentation	49	
J	Appendix (List below.) (Include only if allowed by a specific program announcement/ solicitation or if approved in advance by the appropriate NSF Assistant Director or designee)		

Appendix Items:

\*Proposers may select any numbering mechanism for the proposal. The entire proposal however, must be paginated. Complete both columns only if the proposal is numbered consecutively.

### **RESULTS OF PRIOR NSF SUPPORT**

# NSF "Biological Literacy Through Classroom Community" \$92,372 6/92-9/95

**PI Jo Handelsman.** The objective of the project was to develop transferable methods for teaching introductory biology with active, inquiry-based techniques that are inclusive of students of diverse ethnicity, gender, and cognitive style. The work was guided by the goals of increasing the representation of women and minorities in science and teaching the scientific method to introductory level biology majors and non-science majors. We developed exercises for use in lectures and discussions and a set of open-ended laboratory experiments in which students are asked to develop their own hypotheses and design experiments to test them. The project has been sustained at the University of Wisconsin-Madison through financial support from administrators and enthusiastic endorsement from faculty. A number of faculty have consulted the PI to incorporate the methods into their own courses. The PI also teaches a summer course, "Teaching Biology," which presents the principles and application of modern pedagogy. The course has attracted undergraduates, graduate students, postdocs, UW faculty, and sabbatical visitors from universities in the U.S. and abroad. The results of the project have been nationally disseminated by the PI through the course, in two books (Handelsman, J., Houser, B.J., and Kriegel, H. 1997. Biology Brought to Life: A guide to teaching students how to think like scientists. Wm. C. Brown Publishers, Inc., Dubuque, Iowa. 256 pp. and. Handelsman, J. 1997. Biology Brought to life: Laboratory Guidebook. Wm. C. Brown Publishers, Inc., Dubuque, Iowa. 53 pp.), at teaching and scientific conferences, and through seminars on many campuses.

**NSF "A tropical microbial observatory: Collaborative research on microbial diversity in caterpillars" \$646,069: 10/1/00-9/30/04** R.M. Goodman, J. Handelsman, H. Simon. The goal of the project is to sample, inventory, quantify, and monitor microorganisms associated with tropical caterpillars feeding on a single tree species by culturing and culture-independent approaches. We will apply the use of metagenomics, which is an approach to conducting genomics on uncultured organisms that we have developed for studying soil microorganisms, to the microbiota of the caterpillar gut. In the first 8 months of the project, we have learned to rear and sample the caterpillars in their natural environment and developed methods to clone DNA directly from the environmental sample.

# BACKGROUND- Rationale for the proposed UW-Madison Institutional Transformation Initiative.

Despite advances, women continue to be underrepresented in almost all science and engineering fields, nationally.<sup>1-4</sup> In 1997, women constituted 36% of life scientists, 22% of physical scientists, 9% of engineers, and 27% of computer scientists.<sup>1</sup> In September, 2000, the Commission on the Advancement of Women and Minorities in Science, Engineering, and Technology Development (CAWMSET)<sup>2</sup> issued a report which concluded that in addition to social responsibility, a workforce that includes more women, underrepresented minorities and persons with disabilities in science, engineering, mathematics and technology<sup>a</sup> strengthens business, academe, and government, and businesses and other organizations see a significant return on their investment when diversity is achieved.<sup>5,6</sup> Furthermore, if the number of women in the scientific workforce was raised to the level of men, the enormous shortage of skilled workers in many areas could be filled. Given their representation in the college-age population, women are underrepresented recipients of science and engineering degrees at all levels, growth has been stagnant in many fields, and in academic institutions, women differ from men in terms of academic rank, tenure, and the type of school in which they are employed.<sup>1,2,7</sup>

<sup>&</sup>lt;sup>a</sup> In this document we use the term "science and engineering" to refer to the fields of biological science and physical science which at UW-Madison include engineering, mathematics and computer science. This terminology is congruent with the wording of NSF's strategic goal, as outlined in the Government Performance and Results Act Strategic Plan FY 1997-2003, to "strive for a diverse, globally oriented workforce of scientists and engineers."

Women drop out all along the path that would lead to successful careers in science and engineering.<sup>2,4</sup> Reasons for this are complex, but among them are feelings of personal and professional isolation, lack of sufficient and varied role models, lack of mentoring, an environment perceived as denigrating to women, devaluation and marginalization of their professional contributions, frank gender discrimination, and a lack of institutional support for family issues that continue to fall predominantly on women.<sup>8-19</sup> Vetter<sup>8</sup> refers to the "triple penalty of cultural, attitudinal and structural impediments" that makes it more difficult for women scientists to persevere in their careers. As Cole and Singer demonstrated in a mathematical model, the aggregate effects of even minor negative "kicks" along the career path prevent women scientists from achieving their full potential.<sup>20</sup>

Academic science is part of a larger culture where, due to a complex interplay of biology, environment, and socialization, virtually everything is gendered.<sup>21,22</sup> Valian<sup>14</sup> refers to "gender schema" as a core of unconscious beliefs each of us holds about the behaviors, traits, and preferences of men and women. These gender schema account for the consistent findings that gendered differences in patterns of speech, use of language, eye contact, physical size, social roles outside the workplace, comfort with competitive behavior, willingness to be the center of attention, feelings of entitlement, tendency to internalize failures and externalize successes, and feelings of guilt related to performance as a parent all contribute to cumulative disadvantages for women across all professions examined. There is universal agreement that no single "magic bullet" exists to solve the issues related to women's career parity in science and engineering. Rather, a variety of interventions are needed in four general areas: 1) *institutional policies and practices* that disadvantage women,<sup>17-19</sup> 2) *gender climate* including attitudes and behaviors that are unsupportive of women's career development,<sup>11,12,16</sup> 3) a need to provide women in science and engineering with *the knowledge and skills* necessary for academic success,<sup>23-26</sup> and 4) the *absence of women in the pipeline* at each academic level.<sup>4,24</sup>

The NSF ADVANCE focus on development of women leaders in academic science and engineering is an excellent strategy for stimulating institutional transformation. Academic scientists and engineers set the nation's research agenda, serve as role models and facilitators for others, inform policy makers, and teach future generations of scientists and engineers. Women leaders both within and outside academe have historically been the agents of change. For example, it was Congresswoman Connie Morella who developed and sponsored the legislation establishing CAWMSET, Nancy Hopkins at MIT who initiated the study of gender inequity that resulted in systemic institutional change, and then Chancellor Donna Shalala who introduced the Madison Plan to increase the number of women and underrepresented minority students, staff, and faculty at UW-Madison.

The opportunity to apply for an Institutional Transformation Award designed to increase the participation and advancement of women in academic science and engineering careers comes at an ideal time for UW-Madison for the following reasons:

- John Wiley, newly appointed Chancellor, has mathematically modeled hiring strategies to increase faculty diversity<sup>27</sup> and has publicly stated that improving campus climate is his top priority.<sup>28</sup> Led by the Committee on Women, behaviors that contribute to an adverse climate are being defined, local manifestations are being assessed, and alliances with deans are being built.<sup>29</sup>
- The President of the UW-System, Katharine Lyall, has performed a system-wide gender climate evaluation that named women's academic leadership development a top priority.<sup>30</sup>
- Well-established gender equity programs including a Women Faculty Mentoring Program (since 1989),<sup>31</sup> Sexual Harassment Information Training Initiative (since 1999),<sup>32</sup> Dual-career hiring initiatives (since 1997)<sup>33</sup> and longitudinal Gender Pay Equity studies (waves in 1992, 1997, 2001) are in place and can be analyzed for impact.<sup>34</sup>

- A longstanding Committee on Women (faculty and staff) reports to the Faculty Senate and has worked with senior administration on many of the existing gender equity programs.
- UW-Madison is in an ideal position to address pipeline issues: it is second among all U.S. universities and first in the Big Ten in the number of doctoral degrees conferred in science and engineering,<sup>35</sup> has a unique undergraduate learning and living program for women in science and engineering,<sup>36,37</sup> and has an active Graduate Women in Science chapter.<sup>38</sup>
- The presence on one campus of six different colleges with a minority of women faculty in the biological and physical sciences (Colleges of Engineering, Agricultural and Life Sciences, and Letters and Sciences; and Schools of Medicine, Veterinary Medicine, and Pharmacy) provides an opportunity for comparisons across an unusual range of academic units.
- The unique UW Learning through Evaluation, Adaptation, and Dissemination (LEAD) Center offers the unparalleled ability for substantive program evaluation.<sup>39</sup>
- The presence of faculty with expertise in cultural anthropology and linguistics provides the opportunity to infuse scholarship from multiple disciplines into the proposed transformation.
- UW-Madison's top-ranked Business School is an ideal partner for developing leadership workshops and exploring a Time-Stretcher Service.
- The recently built Fluno Center for Executive Education, a centrally located, immersion-learning facility for up to 100 people, is an ideal site for leadership training programs.<sup>40</sup>
- The goals of this proposal converge with the personal and professional commitment of the PIs to improve gender climate at UW-Madison and to foster the academic careers of more women. Both have demonstrated an ability to effect positive, systemic change.<sup>11,41,42</sup>

It is time to raise gender equity efforts to a new level, not only in terms of launching comprehensive, multi-layered interventions, but in terms of rigorous evaluation of what works and what does not. At UW-Madison, 52% of all students are women and given the size of its graduate school, few peer institutions have comparable potential to nurture the careers of large numbers of women scientists and engineers. Within the past 15 years, UW-Madison implemented several gender equity programs and notable improvements have been documented including an increase from a 17% tenure rate for women in the physical sciences hired 1978-82 to 88% for those hired 1987-91 and increases in the biological sciences from 35% to 55%. Rates in both divisions are now almost identical for men and women.<sup>43</sup> Women now comprise 23.9% of faculty overall and 38% of assistant professors, 32% of associate professors, and 17% of full professors. However, at present in the physical sciences women comprise 8.6% overall (5.7% in 1990), with 18.3%, 15.9%, and 4.8%, assistant, associate, and full professors, respectively. In the biological sciences comparable figures are 19.8% (14.7% in 1990), 41%, 22.1%, and 13.1%. Women comprise 21% of the deans and 15% of department chairs (see tables below).

		Profess	or	Ass	ociate Pr	ofessor	Ass	istant Pro	ofessor	-	Fotal Fac	ulty
Division	Men	Women	% Women	Men	Women	% Women	Men	Women	% Women	Men	Women	% Women
Total	1127	233	17.1	266	125	32.0	262	161	38.1	1655	519	23.9
Humanities	162	80	33.1	36	36	50.0	43	37	46.3	241	153	38.8
Biological												
Sciences	366	55	13.1	116	33	22.1	69	48	41.0	551	136	19.8
Physical												
Sciences	334	17	4.8	58	11	15.9	67	15	18.3	459	43	8.6
Social												
Studies	265	81	23.4	56	45	44.6	77	59	43.4	398	185	31.7
No affiliation							6	2	25.0	6	2	25.0

# October 2000 UW Madison Faculty by Division, Rank, Gender

### 2000 Headcount of UW-Madison Deans by Gender and School/College

School/College	Men	Women	
Agricultural and Life Sciences	1		
Business	1		
Division of Continuing Studies	1		
Education	1		
Engineering	1		
Graduate School		1	
Human Ecology		1	
Institute for Environmental Studies			
International Studies	1		
Law School	1		
Letters & Science	1		
Medical School	1		
Nursing		1	
Pharmacy	1		
Veterinary Medicine	1	_	Percent Women
Total	11	3	21.4%

### 2000 Headcount of UW-Madison Department Chairs by Gender and School/College

School/College	Men	Women	Percent Women
Agricultural and Life Sciences	19	1	5.0%
Division of Continuing Studies	2	0	0.0%
Education	6	3	33.3%
Engineering	9	0	0.0%
Letters & Science	33	11	25.0%
Medical School	22	2	8.3%
Veterinary Medicine	5	0	0.0%
Total	96	17	15.0%

NOTES: The Schools of Business, Environmental Studies, Human Ecology, Law,

Nursing, and Pharmacy do not have formal departments and so do not have department chairs.

SOURCE: Prepared by UW-Madison Office of Budget, Planning & Analysis

**VISION, GOALS, AND ANTICIPATED IMPACT** - Our *vision* is to transform UW-Madison into an inclusive community where--irrespective of gender, race, or cultural background--all individuals are valued and encouraged to learn, teach, collaborate, explore, and share ideas. In accordance with the goals of ADVANCE, this proposal focuses on gender diversity in science and engineering. However, our proposed Institutional Transformation initiative lays the groundwork for the overlapping but unique issues facing other underrepresented groups in academic science and engineering, with the ultimate goal of further diversifying the national workforce. Our long-term *goal* is to have the gender of the faculty, chairs, and deans reflect the gender of the student body. We realize that this goal is not achievable in five years; however, the *anticipated impact* of the Institutional Transformation initiative is to transform UW-Madison into an on-going living laboratory which will promote gender equity for women in science and engineering and *provide methods and analyses* to measure *intermediate indicators* of success. A National Women in Science and Engineering Leadership Institute (WISELI) will be established as a visible, campus-wide entity, endorsed by top-level administrators. WISELI itself will be part of the project design and will centralize collected data, monitor the success of the proposed efforts, implement a longitudinal data system, and ensure dissemination of best practices.

# PERFORMANCE PLAN AND METHODOLOGY

**EVALUATION** - Evaluation will be a cornerstone of our Institutional Transformation at UW-Madison. A team of experienced evaluators will 1) perform a thorough environmental needs assessment and longitudinal study regarding the current status of women in science and engineering at UW-Madison complemented by in-depth anthropological and discourse analytic studies; 2) conduct annual "Issues Studies" on pertinent questions that need investigation, 3) provide formative feedback about the interventions that WISELI undertakes and about WISELI as an organization that will inform mid-course corrections and decisions; 4) institutionalize processes for longitudinal monitoring beyond the grant period; 5) provide summative data about the attainment of our specific objectives; and 6) disseminate results through writings and presentations.

Research Questions: Our evaluation is designed to address three overriding research questions:

- 1. *What are the climate-related factors, barriers, attitudes, and experiences of women in science on this campus?* (From their perspectives, what types of initiatives would help address the barriers?)
- 2. To what extent are our interventions and WISELI successfully addressing these factors? [Have the interventions resulted in an improvement in the capacity of the participants to succeed and what modifications are needed to make them more valuable? What changes are occurring, if any, in intermediate indicators at the levels of the individual faculty, the division/department, and the institution (e.g., Has UW addressed imbalances where apparent? hired retained, advanced more women? adopted and created policies to address needs?) What is the value-added of WISELI?]
- 3. *To what extent can our model be replicated and extended to other campuses?* (What features of our design were instrumental to success?)

Evaluation Team: Dianne Bowcock, UW-Madison LEAD Center,<sup>b</sup> will coordinate our evaluation. Bowcock, who has considerable experience evaluating Women in Science initiatives,<sup>c</sup> will lead our baseline/descriptive study, gender climate surveys, carry out our annual "Issues Studies," and work closely with the WISELI Executive Administrator, PIs, and the Leadership Team, to develop and implement feedback and data-tracking processes about the initiatives and interventions. Amy Stambach, Departments of Educational Policy Studies and Anthropology, will spearhead an in-depth ethnographic study that involves a cultural analysis of gendered climate. As part of the ethnographic study, Cecilia Ford, Department of English, will analyze discourse dynamics among academic colleagues in departmental and committee meetings to determine whether and how the sense of marginalization that women report can be documented in naturally occurring professional encounters. The WISELI Executive Administrator will lead the examination of gender differences in institutional resources. Margaret Harrigan, Office of Budget Planning and Analysis, will be a member of the Evaluation Team. Statistical support for for developing predictive models of gender climate will come from Harrigan and Murray Clayton, Professor of Statistics. Thus, expertise in statistical and quantitative analysis will complement the descriptive and contextual information provided by Bowcock, Stambach, and Ford. In addition, we will use the UW Survey Center's superb infrastructure (coordinated by John Stevenson) to conduct our large-scale climate survey.

<sup>&</sup>lt;sup>b</sup> The LEAD Center has acquired a national reputation for excellence in the evaluation of campus and outreach projects undertaken by SMET faculty at UW-Madison and its partner institutions. The methods the LEAD Center has developed, their experience base, and their knowledge of the relevant literature enable them to provide cutting edge evaluation for our project.

<sup>&</sup>lt;sup>c</sup> Bowcock authored "Evaluation of the CIC WISE Initiative." Final Evaluation Report (NSF HRD 95-55812). October 2000. Between 1996 to present Bowcock provided program evaluation for UW-Madison: College of Engineering, and the Departments of Computer Science, Pharmacy and Botany, and for the following science-based projects: Undergraduate Research Scholars, "Professional Development of Milwaukee Public Schools" (Science Education Partnership Act funded by NIH), and "Molecular Structures and Functions in University Curriculum" (CCLI funded by NSF).

Noteworthy features of our evaluation plan are that it 1) has both formative and summative purposes; 2) uses both qualitative and quantitative methods<sup>d,44</sup>; 3) involves multiple researchers and complementary methods to provide triangulation; 4) uses iterative approaches built on existing data to shape next steps; 5) is designed to build capacity for WISELI to become institutionalized.

**Reporting activities:** Decisions about mid-course improvements will be guided by 1) ongoing dialogue with the PIs, Leadership Team, and Evaluation Team; 2) semiannual reports provided by the Evaluation Team; and 3) input from the External Advisory Team, which will convene annually. In years 3 and 5 a summative report will focus on the achievement of program goals. Conference presentations and articles based on the evaluation findings will be produced. The diversity of disciplines represented on the Leadership Team enhances the opportunity for broad dissemination.

# Plan, Methods and Timeline

**YEAR 1**: *Establish Longitudinal Data System*. In year one, the Evaluation Team will establish systematic ways to track over time the efforts and outcomes of existing programs and new initiatives and gather feedback from participants across campus about their value and impact. Because the programs are so varied and the audiences and purposes diverse, our system will gather some consistent types of information across the different initiatives (e.g., number, status, names of participants) while offering a flexible way of gathering information about the achievement of the goals of individual initiatives. In addition, members of the Evaluation Team will conduct observations during selected activities throughout the period of the transformation. The data will be centralized at WISELI and become part of the longitudinal data base.

**Establish baseline for in-depth impact study**. Bowcock and Stambach will conduct in-depth hourlong individual interviews with a representative sample of thirty-two women out of 179 women faculty in the biological and physical science. This will provide a detailed baseline from which to chart the anticipated transformation over the five-year period. These interviews will investigate experiences as women in science and engineering at UW-Madison; attitudes about work, department climate and advancement; knowledge and use of resources to assist and support women; self-ratings on isolation, stress, health, and hopefulness; participation in gender equity initiatives; strategies for professional growth. Interviewees will complete a survey asking them to quantify their responses to some of the issues using existing or modified scales or instruments.<sup>11,16,45,46</sup> The same thirty-two women will be interviewed early in year 5 to explore their participation in WISELI initiatives and to determine perspectives on personal, departmental, and institutional changes and impact. Thus, the interviews provide longitudinal perspectives and will provide an in-depth understanding of the impact of WISELI initiatives on UW women in science. Reports describing this information will be discussed at evaluation meetings with the Leadership Team.

**Develop and Administer Climate Surveys**. Data from the impact study will be used to develop a Climate Survey to be administered to all (men and women) faculty and scientific staff in the biological and physical sciences (n=2,400). The UW Survey Center will administer these surveys and return raw data to the Evaluation Team for analysis and inclusion in the longitudinal data system.

**YEARS 2** – 4 : In year two we will analyze the climate surveys, continue to gather feedback on initiatives and interventions and create reports that summarize this information so that it can be used for improvement or the creation of new interventions. In addition, during years two through four we will conduct Issues Studies and an Ethnographic study including a discourse analytic component.

**Issues Studies** - In years two, three, and four the Leadership Team will use the data from the year one baseline study to identify a topic, issue, setting (college/school) or cohort (e.g., newly hired faculty

<sup>&</sup>lt;sup>d</sup> Used together, qualitative and quantitative methods strengthen an evaluation, since they document change *and* identify the context for that change (Ragin 1994).

women in science) that we will investigate further. These topics will be ones that the Leadership Team wants investigated in order to take specific action on or develop an intervention. Each year there will be a different focus that derives from the needs of the total project. For example, based on baseline studies and surveys, we may decide that child care issues among faculty women are critical; thus our issues study would investigate this topic by interviewing a sample of faculty. Or, the PIs may determine that a specific segment of women faculty have unique needs that we want to investigate (e.g., women in science within one year of tenure review). This design, which is intentionally openended, provides flexibility and allows WISELI to pursue research questions as they arise. The methods used in these studies will be interviews (both individual and group), surveys, and participant observation, as appropriate. The resulting data will be added to the longitudinal data system.

**Discourse Analysis of the "Ignoring-my-ideas" Phenomenon** - Professor Cecilia Ford, whose work is in discourse analysis, will examine whether and how the "ignoring-my-ideas" phenomenon described almost universally by women faculty can be documented in naturally occurring professional encounters. This work will involve observation, videotaping, transcription, and analysis. The analytic method involves rigorous structural and sequential mapping of the interactions and contributions of participants, with attention to verbal and non-verbal aspects of the encounters. Fundamental to such analysis is the fate of topics: the introduction, uptake, and development of ideas. In an effort to reduce bias, gender of participants will not be the initial focus of the analysis. However, if the participants themselves identify gender in their conversation, this will feed into the initial analysis. After mapping, the data will be inspected for the role of gender and the potential sources for what has been experienced and reported as marginalization in women's interactions in academic environments.

**Ethnographic Study** - The ethnographic study will use interview and survey data from the baseline study to determine key indicators of climate in each of the 6 colleges/schools. It will then investigate these key indicators using qualitative methods and participant observation. The ethnographic study will provide the Leadership Team with descriptive data useful for building an aggregate measure for climate that will be entered into the statistical model, prioritizing future interventions, and designing interventions that are meaningful to women in science and engineering. The work will involve: 1) participant observation at several key junctures, e.g., faculty meetings, classes, thesis defenses, and other rites of passage; 2) participant observation in laboratories and working spaces, where everyday interactions often reflect and produce gendered inequalities; and 3) informal open-ended interviews with male and female faculty to augment baseline year 1 data and to gain greater understanding of competing views that emerge in sites observed.

The Ethnographic Study and the Issues Studies will be conducted in interaction. The Ethnographic Study will provide descriptions of two endpoints along a continuum, between which data gathered from the Issues Studies will be used to qualify contrasting scenarios. Procedurally, the Ethnographic Study will investigate a core set of issues holistically and "deeply." Building on existing research that demonstrates that despite discourses of gender neutrality in scientific settings women continue to experience gender-differentiating practices and interactions that are restricting<sup>47,48</sup> the Ethnographic Study will examine the degree to which the organizational structures and divisions of labor within departments, in laboratories, in instructional settings, on grants, and in research collaborations and initiatives, contribute to the production and reproduction of career-impeding gender schemas and hierarchies. In order to help the Leadership Team understand how gender is objectified organizationally, the Ethnographic Study will examine women and men in interaction. In coordination with the ethnographic study, an analysis of language in interaction will be implemented. Two departments will be included in this component study. We will look for both strategies of inclusion as well as interactional patterns which may lead to problematic phenomena or the perception of them.<sup>49-51</sup> The findings of the discourse analysis will feed back into other levels of the ethnographic study,

enriching the description of the social situation of women in science and engineering at UW-Madison, and suggesting directions for future investigation during subsequent years.

Whereas the linguistic component conducted by Ford will observe how people communicate through speech and gesture, the Ethnographic Study will observe how gender is structured into the use of physical space and the division of labor. It will examine women's and men's differential use of space and time, their resource use and allocations, and it will observe how people aggregate by gender and other identifying markers. In focusing on women's and men's gendered interactions, the Ethnographic Study will broaden the scope of "gender" beyond its reference to half the population and will directly inform the Leadership Team's efforts to create systemic and lasting interventions that help women *and* men develop techniques for increasing women's impact in the fields of science and engineering.

Modeling Predictive Variables of Campus Climate - Through the interviews and surveys, we will derive a measure of "perceived climate." Then, using this measure as the independent variable, we will enter variables hypothesized a priori to be contributors to positive or negative climate (e.g. percent women in department, size of gender difference in assigned institutional resources, participation of department in climate-related workshops or training) as well as institutional variables (size of department, age of department, etc.) into a multivariate statistical model. In particular, we will employ discriminant analysis to identify attributes that predict or discriminate among those participants rating climate differently. Through an iterative modeling process, this type of model gives each variable a coefficient that indicates its predictive value and the model accounts for interactions between groups of variables. The respondents will be randomly assigned to two groups, and a model will be developed with each group, and then each model will be tested with the other group of respondents. Thus, we can use the output to assess the relative importance of each variable in affecting perceived climate. Analyses will be done by Margaret Harrigan (statistician contributed to the project by Office of Budget, Planning and Analysis) and Professor Handelsman in conjunction with her statistical collaborator, Professor Murray Clayton who have previously used predictive discriminant analysis to identify attributes that discriminate between bacteria that live on roots and bacteria that live in soil.<sup>52,53</sup>

**YEAR 5**: The climate survey will be administered again and second interviews will be undertaken with the same thirty-two women who were interviewed for the baseline study during year one. These interviews will explore their participation in WISELI initiatives and their perspectives on personal, departmental, and institutional changes and impact. The Evaluation Team will analyze longitudinal data and conduct a summative analysis of the varied data gathered over the five-year period. The Team will develop final reports. The PIs and members of the Leadership Team will disseminate the findings within the local and national scientific community.

# EXISTING PROGRAMS THAT WILL BE EVALUATED FOR IMPACT AND MODIFICATION

The Evaluation Team will include in their longitudinal data system any existing data on the following programs, and will gather new data on these programs in their in-depth impact studies (years one and five), campus-wide climate surveys, and, as determined by the Leadership Team, the Issues Studies.

**Dual career couples programs, tenure clock extensions, split appointments, campus childcare.** The UW-Madison has several policies designed to accommodate women in the academic system. These include: extensions on tenure clock for parental or other familial responsibilities; a program for hiring dual career couples; and support, expansion, and subsidies for campus childcare. There are two examples in the social sciences where the desire of two members of a couple to share one faculty position was accommodated. It appears that these programs have had little impact on the number of women faculty in the biological and physical sciences. Therefore, as described in the Evaluation Plan,

it is critical to examine them in detail and make modifications where necessary, especially in science and engineering. The findings will have policy implications locally and nationally.

*Gender Pay Equity Studies.* In 1992-93, an analysis of UW-Madison salaries demonstrated a pay gap between men and women that could not be explained by age, rank, or years since degree.<sup>52</sup> The administration provided funds to be distributed by individual schools and colleges to female faculty who were judged to be under-compensated. Three committees, including the Committee on Women in the University, continue to monitor and propose interventions to achieve and maintain gender pay equity. The proposed initiative will focus on the process for and outcomes of salary equity for women in science and engineering as well as assessing the perceptions of this endeavor.

*Women Faculty Mentoring Program.* A campus-wide survey in 1989 demonstrated that women faculty were leaving UW-Madison voluntarily before the time of promotion. Consequently, a Women Faculty Mentoring Program (WFMP) was begun with staff and faculty salary support by the Provost. Senior women faculty from an outside department but within the same division volunteer to serve as mentors for junior women. The WFMP sponsors four Brown Bag Sessions annually, an orientation/training session for mentors and mentees, an annual Women Faculty Mentor Award, and an annual reception to welcome new women faculty and celebrate promotions. This past year, a Peer Mentoring Program was begun by the WFMP and has resulted in several groups including a peer mentoring group for women faculty of color and one for women faculty in physical sciences. Rates of tenure and departure<sup>43</sup> are now comparable for men and women. An annual evaluation survey assesses the perceived benefit of the mentor relationship, the specific personal and professional areas the mentor has or has not been helpful with, and the value of the WFMP activities.

*The Chancellor's UW-Madison Climate Initiative.* The central goals of the Climate Initiative are to determine how the climate issue is manifested on the campus and to create new opportunities for frank and open conversation. A coalition has been formed comprised of the Committee on Women, the Provost's office, and deans. The coalition will generate a dialogue, develop a set of recommendations of best practices, and establish methods for ongoing accountability. WISELI will keep women scientists and engineers central to the activities, evaluate the results of actions taken, and extend findings and productive initiatives to other campuses through dialogue with other NSF Institutional Transformation sites, CIC WISE forums, and national workshops.

*Sexual Harassment Information Sessions.* UW-Madison has embarked on a comprehensive effort to make sexual harassment a university community concern. This effort, backed by vigorous public endorsement by the administration, has involved refining and renewing an array of campus resources, designing and publishing informational materials, and offering informational sessions to all employees. Sexual harassment contact persons have been identified and trained in every school, college, and division. A cross-campus team of facilitators has presented informational sessions to deans, administrative teams, academic departments, and support units. These sessions use an inclusive, non-confrontational tone and, to personalize the experience, a case study approach. A website and brochures (*Sexual Harassment: A Community Concern* and *Sexual Harassment: How to Respond When Someone Confides in You*) present key principles, policies, and resources.<sup>32</sup>

*Campus Child Care.* While not all women in science and engineering need child care, acknowledging the importance of good child care and working to make it accessible are markers for a good climate for women.<sup>55</sup> In June, 2000, the University Child Care Committee completed a comprehensive white paper on the status of childcare at the UW-Madison. The Committee and the Office of Campus Child Care are currently working on a number of specific initiatives, among them 1) continuing exploration of the relationship between employment conditions for child-care workers, University and/or union-based support for campus childcare, and parent tuition payments; 2) expanding care for low-income parents; and 3) expansion of infant, conference and extended hours care.

*WISE Dormitory.* To focus on stemming the loss of women from science majors in the first two years of college, the Women In Science and Engineering Residential Program (WISE-RP) was founded in 1995. WISE-RP creates a supportive and empowering community for women by housing 115 freshmen and sophomore science/engineering students together on adjacent floors of an all-women's residence. The program offers special WISE-RP sections of key courses such as general chemistry, organic chemistry, and introductory biology. About 25-30% of the WISE-RP participants are engineering majors, about 40% are biology majors, and the remainder are scattered among the other sciences. Now in its seventh year, the WISE-RP has had more than 600 undergraduate participants. Each year since the program's inception, WISE students earned significantly higher than average grades in both of our University's challenging two-semester gateway Chemistry sequences. They also have significantly higher overall GPAs than either UW freshmen women as a whole or a matched group of women science/engineering students from another dorm<sup>36</sup> and are less likely to binge drink.<sup>37</sup> As an umbrella program, WISELI will facilitate interaction between undergraduate women in the WISE-RP, Graduate Women in Science, and women scientists and engineers across campus. This successful program will be presented as part of the national workshops for administrators.

# NEW INITIATIVES THAT WILL BE DEVELOPED AND EVALUATED FOR IMPACT AND MODIFICATION

The Evaluation Team will gather new data on these programs for the in-depth impact studies (years one and five), climate surveys, and, as determined by the Leadership Team, the Issues Studies.

Establish the Women in Science and Engineering Leadership Institute (WISELI). Based on our experience with UW-Madison's Center for Women's Health Research (CWHR), having a centralized, visible administrative structure with space, a phone number, and a web site is a very effective strategy for addressing a number of impediments to women's academic advancement. As a result of the CWHR, women's health as a field of scientific inquiry went from obscurity to being one of the six Strategic Priorities of the Medical School, the focus of a Cluster Hire of three new faculty in the Biology of Sex and Gender Differences, the basis of a flourishing postdoctoral training program, and designation of UW-Madison as one of 15 National Centers of Excellence. Moreover, the CWHR has provided an effective and legitimate means of networking women faculty across departments, decreasing isolation, advocating for and mentoring women faculty, and linking women postdoctoral fellows in predominantly male environments with a variety of women faculty. We will use an analogous strategy in establishing WISELI. At a Town Hall Meeting, to which all UW faculty and staff will be invited, our plans will be announced and discussed. Articles in the campus-wide and individual college newsletters and the local newspapers will announce the NSF award and the establishment of WISELI. Space will be provided in the COE (new building to open June 2002) near the Dean's Office with prominent signage on the door. The Co-Directors (proposal PIs) will report directly to the Provost. A web page and letterhead will be developed by the Media Specialist from the CWHR and include links to multiple national and local sites relevant to women in science and engineering.

*Examine the patterns of assigning institutional resources for uneven distribution by gender*. Vice Chancellor John Torphy has agreed to assist in collecting information on start-up packages, assigned space, access to administrative support, assignment of teaching assistants, type of class (e.g. undergraduate vs graduate), number of graduate students and postdocs, and location of office and laboratory. Data not available in existing records will be gathered in interviews with departmental administrators, faculty, and on-site inspection by the Executive Administrator, PIs, and Leadership Team. Taking into account the complex factors involved in assignment of institutional resources, we will look for patterns that might disadvantage or advantage women faculty. If found, we will interview department chairs regarding the reasons for such assignment. We will compile a report of the results to

present to the deans and senior administrators as a means to promote equitable distribution of institutional resources.

Study the impact and feasibility of moving outstanding non-tenure line researchers into faculty positions. Examination of data on staff positions indicates that we could increase the number of women faculty in many departments simply by converting academic staff positions to faculty positions for women who wish to expand their roles. A number of women on our campus who hold academic staff titles pursue independent research and have teaching reputations and credentials equivalent to those in faculty positions. Many of these women entered science at a time when nepotism rules, prejudices, or their own life choices prevented them from entering tenure-line faculty positions. In the present era, a number of these women might have become faculty members through dual career recruitments. In preparation for this proposal, we spoke to Acting Provost Gary Sandefur, Vice Chancellor John Torphy, and Associate Vice Chancellor Linda Greene who agreed to an exploratory study of the development of a program that would offer faculty appointments to selected non-tenure WISELI will establish a working group, including line women in science and engineering. representatives from the Academic Staff Council and administration, to determine the number of possible track switches and identify administrative, financial, and attitudinal barriers to accomplishing conversions. If such a program would have a positive impact, WISELI will work with campus administration to develop a systematic process for such track conversion.

*Workshops for Department Chairs.* UW-Madison has a successful workshops series on leadership designed for department chairs. In the series, chairs meet weekly with presenters who each address an aspect of being a chair. The purpose is not only information transfer but also building relationships that help them do their jobs more effectively. We will introduce a workshop on climate into this forum. This workshop will address the nature of climate, including real experiences of respected women scientists, strategies to address each of the manifestations of climate described above or discovered in our evaluation, and approaches to successful implementation of strategies.

*Workshops on Laboratory Management.* A workshop series on laboratory management will be developed for principal investigators. The focus will be on issues that affect women disproportionately, but will be advertised on the basis of improving the overall functioning of their laboratories. Topics will include learning how to motivate members of a team by positive approaches, resolve conflict, provide a supportive, respectful, and safe environment, and build cohesive, collegial teams. Development of the workshops will be led by the Office of Human Resources and Development and presenters will be faculty who run research laboratories and who are known to be supportive of women, deans, experts in conflict resolution and respect in the workplace, and graduate students. The workshops will be offered on campus every semester. We will work with deans and department chairs to encourage attendance by all faculty.

*Celebrating Women in Science and Engineering Seminar Series*. A Celebrating Women in Science and Engineering Symposia series will be initiated. Outstanding women scientists will be hosted each semester of the granting period (a total of 10 series). Funds for these have been contributed by the six deans who are administrative partners in the Institutional Transformation initiative. When these women scientists are at UW-Madison, WISELI will sponsor trans-departmental receptions, and schedule special sessions with graduate students and postdoctoral fellows.

*Cluster Hire Initiative*. Cluster hires, defined as a group of new faculty positions for research in an interdisciplinary area, began at UW-Madison in 1998<sup>56</sup>. To date, the program has resulted in about 80 faculty hires in approximately 24 departments. A total of 150 positions is projected. Each year, a call for proposals is issued by the Chancellor and through a peer review process, 10-15 proposals are selected with 2-4 faculty per cluster. WISELI will work with senior women faculty in an interdisciplinary field of science or engineering to develop a proposal for a Cluster Hire. While we

cannot restrict hiring to women at a public institution, the position vacancy listing can state that successful applicants must have demonstrated ability to mentor women scientists and that the position will work closely with the WISELI.

*Women in Science and Engineering Leadership Programs and Workshop*. Because women are often excluded from informal networks by which their male colleagues acquire information critical to successful professional development, alternative means must be sought. One way is to provide structured programs for women that provide the knowledge and skills necessary to achieve personal and professional effectiveness. Using the Fluno Center, a unique conference-residence facility for immersion-learning, WISELI will develop or explore development of a variety of leadership training modules. While the specifics of each module will vary with the audience (e.g. junior women, senior women, post docs, biologists, engineers, single women, women with children), topics will include how to chair a meeting, enhancing your cv, the politics of search committees, negotiating for resources, grant writing, how to use national professional meetings to maximize your chance of promotion, how to challenge unfair manuscript reviews, effective teaching strategies, how to be an effective manager, balancing career and personal life, time management, recognizing and dealing with gender bias, strategies for countering "the invisible women," the strategic use of humor, and how to say "no" and still be seen as a team player. To be as flexible as possible, different formats will be offered:

- agendas accommodating women who can only attend once
- an annual course with 2-3 day sessions 3 times per year with a certificate of completion from WISELI.
- "Summer Camp" for WISE moms, providing a week of day camp for kids and suggested activities for spouses while mothers attend leadership training conferences

In addition to workshops for women in academic science and engineering, WISELI will develop national training sessions for senior administrators (men and women) incorporating the principles established by WISELI's research and best practices.

*Life Cycle Research Grants.* Research grants will be available to women faculty at critical junctures in their professional careers (e.g. between grants, a new baby, parent care responsibilities). These grants are meant to be flexible and women may apply for varying amounts and academic purposes.

*Endowed Professorships for Women in Science.* In response to the NSF ADVANCE program, the Chancellor has included 10 professorships (20 million dollars) for women in science and engineering on the select list of targets for fundraising. This list sets priorities for the \$1 billion capital campaign recently launched by the campus and therefore appearance on the list demonstrates a clear commitment to the Institutional Transformation initiative. Each professorship will be competitively awarded through a campus peer review process. Selection criteria will include quality of contributions to science and teaching, past impact on women in science, future plans for a leadership role in science. Each recipient will be provided financial support for 10 years but will retain the title of the endowed chair for the duration of her career.

**Develop** Networks, Promote Communication, Increase Visibility of Women in Science and Engineering. Women consistently cite professional and personal isolation as a contributor to a chilly academic climate. To address this issue, WISELI will develop list serves and email distribution lists to connect WISE faculty, staff, graduate students, and postdocs; maintain a web site, sponsor receptions for the Celebrating Women in Science and Engineering Seminar Series, publish a WISE Research Resource Book with a picture and academic sketch of each woman faculty member in the biological and physical sciences; and publish a newsletter on the web to provide updates on arrivals of new women faculty, accomplishments and milestones, and research news from the women faculty in

science. The Leadership Team will serve as a nominating committee, actively seeking awards for eligible women at UW-Madison. Further linkages with other campuses will be achieved by sending women to the CIC WISE and other national WISE meetings.

*Time-Stretcher Services.* Balancing career and personal life are foremost issues for both men and women in academe<sup>2,7,9,30</sup> but particularly for women who continue to assume the predominant responsibility for household management and childcare. WISELI will 1) work with Joan Gillman (Dir Special Industry Programs) and a student in Journalism to compile available time-saving services currently available (e.g. all home delivered services) and make this publication available to everyone at UW-Madison and 2) work with Professor Anne Miner (UW Business School) to explore a UW-Community partnership to develop a Time-Stretcher Service. This service would enable women and men working for UW-Madison to hire individuals to run simple tasks that would take time away from activities important to their personal or professional development.

*Leadership Development of Non-Tenure Line Women in Science and Engineering.* The scientific community contains a number of outstanding staff scientists who could be contributing more to the leadership in their respective fields. WISELI will promote the leadership development of these staff women in science and engineering by including them in the proposed initiatives and developing special leadership training modules for staff scientists.

# ADMINISTRATIVE STRUCTURE

**Directors**: The ADVANCE program at UW-Madison will be led by Professors Jo Handelsman (College of Agricultural and Life Sciences, CALS) and Molly Carnes (Medical School) who will be Co-Directors of the proposed Women in Science and Engineering Leadership Institute (WISELI). To ensure the success of this important and complex enterprise, each is devoting 50% effort. While WISELI will be a campus-wide program, the ADVANCE contract will be based in the College of Engineering (COE). We chose this administrative strategy for the following reasons:

- 1) This arrangement most efficiently provides connection to all schools and colleges that are major stakeholders in this enterprise. Handelsman is a leader in CALS and as former Chair of the Biological Sciences Reaccreditation Process is a recognized leader in the entire Biological Sciences Division. Carnes is a leader in the Medical School and as Director of an interdisciplinary center and training grant, has well-established links with the Schools of Veterinary Medicine and Pharmacy, and College of Letters & Sciences, whose Deans are Administrative Partners on this proposal, and also with the Schools of Business, Nursing, and Education, and the Women's Studies Program. While neither Carnes nor Handelsman has ties to the COE, an essential partner, Dean Paul Peercy's willingness to house WISELI provides an ideal link with the COE.
- 2) The COE, which has the smallest percentage of women faculty, receives a necessary added advantage because the PI's can be both impartial advisors to Dean Peercy, and serve an ombuds role for women COE faculty. Furthermore, physically locating WISELI within the COE will increase the visibility of senior women scientists, a positive environmental change in itself.
- 3) The LEAD Center, which is directing evaluation of the entire gender equity enterprise, is administratively housed in the COE.

The Co-Directors will oversee the entire program directing each of the proposed initiatives individually or collaboratively; represent WISELI on key committees (e.g. Committee on Women, Women Faculty Mentoring Program Executive Committee); organize the initial Town Hall meeting; plan monthly Leadership Team meetings; work closely with the evaluation team; present biannual updates to the deans at the Chancellor's Leadership Council; informally advise chairs, deans, and

women in academic science and engineering; prepare reports for NSF and UW administrators; organize External Advisory Team meetings; network with CIC WISE and national professional organizations; attend national forums to share best practices; publish results of the UW experience in scholarly journals; and write proposals to support additional research using UW as a living laboratory.

**Executive Administrator**: An Executive Administrator (1.0 FTE) at the doctoral level with experience in data analysis, program administration/development, who is effective at both oral and written communication is essential. The Executive Administrator will work closely with the Co-Directors and the Evaluation Team, develop materials for the public (brochure, web site), may represent WISELI at the request of the directors, interface with multiple academic units, and manage details of the collaborative agreement with NSF. The Executive Administrator will be located full-time in the WISELI office.

**Support Staff**: Clerical staff (0.5 FTE) will provide office support and a web master (provided by UW cost sharing) will maintain the WISELI web page.

Leadership Team: A group of outstanding scientists and engineers committed to the issues addressed by this proposal has been assembled into a Leadership Team that represents scientific diversity as well as a range of positions and perspectives. Represented are biological sciences (Allen, Sarto), physical sciences (Bier, Brennan, Durand, and Wendt), social sciences (Stambach), humanities (Ford), nontenure line scientists (Tong), the director of the LEAD Center (Millar), and the Dean of the COE (Peercy). Being a member of the Leadership Team also provides a means to invest in leadership development of these women. In the first year, members of the Leadership Team will be sponsored to attend national workshops for leadership development (e.g. sponsored by their individual professional organization). They will also be sponsored to visit another NSF ADVANCE site and individual members will assume the lead role in working groups to develop specific initiatives. The Leadership Team will meet with the Co-Directors and Administrative Director **monthly** to plan and implement the proposed initiatives; provide links to women faculty within different divisions to facilitate dialogue, networking, and buy-in from the stakeholders in different units; present updates on WISELI activities at regular departmental or college faculty meetings; provide feedback and advice to the Co-Directors; serve as nominating committee to gather information on and nominate UW women faculty for institutional and national awards serve as review committee for the Life Cycle Grants and Celebrating Women in Science and Engineering Seminar Series: host visiting scientists and leaders for the Celebrating Women in Science and Engineering Seminar Series; disseminate findings within their individual disciplines; network with national organizations such as such as Society of Women Engineers, WEPAN, Women Chemists in the American Chemical Society, Association for Women in Science, Society of Women Engineers, Association of Women in Mathematics.

Administrative Partners: Administrative Partners include administrators across campus including the deans of the 6 colleges where women in science and engineering are under-represented. They will hear reports on WISELI at the biannual Chancellor's Leadership Council, contribute cost share; attend WISELI workshops on addressing issues and interventions that address the under-representation of women in their fields; and visibly support the goals of WISELI within their colleges.

**Evaluation Team**: The Evaluation Team comprises Dianne Bowcock, team leader, from the LEAD Center; an experienced program evaluator who directed and published the recent CIC WISE evaluation; a 50% staff person; Amy Stambach, an Assistant Professor in Educational Policy Studies and Anthropology who is interested in studying this initiative as a living laboratory; the Executive Administrator; Cecilia Ford, Professor of English; Margaret Harrigan, analyst in the Office of Budget Planning and Analysis; and John Stevenson who directs the Survey Center in the Department of Sociology. The Evaluation Team is responsible for designing and implementing a comprehensive evaluation plan so that we will be able to determine whether this initiative has indeed produced

institutional transformation. They will meet at least weekly with the Co-Directors at the outset and less often as the program is implemented and the evaluation plan is underway.

Affiliates: The Affiliates of WISELI are predominantly women faculty at UW-Madison in science and engineering. This group includes representatives from campus gender equity programs, including the directors of Campus Child Care, Graduate Women in Science, the Wisconsin Emerging Scholars Program, and faculty in the Business School. The Affiliates will remain connected to WISELI through list serves, email distribution lists, attendance at selected WISELI-sponsored conferences and workshops. They will also provide input on selection of invited speakers, contribution to the bibliography and calendar on the WISELI website, and identification of local and national awards for which UW women faculty can be nominated.

**External Advisory Team**: An External Advisory Team has been assembled to contribute to evaluation, offer advice, criticism, and guidance. We have selected individuals who have experience in issues of women in academic science and engineering from different fields. Specifically, Joan King is the former Chair of Anatomy and Cell Biology at Tufts, currently self employed as a Coach for women in academic science, and President of Women in Neuroscience; Sally Kohlstedt is a Professor of History of Science at the University of Minnesota where she built the program for Women in the Institute of Technology and was integrally involved in efforts that increased the number of women faculty in this program by 50%; Sue Rosser is Dean of Georgia Tech and widely published in the area of women and science; Charlotte Kuh is the Deputy Executive Director of the Policy and Global Affairs Division of the National Research Council; and Denice Denton is Dean of the College of Engineering at the University of Seattle and a former faculty member of the UW-Madison COE. The External Advisory Team will convene at the outset of the initiative and then **annually**, receive interim updates with invited feedback, and be available to the co-directors for informal interval consultation.

**Sustainability Beyond the Funding Period.** We expect WISELI to be sustained long after the NSF funding period because it addresses two core challenges on our campus: 1) it unifies and coordinates initiatives in gender equity and provides systematic access to women in science and engineering; and 2) it evaluates the impact of programs directed to achieve gender equity thereby providing a rational basis for resource allocation.

The Chancellor has committed to making the program sustainable through: 1) support for a permanent, full-time institutional researcher focusing on gender equity at UW-Madison; 2) inclusion of the endowed professorships for women in science and engineering in the list of fund raising targets; 3) commitment to attempt to raise funds for endowing core support of WISELI; 4) continued support of existing gender equity programs modified through the proposed evaluation for the benefit of women in science and engineering. Additional elements that predict a strong basis for sustainability are: 1) tuition costs from the WISELI workshops; 2) PIs' success in writing proposals for extramural support of research of UW-Madison as a living laboratory; 3) opportunity for a Cluster Hire supporting three new positions for women in science and engineering.

**Dissemination.** We will accomplish dissemination through the WISELI national workshops for women and administrators, presentations at national conferences in the scientific disciplines of the PIs and the members of the Leadership Team (which includes more than 20 professional societies), and articles in popular and scholarly journals. Furthermore, whenever feasible and appropriate, when the PI's or members of the Leadership Team are invited to present scientific seminars on other campuses, they will ask for the opportunity to present a second seminar about WISELI and its findings. This approach worked well for the dissemination of the results of Handelsman's previous NSF grant on reform of science education. We also look forward to being active participants in meetings with the leaders of other NSF Institutional Transformation programs and continuing to contribute to the dialogue around these issues in the CIC.

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### EDUCATION

University of Michigan, Ann Arbor, MI	Pre-Med	B.A. 1969-1973
State University of New York, Buffalo, NY	Medicine	M.D.1974-1978
University of Wisconsin, Madison, WI	Internal Medicine	Resident, 1978-1981
University of Wisconsin, Madison, WI	Geriatrics	Fellow, 1981-1983
University of Wisconsin, Madison, WI	Neuroendocrinology	Fellow, 1983-1985
University of Wisconsin, Madison, WI	Epidemiology	M.S. 1997-2001

### **APPOINTMENTS**

1997 – present Professor, Departments of Medicine and Psychiatry, University of Wisconsin
1991 – 1997 Associate Professor, Departments of Medicine and Psychiatry, University of
Wisconsin
1985 – 1991 Assistant Professor, Departments of Medicine and Psychiatry, University of Wisconsin
1999 – present Director, Center for Women's Health Research, University of Wisconsin
1998 – present Affiliate Faculty, Women's Studies Program, University of Wisconsin
1998 – present Chair, Women's Faculty Mentoring Program, University of Wisconsin

### **TEACHING RESPONSIBILITIES**

Program Director, Women's Health Fellowship; Program Director, Women's Health and Aging: Research and Leadership Training Grant; Program Faculty, Clinical Investigator Preparatory Pathway ("Finding Time to Write"); Program Faculty, Medical Residency Core Curriculum ("Balancing Career and Personal Life."); ward and outpatient supervision of fellows, residents, medical students.

# FIVE PUBLICATIONS CLOSELY RELATED TO PROJECT

Carnes M. Balancing career and family: Advice from the trenches. Ann Intern Med 125:618-620, 1996.

Carnes M. One view from just this side of the glass ceiling. J Women's Health. 5:283-286, 1996.

Foster SW, McMurray JE, Linzer M, Leavitt JW, Rosenberg M, Carnes M. Results of a gender climate survey from a midwest academic health center. Acad Med 75: 653-60, 2000.

Carnes M, Vandenbosche F, Agatita PK, Hirshfield A, Dan A, Shaver JLF, Murasko D, McLaughlin M. Using women's health research to develop women leaders in academic health sciences. J Women's Health & Gender-based Med. 10:39-47, 2001. Carnes M. Humor. In: Worell J (ed), Encyclopedia of Gender, San Diego: Academic Press (in press.)

# FIVE OTHER SIGNIFICANT PUBLICATIONS (out of 68)

Carnes M, Goodman B, Lent SJ. High resolution spectral analysis of plasma ACTH reveals a multifactorial frequency structure. Endocrinology 128:902-10, 1991.

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Carnes M, Wells T. The invisible woman. Arch Intern Med 159:99, 1999.

Carnes M. Health care in the U.S.: Is there evidence for systematic gender bias? WI Med J 98:15-19, 1999.

# **Synergistic Activities:**

- As Chair of the UW Women Faculty Mentoring Program (WFMP) for the past two years (a
  position appointed by the Provost and covering all 13 schools and colleges at UW-Madison),
  Professor Carnes implemented an annual evaluation survey, a campus wide humor survey to assist
  in training women faculty in the strategic use of humor, and a Peer Mentoring Program. In
  addition she oversees the ongoing WFMP Brown Bag Series, Annual Reception to celebrate newly
  promoted and welcome newly recruited women faculty, and the Annual Doris Schlesinger Women
  Faculty Mentor Award.
- 2) As one of very few senior women faculty in the Medical School, Carnes seized upon the charge of the NIH to use women's health research as a legitimate venue for building programs to advance women in academic medicine. She has systematically built and obtained extramural funding for the following programs all of which focus on research and leadership development of women faculty and fellows in biological sciences: Women's Health Fellowship (supports 2 MD fellows per year and incorporates a graduate degree and research training), Women's Health and Aging: Research and Leadership Training Grant (supports 2 MD and 2 PhD postdoctoral fellows per year), and UW Center for Women's Health Research (involving faculty from 6 schools and 10 departments; designated a National Center of Excellence by DHHS in 1998).
- 3) Carnes was the senior investigator on a Medical School wide Gender Climate Survey (Foster et al., 2000) which provided the impetus for a number of positive initiatives for women faculty; she was also a co-investigator on development of a Gender Climate Video used to facilitate discussion and training.
- 4) The University of Texas, El Paso brought Professor Carnes and the coordinator of the WFMP in as consultants as it developed and evaluated a Women Faculty Mentoring Program.
- 5) Carnes was lead author of a successful, competitive, cross campus proposal for three new faculty positions at UW-Madison for a "Cluster Hire" in the area of "The Biology of Sex and Gender Differences," she is chair of that search committee, and the top 3 candidates are women scientists.

**Collaborators**: PK. Agatita, University of Pittsburgh; Harvey Cohen, Duke University; Alice Dan, University of Illinois-Chicago; John Feussner, Duke University; Sharon Foster, UW-Madison; Jo Handelsman, UW-Madison; Robert Hauser, UW-Madison; Anne Hirschfield, University of Maryland; Phillip Lavori, Stanford University; Judith Leavitt, UW-Madison; Mark Linzer, UW-Madison; Margaret McLaughlin, University of Pittsburgh; Julia McMurray, UW-Madison; Donna Murasko, MCP-Hahnemann; JoAnne Robbins, UW-Madison; Gloria Sarto, UW-Madison; JLF Shaver, University of Illinois-Chicago; Linda Schuler, UW-Madison; Gayla Vandenbosche, University of Pittsburgh; Morris Weinberger, University of Indiana.

**Graduate and Postdoctoral Advisors:** Ned H. Kalin, Professor, Dept of Psychiatry, Univ of Wisconsin, 1982-85; Mark Brownfield, Prof., Dept of Comparative Biosciences, School Veterinary Medicine, UW, 1984-87; Donn D'Alessio, Assoc. Prof., Dept of Preventive Medicine, UW, 1997-01.

**Postgraduates**: Total number of *research* (non-clinical) fellows supervised or mentored: Geriatrics, 1983-97: 7; Women's Health, 1995-present: 4; total number on Women's Health and Aging Training Grant, 1999-2001: 4. *Last 5 years:* Neil Binkley, UW-Madison; Jane Mahoney, UW-Madison; Adalsteinn Gudmundsson, Univ of Reykjevik; Linda Chaudron, Univ of Rochester. *Current:* Cynthia Carlsson, Women's Health Fellow, Medicine; Terri Gomez, Postdoctoral fellow, Nutritional Sciences; Leah Whigham, Postdoctoral fellow, Nutritional Sciences; Judith Houck, Postdoctoral fellow, History of Medicine; Jessica Bartell, Research Pathway Resident, Medicine

# JO HANDELSMAN

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### **EDUCATION**

New York University		1975-1976
Cornell University	Agronomy	B.S. 1976-1979
University of Wisconsin-Madison	Molecular Biology	Ph.D. 1979-1984
University of Wisconsin-Madison	Plant Pathology	Postdoctoral Fellow 1984-1985

### **APPOINTMENTS**

1995-	Professor, Department of Plant Pathology, University of Wisconsin.
1997-1999	Director, Institute for Pest and Pathogen Management, University of Wisconsin.
1991-1995	Associate Professor, Department of Plant Pathology, University of Wisconsin.
1985-1991	Assistant Professor, Department of Plant Pathology, University of Wisconsin.

### **RESEARCH INTERESTS**

Molecular bases of interactions between plants and beneficial bacteria; biochemistry and genetic regulation of antibiotic production; microbial diversity; pioneered the field of "metagenomics," which is a functional genomics approach to studying uncultured microorganisms.

### **TEACHING RESPONSIBILITIES**

Graduate course - "Plant-Bacterial Interactions"; Graduate course - "Teaching Biology"; Undergraduate course - "Plants, Parasites, and People"

### FIVE PUBLICATIONS CLOSELY RELATED TO PROJECT (WITH WOMEN AS FIRST AUTHORS)

- Rondon, M.R., August, P.R., Bettermann, A.D., Brady, S.F., Grossman, T.H., Liles, M.R., Loiacono, K.A., Lynch, B.A., MacNeil, I.A., Minor, C., Tiong, C.L., Gilman, M., Osburne, M.S., Clardy, J., Handelsman, J., and Goodman, R.M. 2000. Cloning the soil metagenome: a strategy for accessing the genetic and functional diversity of uncultured microorganisms. Appl. Environ. Microbiol. 66: 2541-2547.
- Broderick, N.A., Goodman, R.M., Raffa, K.F., and Handelsman, J. 2000. Synergy between zwittermicin A and *Bacillus thuringiensis* subsp. *kurstaki* against gypsy moth (Lepidoptera: Lymantriidae). Environ. Entomol. 29:101-107.
- Simon, H.M., Smith, K.P., Dodsworth, J.A., Guenthner, B., Handelsman, J., and Goodman, R.M. 2001. Influence of tomato genotype on growth of inoculated and indigenous bacteria in the spermosphere. Appl. Environ. Microbiol. 67:514-520.
- Kazmar, E.R., Goodman, R.M., Grau, C.R., Johnson, D.W., Nordheim, E.V., Undersander, D.J., and Handelsman, J. 2000. Regression analyses for evaluating the influence of *Bacillus cereus* on alfalfa yield under variable disease intensity. Phytopathology 90:657-665.
- Stohl, E.A., Milner, J.L., & Handelsman, J. 1999 Zwittermicin A biosynthetic cluster. Gene 237:403-411.

### FIVE OTHER SIGNIFICANT PUBLICATIONS (WITH WOMEN AS FIRST AUTHORS)

- Rondon, M.R., Raffel, S.J., Goodman, R.M., and Handelsman, J. 1999. Toward functional genomics in bacteria: Analysis of gene expression in *Escherichia coli* from a bacterial artificial chromosome library of *Bacillus cereus*. Proc. Natl. Acad. Sci. USA 96:6451-6455.
- Dunn, A.K.& Handelsman, J. 1999 A vector for promoter trapping in Bacillus cereus. Gene

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- Emmert, E.A.B., and Handelsman, J. 1999. Biocontrol of plant disease: a (Gram-) positive perspective. FEMS Microbiology Letters 171:1-9.
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- Silo-Suh, L.A., Lethbridge, B.J., Raffel, S.J., He, H., Clardy, J., and Handelsman, J. 1994. Biological activities of two fungistatic antibiotics produced by *Bacillus cereus* UW85. Appl. Environ. Microbiol. 60:2023-2030.

**SYNERGISTIC ACTIVITIES:** Handelsman is a respected leader at UW-Madison and nationally in biology and issues in women in science. Her campus-wide influence in biology was acknowledged when she was appointed chair of the Biological Sciences Committee for the 2000 Reaccreditation of UW-Madison. She developed new teaching approaches under an NSF-funded project to make undergraduate science courses more interesting and hospitable to women and has lectured nationally on innovation in science education. She has a career-long commitment to women in science at all levels, which has included training many women undergraduates, graduate students, and postdocs; chairing the UW-Madison's Committee on Women in the University; and co-chairing the Chancellor's Task Force on Campus Climate. Handelsman represented the UW-Madison at the 2000 national Conference on the Future of Women in Academia at the University of Minnesota. Her work on behalf of women was recognized with the UW-Madison Alumni Association's Cabinet 99 Recognition Award.

**Collaborators:** Paul August, ARIAD Pharmaceuticals; Jill Banfield, UW-Madison; J. de Banzie; Alan Bettermann, UW-Madison; B. Biermann; Fred Blattner, UW-Madison; Sean Brady, Cornell; Nichole Broderick, UW-Madison; Molly Carnes, UW-Madison; Jenny Castro; Jianjun Chen, University of Florida; Jon Clardy, Cornell; Jeremy Dodsworth; Michael Gilman, Biogen, Inc.; Robert M. Goodman, UW-Madison; Craig Grau, UW-Madison; Jessica Gross, UW-Madison; Trudy Grossman, NEN Life Science Products, Inc.; Bobbi Guenthner; Dan Janzen; Brian Kay, UW-Madison; Elizabeth Kazmar, UW-Madison; Julie Lee; Kara Loiacono, ARIAD Pharm.; Berkley Lynch, UCB Research Inc.; Ian MacNeil, ARIAD Pharm.; Charles Minor, ARIAD Pharm.; Eric Nordheim, UW-Madison; Kevin O'Connell, University of Maryland; Heidi Olivares; Marcia Osburne, ARIAD Pharm.; Kristie Pulvermacher; Ken Raffa, UW-Madison; Sandra Raffel; Juan Carlos Rosas, EAP, Tegucigalpa, Honduras; Barry Saville, PE-Applied Biosystems, Canada; Hongzhong Shang; Holly Simon, UW-Madison; Laura Silo-Suh; Kevin Smith, U. of MN; J. Thompson; Choi Lai Tiong, ARIAD Pharm.; D. Undersander, UW-Madison; D. van der Weide, UW-Madisor; J. Widom, Cornell; Ross Winberg

### Graduate and Postdoctoral Advisors: Ph.D.: Winston J. Brill, Postdoctoral: Luis Sequeira

**Graduate Students:** Gwyn Beattie, Iowa State University; Larry Halverson, Iowa State University; Kevin O'Connell, University of Maryland; Kevin Smith, University of Minnesota; Eduardo Robleto, Tufts University; Eric Stabb, University of Hawaii; Elizabeth Stohl, Northwestern University; Amy Klimowicz, UW-Madison; Elizabeth Emmert, W. Virginia Wesleyan College; Mark Bittinger, UW-Madison; Zhengrong Cui, University of Kentucky. Current: Anne Dunn, Christian Riesenfeld, Brad Borlee, Nichole Broderick, Zakee Sabree Total: 20

**Postdoctoral Fellows:** Jocelyn Milner, UW-Madison; David Johnson, Cal/West Seeds; Scott Bintrim; DowElanco, IN; Michelle Rondon, Ohio State University; Chin Sun. Current: Mark Liles, Doreen Gillespie, David Mann Total: 11

# **CAITILYN ALLEN**

University of Wisconsin-Madison Dept of Plant Pathology 1630 Linden Drive Madison, WI 53706 (608) 262-9578 (voice) (608) 263-2626 (fax) cza@plantpath.wisc.edu

#### EDUCATION

Swarthmore College, Swarthmore, Pennsylvania		1975-1978
University of Maine at Orono	Botany	B.S. 1979-1981
Virginia Polytechnic Institute and State University	Plant Pathology	Ph.D.1982-1987

#### **APPOINTMENTS**

- **2000-present, Associate Professor,** Department of Plant Pathology and Women's Studies Program, University of Wisconsin-Madison.
- **1992-2000, Assistant Professor**, Department of Plant Pathology and Women's Studies Program, University of Wisconsin-Madison.
- **1996-2000, Faculty Director**, Women In Science and Engineering (WISE) Residential Program. WISE houses 115 undergraduate science and engineering majors together; they take common science classes, meet successful women scientists, and learn professional skills.
- **1988-1992, Assistant Scientist**, with Professor Luis Sequeira, Department of Plant Pathology, University of Wisconsin-Madison.
- **1986-1988, Postdoctoral Research Associate**, with Professor Janine Robert-Baudouy, CNRS Laboratoire de genetique moleculaire des micro-organismes in Lyon, France.

**TEACHING RESPONSIBILITIES** (last 5 years): **Plant Pathology/Botany 123**, "Plants, Parasites, and People;" **Inter-LS 150**, "Ways of Knowing;" **Plant Pathology 505**, "Plant-Microbe Interactions: Molecular and Ecological Aspects;" **Women's Studies 530**, "Biology and Gender;" **Plant Pathology/Bacteriology 622**, "Plant-Bacterial Interactions"

### **PROFESSIONAL MEMBERSHIPS**

Association for Women in Science American Phytopathological Society American Society for Microbiology International Society for Plant Molecular Biology International Society for Plant-Microbe Interactions

### HONORS

2001, Women Engineers Professional/Academic Network (WEPAN) National Women In Engineering Program Award (to UW WISE Residential Program)

- 2000, UW-Madison Vilas Research Associate
- 2000, UW-Madison Research-Service Award
- 1998, University of Wisconsin-Madison Distinguished Teaching Award

1997-8, Eli Lilly Teaching Fellow

1987, Sigma Xi Dissertation Research Award

1984-6, VPI Cunningham Dissertation Research Award (twice)

#### **REPRESENTATIVE JOURNAL ARTICLES**

Tans-Kersten, J., H. Huang, and C. Allen 2001. *Ralstonia solanacearum* needs motility for invasive virulence on tomato. **Journal of Bacteriology:** In press (June)

- Tans-Kersten, J., J. Gay, and C. Allen. 2000. *Ralstonia solanacearum* AmpD is required for wild-type bacterial wilt virulence. **Molecular Plant Pathology** 1:179-185.
- Huang, Q., and C. Allen. 2000. Polygalacturonases contribute to colonization ability and virulence of *Ralstonia solanacearum* on tomato plants. **Physiol and Molecular Plant Pathology** 57:77-83.
- Allen, C. 1999. Supporting female undergraduate science and engineering majors with a residential program. Journal of Women and Minorities in Science and Engineering: 5:265-278.
- Tans-Kersten, J., Y. Guan, and C. Allen. 1998. *Ralstonia solanacearum* pectin methylesterase is required for growth on methylated pectin, but not for bacterial wilt virulence. Appl and Environ Micro 64: 4918-23.
- Allen, C., J. Gay, and L. Simon-Buela. 1997. A regulatory locus, *pehSR*, controls polygalacturonase production and other virulence functions in *Ralstonia solanacearum*. Molecular Plant-Microbe Interactions 10: 1054-1064.
- Huang, Q. and C. Allen. 1997. An *exo*-poly-alpha-D-galacturonosidase, PehB, is required for wildtype virulence of *Ralstonia solanacearum*. Journal of Bacteriology 179: 7369-7378.

SYNERGISTIC ACTIVITIES: Professor Allen has appointments with joint governance in the Women's Studies Program in the College of Letters and Sciences and in Plant Pathology in the College of Agriculture and Life Sciences. This, in itself, enables Allen to bring a unique perspective to the Leadership Team of the proposed National Women in Science and Engineering Leadership Institute (WISELI). This project is a natural extension of Allen's longstanding interest in addressing the underrepresentation of women in the sciences where she has both a professional and personal interest in redressing this persistent inequity. Allen has served as one of UW-Madison's representatives to the Women In Science and Engineering Committee of the Council on Institutional Co-operation (CIC), a multi-midwestern university consortium. In this capacity, she attended several national conferences on best practices for improving recruitment, retention, and promotion of women in the sciences. In addition, Allen helped to develop and then served as the founding director of UW-Madison's WISE Residential Program. This innovative program is designed to reduce the disproportionate loss of women from science majors during the first two undergraduate years. Women interested in pursuing careers in the sciences or engineering are housed together in an allwomen's dorm. They form a built-in peer mentoring system, take key foundation science courses together, and interact regularly with successful women scientists, doctors, and engineers. A recent publication in the Journal of Women and Minorities in Science and Engineering documents the striking success of the WISE Residential Program. It seems likely that the much broader institutionwide initiative you are proposing will meet with similar success, and it would be my pleasure to participate.

**LIST OF RECENT COLLABORATORS:** Merelee Atkinson; John Elphinstone, Central Science Laboratory, York, UK; Molly Carnes, UW-Madison; Jo Handelsman, UW-Madison; John Helgeson, UW-Madison; Yong Huang, Monsanto-Agracetus, Middleton, WI; Yaowei Kang, U of Georgia; Philippe Prior, U of Queensland; John Sherwood, U of Georgia

DOCTORAL ADVISOR: George H. Lacy, Virginia Polytechnic Institute and State University

**POSTDOCTORAL ADVISORS:** Janine Robert-Baudouy, CNRS Microbiology Lab, Lyon, France; Luis Sequeira, UW-Madison

**STUDENTS AND POSTDOCTORAL FELLOWS ADVISED:** James Bina, Harvard University; Scott Crumpton, DNA Forensic Technology, Atlanta, GA; Jaqueline Gay; Yanfen Guan, Tufts Univ.; Qi Huang, USDA ARS, Beltsville, MD; Louise Laferriere, Agriculture Canada, Ottawa; Laureano Simon, Polytechnic University of Madrid, Spain

CURRENT GRADUATE STUDENTS: Darby Brown, Enid Gonzalez, Guohong Huang, Huayu Huang

### VICKI M. BIER, Ph.D.

Department of Industrial Engineering Department of Engineering Physics University of Wisconsin-Madison

#### **EDUCATION**

Stanford University	Mathematical Sciences	B.S., 1976
Massachusetts Institute of Technology	Operations Research	Ph.D., 1983

### APPOINTMENTS

August 1989 to present	University of Wisconsin, Department of Industrial Engineering and
	Department of Engineering Physics (Associate Professor since 1995)
August 1989 to July 1990	University of Maryland, National Science Foundation (NSF) Visiting
	Professorship for Women, Department of Chemical and Nuclear
	Engineering
1982 to 1989	Pickard, Lowe and Garrick, Inc. Consultant
1979 to 1981	Arthur D. Little, Inc. Consultant

### PUBLICATIONS MOST CLOSELY RELATED TO THE PROPOSED PROJECT:

Bier, V. M. (editor), 1998, Accident Sequence Precursors and Probabilistic Risk Analysis, University of Maryland, College Park, Maryland.

Yi, W. and Bier, V. M., 1998, "An Application of Copulas to Accident Precursor Analysis," *Management Science*, Vol. 44, pp. S257-S270.

Bier, V. M. and Yi, W., 1995, "The Performance of Precursor-Based Estimators for Rare Event Frequencies," *Reliability Engineering and System Safety*, Vol. 50, pp. 241-251.

Bier, V. M., and A. Mosleh, "The Analysis of Accident Precursors and Near Misses: Implications for Risk Assessment and Risk Management," *Reliability Engineering and System Safety*, Vol. 27, pp. 91-101, 1990.

Apostolakis, G. E., Bier, V. M., and Mosleh, A., 1988, "A Critique of Recent Models for Human Error Rate Assessment," *Reliability Engineering and System Safety*, Vol. 22, pp. 201-217. Reprinted in *Accident Sequence Modeling: Human Actions, System Response, Intelligent Decision Support* (G. E. Apostolakis, P. Kafka, and G. Mancini, editors), Elsevier Applied Science, 1988.

# FIVE OTHER SIGNIFICANT PUBLICATIONS:

Bier, V. M., "On the State of the Art: Risk Communication to Decision-Makers," in press, *Reliability Engineering and System Safety.* 

Bier, V. M., and W. Yi, "A Bayesian Method for Analyzing Dependencies in Precursor Data," *International Journal of Forecasting*, Vol. 11, pp. 25-41, 1995.

Bier, V. M., "Statistical Methods for the Use of Accident Precursor Data in Estimating the Frequency of Rare Events," *Reliability Engineering and System Safety*, Vol. 41, pp. 267-280, 1993.

Mosleh, A., V. M. Bier, and G. E. Apostolakis, "Methods for the Elicitation and Use of Expert Opinion in Risk Assessment," *Reliability Engineering and System Safety*, Vol. 20, pp. 63-85, 1988.

Bier, V. M., "Management and Organizational Factors in PRA: The Current State of the Art." Second International Workshop on Human Reliability Models: Integration of Recent HRA Developments, with Applications to Maintenance in Aircraft and Nuclear Settings, Seattle, Washington, June 8-10, 1998.

SYNERGISTIC ACTIVITIES: As one of the most senior women in the College of Engineering (COE) at the UW-Madison, Professor Bier has had ample first-hand experience effecting institutional transformation. Bier's commitment to improving the climate for women and increasing the diversity in the physical sciences is demonstrated by her record of campus and professional service. She has held leadership positions relevant to this proposal on campus and nationally, including Director of a campus research center (the Center for Human Performance and Risk Analysis), Chair of the Physical Sciences Divisional Committee (the campus body that evaluates tenure cases for all faculty members in the physical sciences and engineering), and an officer in her professional societies.; On campus, she currently chairs the COE Equity and Diversity Committee, serves as a member on the UW Committee on the Status of Women and the Women Faculty Mentoring Program Advisory Committee, and serves as advisor to the UW Chapter of the Society of Women Engineers (SWE). Other relevant committees on which she has served in the past include a review committee for the COE Minority and Disadvantaged programs, the COE Gender Equity Pay Adjustment Committee, the UW Women in Science and Engineering Strategic Committee for the Physical Sciences, the UW Advanced Opportunity Fellowship Committee for minority students, the UW Commission on Faculty Compensation and Economic Benefits, and the UW Committee on Undergraduate Recruitment, Admissions and Financial Aid. In the Madison community, she is a founding member of the steering committee for the Lilith Computer Clubs for middle-school girls. She is a frequent speaker on careers for women at events such as the SWE Day on Campus, and has given invited talks at UW and elsewhere on topics such as "Experiences of Women in the Sciences" and "The Escher Staircase: Why So Few Women Make It through the Academic Pipeline."

**Collaborators:** Sigrun Andradottir (Georgia Tech), George Apostolakis (Massachusetts Institute of Technology), Larry Bank (U. Wisconsin), Mostafa Bassouini (U. Central Florida), Dennis Bley (Buttonwood Consulting), Vincent Brannigan (U. Maryland), Pascale Carayon (U. Wisconsin), Molly Carnes, (UW-Madison), Jagdish Chandra (George Washington U.), Scott Ferson (Applied Biomathematics), Norman Fost (U. Wisconsin), David Glyer (Christensen Assoc.), Ratan Guha (U. Central Florida), Yacov Haimes (U. Virginia), Jo Handelsman, (UW-Madison), Seungcheol Jang (Korea Atomic Energy Research Institute), James Joosten (Connect-USA), John Kreul (U. Wisconsin), Thomas Kurtz (U. Wisconsin), James Lambert (U. Virginia), Nick Matalas (retired), Ali Mosleh (U. Maryland), Frank Rath (U. Wisconsin), Stephen Robinson (U. Wisconsin), Jeffrey Russell (U. Wisconsin), Daniel Schwartz (Florida State U.), Walter Secada (U. Wisconsin), Sergei Severinov (U. Wisconsin), Nozer Singpurwalla (George Washington U.), Sara Stoecklin (Florida A&M U.), Bruce Thomadsen (U. Wisconsin), Dean Tompkins (U. Wisconsin), Jennifer Tracey (Christensen Associates), Mary Vernon (U. Wisconsin), Michael Welsh (Christensen Associates), Virginia Young (U. Wisconsin), Rae Zimmerman (New York U.)

Graduate Advisor: Alvin Drake, Massachusetts Institute of Technology (retired)

**Past and Current Advisees:** Yousef Al-Saeed (affiliation unknown—teaching in Saudi Arabia), Naceur Azaiez (King Saud University, Saudia Arabia), Yeu-Shiang Huang (Ming Chuan University, Taiwan), Shi-Woei Lin (U. Wisconsin), Yuri Ramirez (U. Wisconsin), Tirunelveli Venkatesh (U. Wisconsin), Min Wang (U. Wisconsin), Tzu-Tsung Wong (Long Hwa Institute of Technology, Taiwan), Woojune Yi (JasonTech)

### **DIANNE C. BOWCOCK**

Learning Through Evaluation Adaptation and Dissemination (LEAD) Center University of Wisconsin-Madison phone: (608)265-5924 e-mail: bowcock@engr.wisc.edu

### **EDUCATION**

University of South Florida	Elementary Education	BA	1969
University of Wisconsin-Madison	Educational Policy Studies	MA	1979
University of Wisconsin-Madison	Educational Policy Studies	PhD	1985

### APPOINTMENTS

2000-Present	Associate Director	LEAD Center, University of Wisconsin-Madison
1996-2000	Researcher	LEAD Center, UW-Madison
1995; 85-86	Lecturer	Educational Policy Studies, UW-Madison
1993-1995	Outreach Coordinator	Institute for Multicultural Science Education (IMSE),
		Center for Biology Education, UW-Madison
1988-1993	Associate Director	School Evaluation Services, UW-Madison
1996-1988	Education Specialist	State of Wisconsin, Educational Approval Board
1985-1986	Assistant Professor	Alverno College, Milwaukee, Wisconsin
1983-84; 78-79	Research Assistant	Educational Policy Studies, UW-Madison
1982-83	PhD fieldwork	Gambia, West Africa
1980	Program Assistant	Office of Clinical Experiences, UW-Madison
1974-1977	Teacher Supervisor	Ministry of Education, Sierra Leone. Peace Corps
1969-1974	Teacher	Hillsborough County Schools, Tampa, Florida

### FIVE PUBLICATIONS MOST CLOSELY RELATED TO PROPOSED PROJECT

Bowcock, D. Frascona, C. (2000) "Evaluation of the CIC WISE Initiative." Final Report. LEAD Center, University of Wisconsin-Madison.

Alexander, B., Foertsch, J., Bowcock, D., Kosciuk, S. (1998) "Minority undergraduate retention at UW-Madison: A report on the factors influencing the persistence of today's minority undergraduates." Prepared for Associate Vice-Chancellor and the Committee on Minority Retention at the UW-Madison.

Clune, W. H., Millar, S. B., Raizen, S. R., Webb, N. L., Britton, E. D., Bowcock, D., Gunter, R. L., & Mesquita, R. (1997) "Research on Systemic Reform: What Have We Learned? What Do We Need to Know?" (Synthesis of the Second Annual Forum for the National Institute for Science Education (NISE). National Science Foundation. Madison, WI: Wisconsin Center for Education Research.)

Bowcock, D. (1996) "No more Teaching as Usual." *Multicultural Prism: Voices from the Field, Volume 2.* Adams, J.Q., and Welsch, J. (Eds.) Illinois Staff and Curriculum Developers Association.

### **OTHER SIGNIFICANT PUBLICATIONS**

Pfatteicher, S.K., Bowcock, D., Kushner, J.L.(1998) "Program Assessment Took Kit: A Guide to Conducting interviews and surveys." LEAD Center, University of Wisconsin-Madison.

#### **Synergistic Activities**

2001 Paper presentation: "Impact of Molecular Biology Professional Development Program: The First Six Months." (with Hagedorn, E., Herman, T., Patrick, M.) National Association for Research In Science Teaching (NARST). St. Louis, Missouri.

2001 Paper presentation: "Preliminary Evaluation of a Professional Development Program for High School Science Teachers." (with Hagedorn, E., Herman, T., Patrick, M.) Association for the Education of Teachers in Science (AETS). Costa Mesa, California.

2000 Presentation and participation in CIC WISE (Women in Science, Engineering, and Technology) Initiative Best Practices Workshop. Indianapolis, Indiana.

2000 Paper presentation: "Learning from the CIC WISE (Women in Science, Engineering, and Technology) Initiative." WEPAN (Women in Engineering Program Advocacy Network) Conference. Washington, D.C.

1996-Present Provided external evaluation and created unpublished reports for: UW-Madison Undergraduate Research Scholars (URS); UW-Madison Departments: Human Ecology, Computer Science, Pharmacy, Botany, Engineering; projects funded by the National Science Foundation: National Institute for Science Education (NISE), CIC Women In Science and Engineering (WISE) Initiative; Madison Area Technical College (MATC).

1994 Co-presenter of "Kid power: Science that is Multicultural." Wisconsin Society of Science Teachers. LaCrosse, Wisconsin.

### **Collaborators within past 48 months**

Alexander, Baine	University of Wisconsin-Madison
Carnes, Molly	University of Wisconsin-Madison
Foertsch, Julie	University of Wisconsin-Madison
Hagedorn, Eric	University of Wisconsin-Milwaukee
Handelman, Jo	University of Wisconsin-Madison
Herman, Tim	Milwaukee School of Engineering
Kusher, Jennifer	University of Wisconsin-Madison
Millar, Susan	University of Wisconsin-Madison
Patrick, Michael	University of Wisconsin-Madison
Penberthy, Debby	University of Washington
Pfatteicher, Sarah	University of Wisconsin-Madison
Stambach, Amy	University of Wisconsin-Madison

### **Graduate and Postdoctoral Advisors**

Richard Ruiz, University of Arizona; Robert Koehl and Robert Tabachnick, (both professor emeritus, UW-Madison)

### No thesis advisees or Post-graduate Scholar Sponsors

# PATRICIA FLATLEY BRENNAN

School of Nursing and College of Engineering University of Wisconsin-Madison K6/346 CSC, 600 Highland Avenue, Madison, WI 53792-2455 (voice) 608-263-1315; (fax) 608-263-5332; (email) pbrennan@engr.wisc.edu

### **EDUCATION**

University of Delaware, Newark, DE	Nursing	B.S. 1975
University of Pennsylvania, Philadelphia, PA	Nursing	M.S. 1979
University of Wisconsin, Madison, WI	Industrial Engineering	M.S. 1984
University of Wisconsin, Madison, WI	Industrial Engineering	Ph.D. 1986

### **APPOINTMENTS**

1996 -	Moehlman Bascom Professor, School of Nursing and College of Engineering,
	University of Wisconsin, Madison, WI
	Visiting Professor, Section on Medical Informatics, Stanford University Medical
	School, Stanford, CA
1986-1996	Assistant/Associate/Full Professor, Nursing and Systems Engineering, Sociology,
	Case Western Reserve University, Cleveland, OH
	Lecturer, Preventive Medicine, University of Wisconsin, Madison, WI
1980-1983	Assistant Professor, Marquette University, Milwaukee, WI
1976-1980	Clinical Nurse Manager/Practitioner, Friends Hospital, Philadelphia, PA
1975-1976	Staff Nurse, Surgical Intensive Care, Lankenau Hospital, Philadelphia, PA

### FIVE PUBLICATIONS RELATED TO PROJECT

Bass DM, McClendon MJ, Brennan PF, & McCarthy C. The buffering effect of a computer support network on caregiver strain, Journal of Aging and Health, 10(1), 20-42, 1998.

Brennan PF, Moore SM, & Smyth KA. The effects of a special computer network on caregivers of persons with Alzheimer's Disease. Nursing Research, 44(3), 66-172, May/June 1995.

Brennan PF & Ripich S. Use of a home-care computer network by persons with AIDS. International Journal of Technology Assessment in Health Care, 10(2), 258-272, Spring, 1994.

Brennan PF. Computer network home care support demonstration: A randomized trial in persons living with AIDS, Computers in Biology and Medicine, 28(5), 489-508, Sept 1998.

Vahey DC, Corser WD, & Brennan PF. Publicly available healthcare databases for administrative strategic planning. Journal of Nursing Administration, 31(1), 9-15, Jan 2001.

### FIVE OTHER SIGNIFICANT PUBLICATIONS

Brennan PF & Anthony MA. Measuring nursing practice models using multi-attribute utility theory. Research in Nursing and Health, 23(5), 372-382, 2000.

Kwiatkowski K, Brennan PF, DeMets D, Dahlen K, & Buchanan J. University of Wisconsin IAIMS planning: Organizational challenges within a governance model. Proceedings AMIA Symposium, 448-452, 2000.

Lee HS, Brennan PF, & Daly BJ. Relationship of empathy to appraisal, depression, life satisfaction, and physical health in informal caregivers of older adults. Research in Nursing and Health, 24(1), 44-56, Feb. 2001.

Stead WW, & Brennan PF. Get both the medicine and the informatics right. Journal of the American Medical Informatics Association, 8(2), 192, Mar/Apr 2001.

Kaplan B, & Brennan PF. Consumer informatics supporting patients as co-producers of quality. Journal of the American Medical Informatics Association, accepted for publication, approximate publishing date June 2001.

### **Synergistic Activities**

With a joint governance appointment in the School of Nursing and the College of Engineering, Professor Brennan is not only well aware of issues that face women scientists and engineers academe, she is well positioned to be an agent of change. Brennan is currently Chair of the UW Committee on Women and active in a number of national professional organizations working to give women engineers a voice. She brings a sound perspective, brilliant mind, practical experience, and a sense of humor to the Leadership Team.

### **RECENT COLLABORATORS**

Molly Carnes, UW-Madison; David DeMets, UW-Madison; David H. Gustafson, UW-Madison; Jo Handelsman, UW-Madison; Myron Livny, UW-Madison; Shirley M. Moore, Case Western Reserve University, Cleveland, OH; Rahgu Ramakrishnan, UW-Madison Narasingarao Sreenath, Case Western Reserve University, Cleveland, OH; Lucille Lombardi Travis, Texas Women's University Houston, TX;

### STUDENT ADVISEES UW-MADISON ONLY

Juanita Hung, MS Student, UW-Madison; Josette Jones, MS, UW-Madison; Anita Ground, MS, Student, UW-Madison; Sarah Wackerbarth, University of Kentucky, Louisville, KY; William Cohen, University of Auckland, New Zealand
#### **BERNICE DURAND**

University of Wisconsin, Department of Physics, 475 N. Charter St., Madison, WI 53706 Phone: 608-262-3827; bdurand@theory1.hep.wisc.edu

EDUCATION		
Iowa StateUniversity	Physics	B.S. 1965
Iowa State University	Physics	Ph. D. 1971
University of Wisconsin-Madison	Theoretical Physics	1970-77
Lecturer (half-time) in Physics 1970-77		
Research Associate, 2 years FTE 1970-77		
Los Alamos Scientific Laboratory	Theoretical Physics	1975, 1976
Institute for Advanced Study, Princeton	Theoretical Physics	1975-76

#### **APPOINTMENTS**

1992-	Professor of Physics, University of Wisconsin-Madison
1986-92	Associate Professor of Physics, University of Wisconsin-Madison
1977-86	Assistant Professor of Physics, University of Wisconsin-Madison

#### PUBLICATIONS MOST CLOSELY RELATED TO PROPOSED PROJECT

None (all are internal university policy documents)

#### **OTHER SIGNIFICANT PUBLICATIONS**

Bernice Durand and Lochlainn O'Raifeartaigh, Rapidity amplitudes and their Fourier transforms, Phys. Rev. **D** 13, 99-103 (1976)

Bernice Durand, Properties of three position operators constructed from free spin-1/2 fields, Phys. Rev. **D** 14, 1554-1567 (1976)

Bernice Durand and Jerome Krebs, A model for the A dependence of inclusive hadronic cross sections at large y and small p perpendicular, Phys. Rev. **D** 21, 3137-3143 (1980)

Bernice Durand and Ina Sarcevic, Multiplicity distributions from branching equations with constant vertex probabilities, Phys. Rev. **D** 36, 2693 - 2701 (1987)

Alan Gara, Bernice Durand, and Loyal Durand, Relativistic description of quark-antiquark bound states. II. Spin-dependent treatment, Phys. Rev. **D** 42, 1651-1660 (1990)

#### **Synergistic Activities**

As one of a few women faculty members in physical science departments during the 1970's and 1980's, Durand experienced first-hand and witnessed the isolation which cuts off many women scientist academics from full participation in their departments and campus. She has served as a mentor to dozens of women, mostly informally but also through the Women Faculty Mentoring Program and departmental or campus organizations. She engineered spousal hires before we had a formal program. Durand found that committee service in the strongest shared governance structure in the country was her route to leadership, serving on many university-wide committees, sometimes two or three at a time. Having chaired governance committees, the recent search committee for a new chancellor, and the Athletic Board, Durand may well be the most knowledgeable non-administrative faculty member on campus on how to get things done. She has written or co-edited

many policy documents, including one in 1993-94 recommending WISE actions, which was adopted by the chancellor and deans, and another on the future diversity plan for the UW-Madison.

1. Aspen Center for Physics, Aspen, Colorado, first woman General Member of the Corporation, 1980-86, 1990-2000; Honorary Member, 2000-, Trustee, 1980-86, 1991-93; Honorary Trustee, 2000-, participant in workshop on enhancing participation by women at the Center, resulting in several women members, trustees and workshop organizers, early 1990's

2. Co-editor with Dr. Paul Barrows, then Associate Vice Chancellor for Student Affairs, Plan 2008, the UW-Madison diversity plan, 1998-99, co-chair with Dr. Barrows, now Vice Chancellor for Student Affairs, of campus diversity effort 1998-2001.

http://www.wisc.edu/provost/diversity/plan2008/index.html.

3. Co-editor with Prof. Betsy Draine, then Associate Vice Chancellor for Academic Affairs, Women in Science and Engineering (WISE) recommendations adopted by chancellor, deans, 1993-94, member of Physical Sciences Committee to implement (WISE) initiative, 1994-95

4. Developed one of the first TV courses at UW-Madison, Physics 107, "Ideas of Modern Physics." This was produced twice, as 43 taped lectures on modern physics for nonscientists, broadcast locally since 1991, statewide in 1997, on Aspen Community Television since 1996, extended to web 1997, taught with web discussions Fall 1997. Winner of Chancellor's Award for Excellence in Teaching, 1993

http://theory1.hep.wisc.edu/~bdurand/107html/frontpage/frontpage.html. 5. Co-author of UW-Madison Ethnic Studies requirement, and responsible for adoption by faculty and early implementation, as chair of College of Letters and Science Curriculum Committee 1987-89.

### Collaborators

Affiliated with University of Wisconsin System Tess Arenas, Assistant Vice President for Academic affairs; Katharine Lyall, President; David Olien, Vice President for Administration; Jay Smith, President of Board of Regents; David J. Ward, Vice-President for Academic Affairs (retired); numerous others.

Affiliated with University of Wisconsin-Madison Paul Barrows, Vice Chancellor for Student Affairs; Stephen Lunde, Director, Human Resources; David Musolf, Secretary of the Faculty; Melany Newby, Vice Chancellor for Legal and Executive Affairs; Carla Raatz, Director Human Resources; Pat Richter, Director of Intercollegiate Athletics; Barry Robinson, Chair of Academic Staff Executive Committee; Prof. Tom Sharkey, current Chair of University Committee (Executive Committee of Faculty); John Torphy, Vice-Chancellor for Administration; David Ward, Chancellor (retired); to some degree John Wiley, Chancellor, (then Provost); numerous others, including the collaborators on this proposal, Prof. Molly Carnes and Prof. Jo Handelsman

Affiliated with Korn/Ferry International search firm Bill Funk, director of higher education searches; Ashley Garvin

Affiliated with Aspen Center for Physics Maggie and Nicholas DeWolf, members of the corporation, Aspen residents; Prof. Liz Simmons, trustee, physicist at Boston University (about community outreach); numerous others

#### **Graduate and Postdoctoral Advisors**

**Thesis advisor:** Prof. Emeritus Derek Pursey, Iowa State University; Postdoctoral sponsors: none

**Thesis Advisor and Postgraduate Sponsor over last five years: Postdoctoral associates** none; **Other professionals** none; **Students (research assistants)** none

#### **CECILIA E. FORD**

University of Wisconsin; Dept. of English (English Linguistics); 600 N. Park St. Madison, WI 53706 Phone: (608) 263-2706; messages: (608) 263-3639; ceford@facstaff.wisc.edu

#### **EDUCATION**

California State University, Northridge	Linguistics	B.A 1978, M.A. 1982
University of California, Los Angeles	Applied Linguistics	Ph.D. 1988

#### **APPOINTMENTS**

1999-Present	Professor, English Department, University of Wisconsin-Madison.
1994-1999	Associate Professor, English Department, University of Wisconsin-Madison.
1990- 1994	Assistant Professor, English Department, University of Wisconsin-Madison.
1986-1989	Lecturer, Linguistics and English as a Second Language, UC, Santa Barbara.

**RESEARCH INTERESTS:** Language in interaction, language and social organization, discourse analysis, functions of English grammar in use, the integration of prosody and gesture in interactional language

**TEACHING RESPONSIBILITIES:** Graduate Courses: Seminar on Discourse and Institution; Seminar on Language and the Body; Discourse Analysis; Research Methods in Applied Linguistics; Advanced Issues in the Analysis of Language in Interaction.

### Undergraduate Courses: The Structure of English; English in Society: Language and Gender;

#### FIVE PUBLICATIONS CLOSELY RELATED TO PROJECT

Ford, Cecilia E. 2000. The treatment of contrasts in interaction. In Cause, Condition, Concession and Contrast: Cognitive and Discourse Perspectives, Bernd Kortmann and Elizabeth Couper-Kuhlen (Eds.), in the series Topics in English Linguistics. Berlin: Mouton de Gruyter. 283-311.

Ford, Cecilia E. 1999. Collaborative construction of task activity: Coordinating multiple resources in a high school physics lab. Research on Language and Social Interaction, 32 (4) 369-408.

Ford, Cecilia E. 1997. Speaking conditionally: Some contexts for *if*-clauses in conversation. In On Conditionals Again, A. Athanasiadou and R. Dirven (Eds.). Amsterdam: Benjamins. 387-413.

Ford, Cecilia E., Fox, Barbara A., and Thompson, Sandra A. Forthcoming, June 2001. The Language of Turn and Sequence. Oxford University Press. Forthcoming, June 2001.

Ford, Cecilia E. Forthcoming, August 2001. Denial and the Construction of Conversational Turns, in Complex Sentences in Grammar and Discourse. J. Bybee and M. Noonan (Eds.). Amsterdam: John Benjamins. (28 pp.)

#### **FIVE OTHER SIGNIFICANT PUBLICATIONS**

Ford, Cecilia E., Fox, Barbara A., and Thompson, Sandra A. Forthcoming, June 2001. Constituency and the grammar of turn increments. In The Language of Turn and Sequence. C. E.Ford, B. A. Fox, and S. A. Thompson (Eds.) Oxford University Press. (pp. 53)

Ford, Cecilia E., and Thompson, Sandra A. 1996. Interactional units in conversation: syntactic, intonational, and pragmatic resources for the managemeent of turns. In Interaction and Grammar, Elinor Ochs, Emanuel A. Schegloff, and Sandra A. Thompson (Eds.). Cambridge: University Press. (134-184).

Ford, Cecilia E. 1994. Dialogic aspects of talk and writing: *because* on the interactional-edited continuum. *TEXT* 14.4:531:54.

Ford, Cecilia E. and Mori, Junko. 1994. Causal markers in Japanese and English conversations: A cross linguistic study of interactional grammar. *Pragmatics* 4.1:31-61.

Ford, Cecilia E. (Forthcoming, September 2001). At the intersection of turn and sequence: Negation and what comes next . In *Studies in Interactional Linguistics*, Elizabeth Couper-Kuhlen and Margret Selting (Eds.). Amsterdam: Benjamins.

SYNERGISTIC ACTIVITIES: Professor Ford's work on the Leadership Team will be motivated and informed both by scholarly strengths in the analysis of social interaction and by a longstanding committment to educational and workplace equity. Her research involves listening to the voices of language users to understand patterns of language in discourse and the role of language in social organization. Beginning with her first publication on language-based stereotyping in public schools (TESOL Quarterly, 1984), Ford has integrated into her scholarship and teaching attention to challenging issues at the intersection of education, ethnicity, and gender. With the support of a Faculty Development Grant (UW, 2000-1), Ford developed course materials focused on the functions of language in social interaction, and regularly teaches an undergraduate course on language and gender, including linguistic analysis supported by innovative multi-media presentations and assignments. As a mentor in the Chancellor's Scholar Program for Undergraduate Minority Students and in the Summer LASER Program (Letters and Science Experience in Research), Ford has shared the educational careers of women and minority students. These mentoring opportunities have given her experience and insight into the challenges of Hmong, Philippina, and Native American women as they strive for success in science and humanities at the university level. Ford also serves on the Advisory Boards for Multicultural Academic Programs and Services and for the International Students Office, as well as on the Committee on the Status Women in the University. Dr. Ford is a member of the Scientific Planning Committee for the International Conference on Conversation Analysis, 2002, in coordination with the Danish organization MOVIN (Micro Analysis Of Verbal/non-Verbal/Visual INteraction). She has produced an educational video for the orientation of undergraduate students to the cross-cultural communication with International TAs. "Learning Face-to-Face." University of Wisconsin Instructional Materials Development Center, funded by the Knapp Bequest and the Office of the Chancellor.

**COLLABORATORS:** Molly Carnes, (UW-Madison), Elizabeth Couper-Kuhlen (University of Konstanz, Germany), Chris Fassnacht (University of Wisconsin), Barbara A. Fox (University of Colorado), Jo Handelsman, (UW-Madison), Harrie Mazeland (Gronigen University, The Netherlands), Junko Mori (University of Wisconsin), Felicia Roberts (Purdue), Sandra A. Thompson (UC Santa Barbara), Johannes Wagner (Odense University, Denmark), Jane Zuengler (University of Wisconsin)

**GRADUATE AND POSTDOCTORAL ADVISORS:** Emanuel Schegloff (Sociology, UCLA), Sandra A. Thompson (Linguistics, UC Santa Barbara, formerly at UCLA)

**GRADUATE STUDENTS:** Felicia Roberts, Junko Mori, Nelson Graff, Chris Fassnacht, Hye-Sook Wang, Athena Salaba, Gunsoo Lee, Jean DeMerit. Current: John Hellermann, Hanh Nguyen, Hassan Belhiah, Christina Higgins, Kim Marie Cole, Kyung Roo.

#### SUSAN BOLYARD MILLAR

Learning through Evaluation, Adaptation and Dissemination (LEAD) Center University of Wisconsin-Madison <u>smillar@engr.wisc.edu</u>; www.cae.wisc.edu/~lead

#### **EDUCATION**

William Smith	n College	English Literature	BA	1970
Cornell Unive	rsity A	Anthropology	ropology PhD 1981	
APPOINTMENT	ГS			
1994-present	Director, LEAD Center	University of Wi	sconsin-Madison	n
1994-present	Lead Fellow	National Institute	National Institute for Science Education College	
		Level		
		One Team's Insti	itute of Learning	Technology, UW-
		Madison	-	
1991-1994	Research Associate	Pennsylvania Sta	Pennsylvania State University	
1989-1991	Associate Director	National Study of	National Study of Master's Degrees, Wisconsin	
		Center for Educa	tion Research, U	JW-Madison
1986-1991	Policy and Planning Ana	alyst Office of Analysi	st Office of Analysis Services, UW System	
		Administration		
1985	Staff Associate	Office of Womer	n and Equal Opp	ortunity Programs,
		UW System Adm	ninistration	
1981-1985	Lecturer	Women's Studies	s Program, Univ	ersity of Wisconsin-
		Madison		
1974-1975	Ethnographic fieldwork	South Sulawsesi,	Indonesia	

#### FIVE PUBLICATIONS MOST CLOSELY RELATED TO PROPOSED PROJECT

- Millar, S. B. (2000). *The role of formative evaluation in the development of an interdisciplinary academic center*. NISE Occasional Paper, 8. Madison, WI: Wisconsin Center for Education Research.
- Millar, S. B. (2000). Opening doors to new spaces: The process of implementing education reform. *Targeting Curricular Change: Reform in Undergraduate Education in Science, Math, Engineering and Technology.* (41-45). Washington, DC: American Association for Higher Education.
- Alexander, B. B., Burda, A. C., & Millar, S. B. (1997). A community approach to learning calculus: Fostering success for underrepresented ethnic minorities in an emerging scholars program. *Journal of Women and Minorities in Science and Engineering*, 3(2), 145-159.
- Terenzini, P.T., Rendon, L.I., Upcraft, M.L., Millar, S.B., Allison, K.W., Gregg, P.L., and Jalomo, R. (1994). The transition to college: Diverse students, diverse stories. In *Research in Higher Education*, Vol. 35, No. 1., pp. 57-73.
- Conrad, C.F., Haworth, J. G., & Millar, S. B. (1993). *A silent success: Master's education in the United States*. Baltimore, MD: Johns Hopkins University Press.

#### FIVE OTHER SIGNIFICANT PUBLICATIONS

- Penberthy, D. L. & S. B. Millar (in press). "The 'Hand-off' as a Flawed Approach to Disseminating Innovation: Lessons from Chemistry." *Innovative Higher Education*.
- Millar, S. B. (2001). How do you measure success? Lessons on assessment and evaluation from the LEAD Center. *Syllabus*, *14*, 10-13.

- Wright, J. C., Millar, S. B., Kosciuk, S. A., Penberthy, D. L., Williams, P. H., & Wampold, B. E. (1998). A novel strategy for assessing the effects of curriculum reform on student competence. *Journal of Chemistry Education*, 75, 986-992.
- Millar, S. B. & Courter, S. C. (1996). From promise to reality: How to guide an educational reform from pilot stage to full-scale implementation. *Prism, Journal of the American Society for Engineering Education*, 6(3).
- Millar, S. B. (1995). Achieving academic standards with today's college students. In Weimer, M.G, & Menges, R. (Eds.), *Better Teaching and Learning in College: Toward More Scholarly Practice.* San Francisco: Jossey-Bass.

**SYNERGISTIC ACTIVITIES:** The knowledge and experience Millar brings to the Leadership Team of the proposed UW-Madison Women in Science and Engineering Leadership Institute was developed through years of experience as a participant in and a researcher of higher education. Her professional experience in higher education includes teaching in the UW-Madison Women's Studies Program, research and service as an analyst for UW System Administration, in-depth ethnographic work resulting in a major national study of master's education, additional research on change processes (with a focus on underrepresented students and faculty) in higher education as a member of the Penn State Center for the Study of Higher Education, and seven years studying, as an evaluator, efforts to improve learning in higher education, primarily in math-based disciplines. Recently, Millar's experience base has been significantly broadened through opportunities to serve on the advisory boards of several major postsecondary education reform initiatives, and of the NSF's Education and Human Resources Directorate. A theme that has permeated her work in higher education is factors associated with the underrepresentation of women and ethnic minorities in the math-based disciplines.

#### **EXAMPLES OF FIVE SYNERGISTIC ACTIVITIES**

- Chair, Committee of Visitors for the Informal Science Education program of the NSF, April, 2001.
- Advisory Committee of the NSF's Education and Human Resources Directorate (2000-present)
- Puerto Rico Collaborative for Excellence in Teacher Preparation program, University of Puerto Rico at Rio Piedras (1998)
- External Advisory Panel, Division of Education and Engineering Centers, Engineering Directorate, National Science Foundation, Fall 1998-
- "Model Institutions for Excellence" program, University of Texas, El Paso (1996-present)

**Collaborators and Other Affiliations** (located at the University of Wisconsin, unless otherwise stated)

Dianne Bowcock	Jo Handelsman	Senta Raizen, NCISE
Theodore Britton, NCISE	Steven Kosciuk	Norman Webb
Molly Carnes	Lyman Lyons	John C. Wright
William Clune	Terrence Millar	Paul Williams
Sandra Courter	Sarah A. Mason	
Ramona Gunter	Debra Penberthy, Univ. of Washington	

#### PAUL S. PEERCY

Dean, College of Engineering University of Wisconsin-Madison 1415 Engineering Drive Madison, WI 53706 Email: peercy@engr.wisc.edu

#### **EDUCATION**

Berea College	Physics (With Highest Honors	)B.A., June 1961
University of Wisconsin-Madison	Physics	M.S., June, 1963
University of Wisconsin-Madison	Physics	Ph.D., January, 1966

#### **APPOINTMENTS**

9/99 to present	Dean, College of Engineering, UW-Madison
7/95 - 8/99	President, SEMI/SEMATECH
8/91 - 10/95	Director, Microelectronics and Photonics, Sandia National Laboratories
3/86 - 7/91	Manager, Compound Semiconductor and Device Research Department,
	Sandia National Laboratories
11/82 - 3/86	Manager, Ion-Solid Interaction Research Department, Sandia National
	Laboratories
2/76 - 11/82	Supervisor, Ion Beam Modification and Analysis of Materials Division,
	Sandia National Laboratories,
8/68 - 2/76	Member of Technical Staff, Sandia National Laboratories
2/66 - 7/68	Post Doctoral Research Appointment, Bell Laboratories, Murray Hill, NJ

#### AWARDS AND HONORS

Member, National Academy of Engineering Fellow, IEEE Fellow, American Physical Society Fellow, American Association for the Advancement of Science Distinguished Member, Tau Beta Pi Member, Phi Kappa Phi Honor Society Member, Sigma Pi Honor Society Woody Award for Exceptional Service to the Materials Research Society Sandia Award For Excellence (two separate awards)

#### SERVICE

Councilor, Member of Executive Committee, Materials Research Society, 2001Chair, UW Technology Enterprise Cooperative (UW-TEC), 1999- present
Member, Policy Board for the National Nanofabrication Users Network, 1998- present
Member of Executive Committee, American Physical Society Council, 1999-2000
Councilor, American Association for the Advancement of Science 1998 Member, Policy Board of the NSF Engineering Research Center in Semiconductor
Environment and Safety (U. Arizona, Stanford, UC Berkeley) 1997Member, National Research Council Committee on Condensed Matter and Materials Physics
and Chapter Editor of "Electronic, Photonic, and Magnetic Materials and Phenomena:
The Science of Modern Technology" 1997 - 8

- Member, European Commission National Science Foundation Workshop on Materials; plenary speaker on "Materials for Future Information and Communication Technologies", Leuven, Belgium, December 1997
- Councilor, American Physical Society 1997 2000
- Member, National Research Council Board on Manufacturing and Engineering Design, 1996 – 1999
- Member, Cal Tech JPL Space Microelectronics Scientific Advisory Board, 1992 present
- Member, Carnegie Mellon Research Institute External Review Board, 1992 2001
- Member, University of Arizona College of Engineering and Mines Industrial Advisory Council, 1992 – present
- Member, Semiconductor Industry Association (SIA) Coordinating Group for the Technology Roadmap for Semiconductors 1991 – 1999
- Chair, Department of Energy Technical Area Coordinating Team for Microelectronics and Photonics Technology Transfer, 1991-1995
- Director, Microelectronics and Photonics Technology Transfer, 1991-1995, with more than 60 Cooperative Research and Development Agreements (CRADAs) valued at over \$2500 Author or co-author of more than 180 technical publications and hold 2 patents

#### **SELECTED PUBLICATIONS**

- The Drive to Miniaturization, P. S. Peercy, Nature 406, 1023, (2000)
- Stability of Strained Quantum-Well Field Effect Transistors, P. S. Peercy, D. R. Myers, T. E. Zipperian, L. R. Dawson, R. M. Biefield, C. R. HIlls, B. W. Dodson, E. D. Jones, and J. Y. Tsao, Electron Device Letters 9, 621 (1988).
- Measurement of the Velocity of the Crystal-Liquid Interface in Pulsed-Laser Annealing of Si, G. J. Galvin, M. O. Thompson, J. W. Mayer, R. B. Hammond, N. Paulter, and P. S. Peercy, Phys. Rev. Lett. 48, 33 (1982).
- Raman Scattering Near the Tricritical Point in SbSI, P. S. Peercy, Phys. Rev. Lett, 35, 1581, (1975).
- Observation of an Underdamped "Soft" Mode in Potassium Dihydrogen Phosphate, P. S. Peercy, Phys. Rev. Lett. 31, 379 (1973).

#### **Synergistic Activities**

Dean Peercy was chosen as a member of the Leadership Team because he is a champion of workforce diversity in engineering. He recognizes that as Dean of a College of Engineering where doctoral degrees in engineering are among the top 5 awarded annually from UW-Madison he is in a position to make a major impact on the future workforce of this nation and he takes this responsibility very seriously. Dean Peercy has generously agreed to house the proposed Women in Science and Engineering Leadership Institute in the College of Engineering and looks forward to working with the Co-PI's and other members of the Leadership Team.

### GLORIA E. SARTO, MD, PHD

Professor, Obstetrics and Gynecology University of Wisconsin Medical School (608) 267-5566 (office); (608) 267-5577 (Fax); <u>gsarto@facstaff.wisc.edu</u>

#### **EDUCATION**

University of Wisconsin, Madison, WI	<b>Biological Sciences</b>	B.S., 1955
University of Wisconsin, Madison, WI	Medicine M.I	D., 1958
Cleveland Metro, Gen. Hospital, Cleveland, OH	Internship (Rotating)	1958
University Hospital, Madison, WI	Residency (OB/GYN)	1963
University of Wisconsin, Madison, WI	Medical Genetics Ph.	D., 1971

#### **APPOINTMENTS**

1999-pres. Special Assistant to the Dean for Gender

- 1998-pres. Professor, Dept. of Obstetrics and Gynecology, UW-Madison Medical School.
- 1997-pres. Gynecologist, Women Veterans Health Program Attending, GEM Older Women's Clinic, Wm. S. Middleton Memorial Veterans Hospital, Madison, WI.
- 1997-pres. Visiting Professor, Dept. of Medicine, UW-Madison, Medical School.
- 1996-pres. Professor, Emeritus, Department of Obstetrics and Gynecology,

University of New Mexico School of Medicine, Albuquerque, New Mexico.

- 1986-1996 Professor and Chairperson, Dept. of Obstetrics and Gynecology, University of New Mexico School of Medicine, Albuquerque, New Mexico.
- 1983-86 Professor and Chairman, Dept. of Obstetrics and Gynecology, University of Wisconsin Medical School Milwaukee Clinical Campus, Milwaukee, WI.
- 1981-83 Professor and Vice Chairman, Dept. of Obstetrics and Gynecology, The Medical School Northwestern University, Chicago, IL.
- 1976-81 Professor and Assistant Chairman, Dept. of Obstetrics and Gynecology, The Medical School Northwestern University, Chicago, IL.
- 1975-76 Professor, Dept. of Gynecology and Obstetrics, UW-Madison Medical School
- 1972-76 Assoc. Chair, Dept. of Gynecology and Obstetrics, UW-Madison MedicalSchool.
- 1970-75 Assoc. Prof., Dept. of Gynecology and Obstetrics, UW-Madison Medical School
- 1966-70 As. Prof., Dept. of Gynecology and Obstetrics, UW-Madison Medical School
- 1963-66 Instructor, Dept. of Gynecology and Obstetrics, UW-Madison Medical School

#### **PUBLICATIONS (OUT OF 71)**

#### **Related to the proposed project:**

1) Wong YE, Bigby JA, Kleinpeter M, Mitchell J, Camacho D, Dan A, Sarto GE: Promoting the Advancement of Minority Women Faculty in Academic Medicine, Journal of Women's Health, 10(6), July-Aug, 2001 (in press).

#### **OTHER:**

- 1) Therman E, Sarto GE, Palmer CG, Kallio H, Denniston D. Position of the human X inactivation center on Xq. *Hum Genet* 50:59-64, 1979.
- 2) Sarto GE, Therman E. Replication and inactivation of a dicentric X formed by telormeric fusion. *Am J Obstet Gynecol*, 136(7):904-911, 1980.
- 3) Sarto GE, Stubblefield PA, Therman E. Endomitosis in human trophoblast. *Human Genet* 62:228-232, 1982.
- 4) Therman E, Sarto GE, Kuhn EM. The source of endomitosis in human cells. *Cancer Genet Cytogenet* 16:1-11, 1985.
- 5) Therman E, Trunca C, Kuhn EM, Sarto GE. Dicentric chromosomes and the inactivation of the centromere. *Hum Genet* 72:191-195, 1986.

- 6) Sarto GE, Kuhn EM, Therman E. Segregation after miotic crossing-over in isodicentric X chromosomes. *Cytogenetics and Cell genetics* 45:191-195, 1987.
- 7) Sarto GE: How race, ethnicity and culture influence women's health: in, controversies in women's health: clinical perspectives in primary care. Women's health in primary care: Supplement, November-December, 1998, Vol 1: No. 10.

#### PATENTS:

- U.S. Patent No. 5,750,340 (filed as U.S. Serial No. 08/418,704) for *In Situ Hybridization* Solution and Process; Inventor(s): In C. Kim, Donald M. Thompson, Gloria E. Sarto, UNM MC-092
- 2) U.S. Patent No. 6,022,689 (filed as CIP Patent Application Serial No.08/727,951 for In Situ Hybridization Slide Processes; UNM MC-092.CIP (Sarto and Thompson)

#### **Synergistic Activities**

- Dr. Sarto has had a long career in promoting women in the biological sciences. As a "first woman" to many positions, she understands the issues facing women in academia. As Chair of the Department of Obstetrics and Gynecology at University of New Mexico, she transformed a Department of total 6 faculty (one junior woman faculty ) to 22 faculty of which 2/3 were women at all levels; 75% of the residents were women.
- 2) Dr. Sarto serves as Special Assistant to the Dean for Gender (Medical School). In this role, she has set up professional development seminars and networking breakfasts for women faculty, and assists women faculty individually in obtaining space, support, etc.
- 3) Dr. Sarto is a member of the Faculty Equity and Diversity Committee, and the Medical School Mentoring Committee, and serves as a Sexual Harassment contact person.
- 4) Dr. Sarto is Co-Director, University of Wisconsin Center for Women's Health Research, and heads the Leadership Development component of the National Center of Excellence in Women's Health (DHHS).
- 5) Dr. Sarto continues to promote women for Dean and Chair positions as member of national committees, and frequently writes letters of recommendation for promotion of women.

#### **COLLABORATORS & OTHER AFFILIATIONS**

Collaborators on National Committees

Institute of Medicine (National Academy of Sciences) Board on Health Science Policy: Bernard Lo, UCSF; Leslie Benet, UCSF; David Blumenthal, Harvard; Enriqueta Bond, Burroughs Welcome Fund; David Cox, Stanford; Mark Cullen, Yale; James Curran, Emory; Nancy Neveloff Dubler, Montefiore; Robert Gibbons, U. Illinois; Bernard Goldstein, UMDNJ; Ada Sue Hinshaw, U. Michigan; Richard Merrill, U. Virginia; William Peck, Washington U.; Philip Pizzo, Harvard; Mary Wooley, Research America

- Committee on Creating a Vision for Space Medicine During Travel Beyond Earth Orbit: John Ball, AC of Physicians; Joseph Brady, Johns Hopkins; Bruce Coull, U. Arizona; N. Lynn Gerber, NIH; Bernard Harris, Harris Foundation; Christopher Kaufmann, Uniformed Serv. U.; Jay McDonald, U. Alabama; Ronald Miller, UCSF; Elizabeth Nabel, Nat. Heart, Lung and Blood Inst.; Tom Neuman, CSF; Douglas Powell, Powell and Wagner Assoc.; Walter Robinson, Harvard; Carol Scott-Conner, U. Iowa; Judith Tintinalli, U. N. Carolina
- Molly Carnes, Jo Handelsman, UW-Madison

Graduate and Postdoctoral Advisor: No longer active.

Postgraduates-Scholar Sponsor:

As Chair (10 years), Department of Ob/Gyn at University of New Mexico, supervised or mentored 80 residents, and six maternal fetal medicine fellows in addition to faculty. As Co-Director of U.W. Center for Women's Health Research work with Dr.Carnes to provide advise and coach women fellows and postdoctoral fellows.

#### **AMY STAMBACH**

University of Wisconsin: Departments of Educational Policy Studies and Anthropology (Affiliation with Women's Studies Program); 1000 Bascom Mall; Madison, WI 53706 Phone: (608) 263-2629; FAX (608) 262-9074; <u>astambach@education.wisc.edu</u>

#### **EDUCATION**

The Catholic University of America	Music Performance	1983-1985
The University of Chicago	The College	B.A. w/ distinction, 1987
The University of Chicago	Cultural Anthropology	M.A. 1990
The University of Chicago	Cultural Anthropology	Ph.D. 1996
Pennsylvania State University	Population Research Inst.	Andrew W. Mellon
	-	Postdoctoral Fellow in
		Anthropological Demography

#### **APPOINTMENTS**

1997-	Assistant Professor, Educational Policy Studies and Anthropology, U. Wisconsin.
1995-1997	Lecturer, Department of Anthropology, Pennsylvania State University.
1994	Lecturer, The College, The University of Chicago.
1993-1994	Research Affiliate and Lecturer, Board of Anthropology, Univ California, Santa Cruz.

**RESEARCH INTERESTS:** Ethnographic methods; the organizational character of educational institutions; educational policy and implementation; gendered and generational transformations associated with educational interventions.

1996-97

**TEACHING INTERESTS:** Graduate Course: Gender and Education; Graduate Course: Anthropology; Education; Undergraduate Course: School and Society

#### FIVE PUBLICATIONS CLOSELY RELATED TO PROJECT

- 2001 Consumerism and Gender in an Era of School Choice. Gender and Education 13(3). Forthcoming, July.
- 2000 The Rationality Debate Revisited. Reviews in Anthropology 28:341-351.
- 2000 Rural School District Consolidation in Pennsylvania: E Pluribus Unum? David Post and Amy Stambach. Journal of Research in Rural Education 15(4):106-117.
- 1999 Gender-bending Anthropological Studies in Education. Anthropology and Education Quarterly 30(4):441-445.
- 1998 Education, Mobility, and Money: Comparative Reflections on the Meaning of Investment. Advances in Educational Policy: Perspectives on the Social Functions of Schools, Volume 4:3-18.

#### FIVE OTHER SIGNIFICANT PUBLICATIONS

Submitted School Reform as Cultural Conversation: A Discussion of "Choice Programming" in U.S. Pubic Education. Peer-reviewed journal.

- 2000 Lessons from Mount Kilimanjaro: Schooling, Community, and Gender in an East African Context. New York: Routledge.
- 2000 Evangelism and Consumer Culture in Northern Tanzania. *Anthropological Quarterly* 73(3):171-179.
- 1999 Curl Up and Dye: Civil Society and the Fashion-minded Citizen in Contemporary Tanzania. In *Civil Society and the Political Imagination in Africa*. Jean and John Comaroff, eds. Chicago: University of Chicago Press.

1999 Review, "School-smart and Mother-wise: Working-class Women's Identity and Schooling" by Wendy Luttrell. Routledge Press, 1997. In American Ethnologist 26(2):518-519.

SYNERGISTIC ACTIVITIES: As a researcher who works outside the areas of sciences and engineering, Amy Stambach's expertise in cultural anthropology, educational policy, and ethnographic methods will make a unique contribution to the Leadership Team. Stambach will evaluate issues of gender and equity in ways that are grounded in established social-science research paradigms. She will study the behaviors, values, and norms that academic researchers (men and women) hold about women working in science and engineering, and she will use her findings to inform the larger research literature on the subject of women in science and engineering. Stambach has led several field projects on girls' and women's education and has worked on ethnographic evaluation teams in Chicago, Pennsylvania, the Midwest, and eastern Africa. In each of these studies, Stambach's "outsider" position as anthropologist has been important for providing a social-cultural perspective that is sometimes unobserved by participants who are involved in the issue-at-hand. Stambach's participation on this Institutional Transformation project will provide an outsider, anthropological perspective that works toward improving women's positions in science and engineering in three ways. First, Stambach will contribute the data-gathering component of the initiative. She will employ techniques of participant-observation in classrooms, laboratories, and professional meetings in order to understand how gender inequities arise in the course of everyday, ordinary activity. Second, she will contribute to the implementation and evaluation components of the initiative. She will conduct open-ended interviews with female and male faculty, departmental chairs, deans, and students during the entire course of the intervention, and she will conduct interviews and final observations at the end of the project in order to assess institutional changes and cultural shifts. Third, Stambach will disseminate research findings to a scholarly community through a series of refereed, peer-reviewed journal articles. Publications will contribute to a body of social scientific research that seeks to understand and advance women's positions through strategic interventions. Of relevance to her role on the Leadership Team, are the following activities:

- Principal Investigator: Spencer Foundation Advanced Studies Institute Series, "Redefining the Interrelationship of Anthropology and Education"; involving collaborations with colleagues at one-dozen universities around the country and in Sweden (2000-2001).
- Principal Investigator: National Academy of Education funded field research, April May 2000, Moshi, Tanzania; led research team of 4 on 2-month ethnographic project.
- Committee Member, University of Wisconsin, Women Faculty Mentoring Program.
- Parent Advisory Committee, University of Wisconsin Preschool Laboratory (contributed to grant resulting in \$10,000 increase across the board for all early childhood teachers, 1998-2000).

**RECENT COLLABORATORS NOT IN PUBLICATION LIST:** Molly Carnes, (UW-Madison), Kathleen Hall (Univ of Pennsylvania), Jo Handelsman (UW-Madison), Janise Hurtig (Univ of Illinois, Chicago), Bradley A. U. Levinson (Indiana Univ), Deborah Durham (Sweetbriar College), Ladislaus Semali (Pennsylvania State Univ)

# CURRENT GRADUATE ADVISEES – ALL AT UNIVERSITY OF WISCONSIN: Jacqueline DeWalt, Elizabeth J. Gross, Jenifer Hilander, Utae Kinoshita

**POST-GRADUATE AND GRADUATE ADVISORS:** Jean Comaroff (Univ. of Chicago), John Comaroff (Univ. Chicago), Patricia Draper (Pennsylvania State Univ), Donna O. Kerner (Wheaton College, MA), Dominique Meekers (Pennsylvania State Univ), Marshall Sahlins (Univ of Chicago)

### **EXECUTIVE ADMINISTRATOR**

To be identified

#### LILLIAN TONG

Center for Biology Education 425 N. Henry Mall Madison, WI 53706 608-265-3003 email: TONG@facstaff.wisc.edu

#### **EDUCATION**

University of Michigan	Honors-Psychology	B.A.1971
University of Michigan	Psychology	M.S. 1975
University of Michigan	Psychology	Ph.D. 1977
Dissertation title: Contrast se	ensitive and color opponent opti	c tract fibers in the Mexican
ground squirrel: Evidence for	rod input.	
University of Wisconsin, Madison	Postdoctoral Fellow, Departmen	t of Psychology, 1977-1981
(National Institutes of Health	Postdoctoral Fellowship)	

#### **APPOINTMENTS**

1998-present	Faculty Associate, Center for Biology Education, University of Wisconsin, Madison,
1992-1998	Instructional Program Manager, Center for Biology Education, University of
	Wisconsin, Madison
1989-1991	Administrative Program Specialist, Center for Neuroscience, University of
	Wisconsin, Madison
1984-1989	Assistant Scientist, Department of Psychology, University of Wisconsin, Madison
1981-1984	Research Associate, Department of Psychology, University of Wisconsin, Madison

**Current Position:** Undergraduate Education Coordinator: Faculty development, facilitation of cross-campus discussion, program development, information resource development, community development in the interest of improvement of undergraduate biology education and institutional change.

#### NATIONAL SCIENCE EDUCATION ACTIVITIES

- Coalition for Education in the Life Sciences (CELS): Strategies for Teaching the Life Sciences to Undergraduates, Feb. 14-17, 1993, Planning Committee
- Coalition for Education in the Life Sciences (CELS) Strategies for Teaching and Learning Undergraduate Life Sciences, June 1-3, 1995, Program Committee

Coalition for Education in the Life Sciences (CELS) Steering Committee, 1995-96.

- Review panel: National Science Foundation, Instrumentation and Laboratory Improvement proposals, January 24-27, 1996
- Committee on Institutional Cooperation (CIC) Women in Science and Engineering Best Practices Workshop, Purdue U. 1997 (UW-Madison delegation)
- UW Systems Women in Science: Curriculum Reform Institute 1998 ICU leader, 1999, 2001 invited speaker

#### **PARTICIPATION IN UW-MADISON COMMITTEES**

Madison Plan Ad Hoc Advisory Committee 1990-91 Asian American Studies Program Faculty Advisory Committee (1993-present) Undergraduate Biology Education Committee (1994-1996) AAHE Peer Review of Teaching Project (1996-97) College of Letters and Sciences Committee to Review Undergraduate Biology (1995-96) College of Agricultural and Life Sciences Instructional Improvement Committee (1996-01): Co-chair 2001 Biology New Media Center Program Committee UW-Madison Teaching Academy (1997-01), Exec Comm 2000-2003 Equity and Diversity Resource Center Advisory Committee (1998-01) Campus Climate Workgroup (2001)

#### **PUBLICATIONS (MOST RECENT)**

Guido, W., Spear, P.D., and Tong, L. Functional compensation in the lateral suprasylvian visual area following bilateral visual cortex damage in kittens. Experimental Brain Research, 1990, <u>83</u>, 219-224.

Kalil, R.E., Tong, L., and Spear, P.D. Thalamic projections to the lateral suprasylvian visual area in cats with neonatal or adult visual cortex damage. Journal of Comparative Neurology, 1991, <u>314</u>, 512-525.

Tong, L., Kalil, R.E., and Spear, P.D. Development of the projections from the dorsal lateral geniculate nucleus to the lateral suprasylvian visual area of cortex in the cat. Journal of Comparative Neurology, 1991, <u>314</u>, 526-533.

Tong, L., Guido, W., Tumosa, N., Spear, P.D., and Heidenreich, S. Binocular interactions in the cat's dorsal lateral geniculate nucleus. II Effects on dominant-eye spatial frequency and contrast processing. Visual Neuroscience, 1992, <u>8</u>, 557-566.

Guido, W., Spear, P.D. and Tong, L. How complete is physiological compensation in extrastriate cortex damage in kittens? Experimental Brain Research, 1992, <u>91</u>, 455-466.

#### **SYNERGISTIC ACTIVITIES**

Lillian Tong will be a member of the leadership team with a particular role in addressing issues of the women scientists in the academic staff. Dr. Tong has been a member of the UW-Madison community since 1977, both in research positions and cross-campus science centers. Her 13 years in neuroscience research from postdoctoral training through a scientist track position gives her personal experience with the difficulties and isolation of women in science research in the academic staff. Her current position in faculty/staff development in biological sciences education have acquainted her with the difficulties of women in academic staff instructional positions. Her experience facilitating cross campus communication and discussion in the Center for Neuroscience and the Center for Biology Education will be applied to developing effective networks for this initiative. In addition to work with biologists, she has worked with faculty/staff in other SMET disciplines through the SyMBiosis initiative on preparing biology students in the basic math and sciences. Dr. Tong has been active in promoting women in science through her participation in the Women in Science Program of the UW-System, through her presentations in a graduate course, "Effective Teaching of Biology" on classroom climate issues, and through her mentoring of graduate students and postdocs. Her experience on the Equity and Diversity Resource Center Advisory Committee and continuing involvement in ethnic studies programs continue to inform her thinking on creating an improved environment for working and learning.

#### AMY EILEEN WENDT

Associate Professor Department of Electrical and Computer Engineering University of Wisconsin-Madison 1415 Engineering Drive, Madison, WI 53706 (608) 262-8407 (Office) (608) 265-4623 (Fax) wendt@engr.wisc.edu

#### **EDUCATION**

California Institute of Technology	Engineering and Applied Science	B.S. June 1982
University of California, Berkeley	EECS	M.S. Dec., 1985
University of California, Berkeley	EECS	Ph.D. Dec., 1988,
Dissertation: "Dynamics of a Pla	anar Magnetron Discharge"	

Prof. Wendt is a member of the Department of Electrical and Computer Engineering as well as the Advisory Committee for the multidisciplinary Materials Science Program. Her research encompasses diagnostics, modeling and design of all types of low pressure plasma discharges for deposition, etching and modification of materials. Prof. Wendt is currently the Group Leader for Plasma Etching in the UW Center for Plasma-Aided Manufacturing.

#### **APPOINTMENTS**

12/96 to 1/97	Visiting Research Fellow, Nagoya University, Japan, School of Engineering
6/96 to present	Associate Professor, University of Wisconsin-Madison, Department of Electrical
	and Computer Engineering
8/90 to 6/96	Assistant Professor, University of Wisconsin-Madison, Department of Electrical
	and Computer Engineering
9/88 to 8/90	Research Associate, University of Wisconsin-Madison, Engineering Research
	Center for Plasma-Aided Manufacturing

#### **PUBLICATIONS**

- Y. Andrew, I. Abraham, J.H. Booske, Z.C. Lu, A.E. Wendt, "Absolute densities of long lived species in an ionized physical vapor deposition copper-argon plasma," J. App. Phys. 88, pp. 3208-3219, 2000.
- S.-B. Wang and A. E. Wendt, "Control of ion-energy distribution at substrates during plasma processing," *J. Appl. Phys.*88, pp. 643-646, 2000.
- S.-B. Wang and A. E. Wendt, "Sheath Thickness Evaluation for Collisionless or Weakly Collisional Bounded Plasmas," *IEEE Trans. Plasma Sci.*, **27**, pp. 1358-1365, 1999.
- Z. C. Lu, J. E. Foster, T. G. Snodgrass, J. H. Booske and A. E. Wendt, "Measurement of Electron Energy Distribution Function in an Argon/Copper Plasma for Ionized Physical Vapor Deposition," J. Vac. Sci. Technol. A 17, pp. 840-844, 1999.
- K. H. R. Kirmse, A. E. Wendt, S. B. Disch, J. Z. Wu, I. C. Abraham, J. A. Meyer, R. A. Breun and R. C. Woods, "Mechanisms of SiO2 to Si Selectivity in High Density Fluorocarbon Plasma Etching," J. Vac. Sci. Technol. B., pp. 710-715, 1996.

#### **OTHER PUBLICATIONS**

Y. Andrew, T. G. Snodgrass, and A. E. Wendt, "Interactions between plasmas in IPVD Discharges," *J. Vac. Sci. Technol.* A18, pp. 2137-2142, 2000.

- T. G. Snodgrass, J. H. Booske, W. Wang, A. E. Wendt and J. L. Shohet, "Gridless Ionized Metal Flux Fraction Measurement Tool for Use in Ionized Physical Vapor Deposition Studies," *Review of Scientific Instruments* 70, pp. 1525-1529, 1999.
- J. E. Foster, W. Wang, A. E. Wendt, and J. Booske, "Determination of Metal Vapor Ion Concentration in an Ar/Cu Plasma for Ionized Physical Vapor Deposition," J. Vac. Sci. Technol. A 16, pp. 2198-2203, 1998.
- J. E. Foster, W. Wang, A.E. Wendt, and J. Booske, "Antenna Sputtering in an Internal Inductively Coupled Plasma for Ionized Physical Vapor Deposition," J. Vac. Sci. Technol. B 16, pp. 532-535, 1998.
- W. Wang, J. Foster, A.E. Wendt, J.H. Booske, T. Onuoha, P.W. Sandstrom, H. Liu, S.S. Gearhart, and N. Hershkowitz, "Magnetic Field Enhanced rf Argon Plasma for Ionized Sputtering of Copper," *Applied Physics Letters* 71, pp. 1622-1624, 1997.

**SYNERGISTIC ACTIVITIES:** Amy Wendt has a strong interest in the status of women in engineering and science at UW – Madison. As a faculty member in the UW Dept. of Electrical and Computer Engineering for over ten years, her familiarity with the organization and leadership experience make her an ideal candidate for the UW WISELI leadership team. Professor Wendt is presently chair-elect of the Plasma Sciences and Technology Division of the American Vacuum Society. She served as the coordinator of a peer mentoring group for women faculty in engineering and the sciences at UW Madison from 1996-2000. Wendt is a current member of the UW College of Engineering Equity and Diversity Committee, and serves on the executive committee of the UW Graduate Engineering Research Scholars Program, an NSF sponsored program dedicated to the improvement of the graduate experience for underrepresented minorities.

**RESEARCH COLLABORATORS (LAST 48 MONTHS):** Ion Abraham (Sandia National Laboratory); Molly Carnes (UW-Madison); Jo Handelsman (UW-Madison); Jeff Hopwood (Northeastern University); Eric Keiter (Sandia National Laboratories); K. Kirmse (Texas Instruments); Gottlieb Oehrlein (Univ. of Maryland); Shahid Rauf (Motorola); R.A. Stewart (Laramie County Community College); J.A. Stittsworth (Hewlett Packard); Peter Ventzek (Motorola); W. Wang (Applied Materials); Jim Werking (SEMATECH)

**GRADUATE AND POST-GRADUATE ADVISEES**: Robert Bassett (Hewlett Packard); D.F. Beale (Lam Research); K.J. Blobaum (Johns Hopkins University); Andrew Christlieb (UW-Madison); Mark Converse (UW-Madison); K. Kirmse (Texas Instruments); Steve Lu (UMC Taiwan); Marlann Patterson (UW-Madison); Manuj Rathor (Cypress Semiconductor); Rardchawadee Silapunt (UW – Madison); S.-B. Wang (Applied Materials)

**Post docs:** John Foster (NASA Lewis); Yasmin Andrew (UW-Madison)

**Total number of grad students advised:** 11 **Total number of post docs:** 2

**Ph.D. Advisor:** M.A. Lieberman, University of California, Berkeley **Post Graduate Advisors:** Noah Hershkowitz, UW-Madison; J.L. Shohet, UW-Madison

SUMMAI								
PROPOSAL BUDGET FOR					R NSF USE ONLY			
ORGANIZATION PROPOSAL						DURATIO	DN (months)	
University of Wisconsin-Madison						Proposed	Granted	
PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR			AW	ARD N	0.			
Mary Carnes			<b>F F</b>	.1	1			
A. SENIOR PERSONNEL: PI/PD, Co-PI's, Faculty and Other Senior Ass	ociates	Per	son-mos	d 5.	Rec	Funds uested By	Funds granted by NSF	
(List each separately with title, A.7. show number in brackets)	0	CAL /	ACAD	SUMR	p	roposer	(if different)	
1. Mary Carnes - Professor		<u>6.00</u>	0.00	0.00	\$	<u>58,686</u>	\$	
2. Caitilyn Allen - Associate Professor	1	1.20	0.00	0.00		8,017		
3 Vicki M Bier - Associate Professor	(	0.00	0.00	1.00		10,013		
4. Dianne C Bowcock - Associate Director		<u>5.00</u>	0.00	0.00		25,636		
5. Patricia F Brennan - Professor	(	<u>).00</u>	0.00	1.00		14,482		
6. (10) OTHERS (LIST INDIVIDUALLY ON BUDGET JUSTIFICATION	N PAGE) 20	).40	1.00	3.00		<u>149,303</u>		
7. (15) TOTAL SENIOR PERSONNEL (1 - 6)	33	3.60	1.00	5.00		266,137		
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)								
1. ( <b>0</b> ) POST DOCTORAL ASSOCIATES		0.00	0.00	0.00		0		
2. ( $1$ ) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, I	ETC.) 8	8.00	0.00	0.00		21,000		
3. ( <b>0</b> ) GRADUATE STUDENTS						0		
4. ( 2) UNDERGRADUATE STUDENTS						10,000		
5. ( 1) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)						15,000		
6. ( <b>0</b> ) OTHER						0		
TOTAL SALARIES AND WAGES (A + B)						<u>312,137</u>		
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)						98,710		
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)						<u>410,847</u>		
D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM	EXCEEDING \$	\$5,000.	)					
TOTAL EQUIPMENT						0		
E. TRAVEL 1. DOMESTIC (INCL. CANADA, MEXICO AND U.S	. POSSESSIO	NS)				27.500		
2. FOREIGN		,				0		
F. PARTICIPANT SUPPORT COSTS					1			
1. STIPENDS \$								
2. TRAVEL0								
3. SUBSISTENCE								
4. OTHER0								
TOTAL NUMBER OF PARTICIPANTS $(0)$ TO	TAL PARTICIP	PANT C	OSTS			0		
G. OTHER DIRECT COSTS								
1. MATERIALS AND SUPPLIES						27.000		
2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION						0		
3. CONSULTANT SERVICES						0		
4 COMPLITER SERVICES						0		
						0		
6 OTHER						50 000		
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K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7.j.)					¢ ′	<u>U</u> 7/0 920	¢	
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Other Senior Personnel Name - Title	Cal	Acad	Sumr Funds	Requested
Durand, Bernice - Professor	0.00	0.00	1.00	8738
Ford, Cecilia - Professor	0.00	0.00	1.00	8436
Handelsman, Jo E - Professor	4.80	0.0	0.00	40781
Millar, Susan B - Director	1.20	0.00	0.00	8788
Peercy, Paul - Dean	0.00	0.00	0.00	0
Sarto, Gloria - Professor	1.20	0.00	0.00	10378
Stambach, Amy - Assistant Profess	or O.	00 (	D.OO 1.OO	6067
To be, named - Administrator	12.00	0.0	0 0.00	50000
Tong, Lillian - Faculty Associate	1.20	0.00	0.00	5697
Wendt, Amy - Associate Professor	0.0	01.	.00 0.00	10418

SUMMAR	RY	YE	AR	2			
PROPOSAL BI		FOI	R NSF USE ONLY				
ORGANIZATION			PRO	POSAL	NO.	DURATIO	ON (months)
University of Wisconsin-Madison						Proposed	Granted
PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR			AV	/ARD N	0.		
Mary Carnes							
A. SENIOR PERSONNEL: PI/PD, Co-PI's, Faculty and Other Senior Asso	ciates	N	SF Funde erson-mo	d s.	F	unds	Funds
(List each separately with title, A.7. show number in brackets)		CAL	ACAD	SUMR	- Requ	oposer	(if different)
1. Mary Carnes - Professor		6.00	0.00	0.00	\$	60,450	\$
2. Caitilyn Allen - Associate Professor		1.20	0.00	0.00		8,260	
3. Vicki M Bier - Associate Professor		0.00	0.00	1.00		10,310	
4. Dianne C Bowcock - Associate Director		6.00	0.00	0.00		26,410	
5. Patricia F Brennan - Professor		0.00	0.00	1.00		14,920	
6. ( $10$ ) others (list individually on Budget Justification	PAGE) 2	0.40	1.00	3.00	1	53,780	
7. ( 15 ) TOTAL SENIOR PERSONNEL (1 - 6)	3.	3.60	1.00	5.00	2	74,130	
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)							
1. ( <b>0</b> ) POST DOCTORAL ASSOCIATES		0.00	0.00	0.00		0	
2. ( $1$ ) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, E	TC.)	8.00	0.00	0.00		21,630	
3. ( <b>0</b> ) GRADUATE STUDENTS						0	
4. ( <b>0</b> ) UNDERGRADUATE STUDENTS						10,300	
5. ( 1) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)						15,450	
6. ( <b>0</b> ) OTHER						0	
TOTAL SALARIES AND WAGES (A + B)					3	21,510	
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)					1	03,280	
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)					4	24,790	
D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM E	XCEEDING	\$5,000	).)			,	
						0	
E. TRAVEL 1. DOMESTIC (INCL. CANADA, MEXICO AND U.S.	POSSESSIO	ONS)				20.000	
2. FOREIGN		, ,				0	
F. PARTICIPANT SUPPORT COSTS							
1. STIPENDS \$0							
2. TRAVEL 0							
3. SUBSISTENCE0							
4. OTHER0							
TOTAL NUMBER OF PARTICIPANTS ( <b>0</b> ) TOTA	AL PARTICI	PANT	COSTS			0	
G. OTHER DIRECT COSTS							
1 MATERIALS AND SUPPLIES						20 500	
2 PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION						0	
3. CONSULTANT SERVICES						0	
4. COMPUTER SERVICES						0	
5 SUBAWARDS						<u> </u>	
6 OTHER						50 000	
						<u>50,000</u> 70 500	
						15 290	
					5	13,270	
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Other Senior Personnel Name - Title	Cal	Acad	Sumr Fund	s Requested
Durand, Bernice - Professor	0.00	0.00	1.00	9000
Ford, Cecilia - Professor	0.00	0.00	1.00	8690
Handelsman, Jo E - Professor	4.80	0.0	0.00	42000
Millar, Susan B - Director	1.20	0.00	0.00	9050
Peercy, Paul - Dean	0.00	0.00	0.00	0
Sarto, Gloria - Professor	1.20	0.00	0.00	10690
Stambach, Amy - Assistant Profess	or O.	00 (	).00 1.00	) 6250
To be, named - Administrator	12.00	0.0	0.00	51500
Tong, Lillian - Faculty Associate	1.20	0.00	0.00	5870
Wendt, Amy - Associate Professor	0.0	01.	00 0.00	10730

PROPOSAL BUDGET         PRNPS USECNL:           ORGANIZATION         PROPOSAL NO.         DURATION (months)           University of Wisconsin-Madison         PROPOSAL NO.         DURATION (months)           PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR         AWARD NO.         Proposed Granted           A SENICR PERDINEL: PLPD, Co-PTS, Faculty and Other Senior Associates         CAL ACAD SLUMR         Proposed Granted           1. Mary Carnes - Professor         6.00         0.00         8.2260         \$           2. Catilityn Atlen - Associate Professor         1.00         0.00         0.00         8.510         \$           3. Vicki M Bier - Associate Professor         0.00         0.00         10.620         \$         \$           4. Diamac C Bowcock - Associate Director         0.00         0.00         0.00         1.5370           6. (10) OTHER REGISTINDIVIDUALLY ON BUDGET JUSTICATION PAGE         20.40         1.00         3.00         15.370           7. (15) TOTAL SENOR PERSOSCIATES         0.00         0.00         0.00         22.280         \$           1. (1) OTHER PROFESISCIALS (ECHNICIAN, PROGRAMMER, ETC.)         8.00         0.00         2.2280         \$           1. (1) UNDERGRADALTE STUDENTS         0.00         0.00         0.00         \$         \$ <tr< th=""><th>SUMMA</th><th>RY</th><th>YE</th><th>AR</th><th>3</th><th></th><th></th><th></th></tr<>	SUMMA	RY	YE	AR	3							
ORGANIZATION         PROPOSAL NO.         DURATION (months)           PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR         AWARD NO.         AWARD NO.           AS SENOR RERSONNEL: PUPD. Co-PTI: Faulty and Other Senior Associates (Late acid separately with their a brackets)         CALLACD (SUUR)         Investing (months)           1. Mary Carnes - Professor         6.00         0.00         0.00         5.510           2. Catility Allen - Associate Professor         0.00         0.00         5.510         S.510           3. Vicki M Bier - Associate Professor         0.00         0.00         0.00         2.7200         S.510           3. Vicki M Bier - Associate Professor         0.00         0.00         0.00         2.7200         S.510           5. Patricia F Breman - Professor         0.00         0.00         0.00         2.7200         S.510           6.10         O.010 Add Ling 15,370         S.50         S.711         S.735         S.755           7.11         STOTAL BENKOR RESONALE (1 = 0)         S.300         0.00         0.00         2.223,255           8. OTHER PERSONALE (1 = 0)         S.000         0.00         0.00         0.00         2.223,255           9. OTAL SALARES AND WAGES (A + B)         S.100         0.00         0.00         0.00         0.00	PROPOSAL BUDGET						FOR NSF USE ONLY					
University of Wisconsin-Madison         Proposed         Granted           Mary Carnes         AWARD NO.         AWARD NO.           A SENIC RESONEL: PROP Co-PTS, Faculty and Other Senior Associates         CAL         ACAD           A SENIC RESONEL: PROP Co-PTS, Faculty and Other Senior Associates         CAL         ACAD           2. Chiftin Allen - Associate Professor         1.20         0.00         0.00         5.2510           3. Vicki M Bier - Associate Professor         0.00         0.00         0.00         27.200           4. Diame C Bowcok - Associate Director         0.00         0.00         0.00         27.200           5. Patricia F Breman - Professor         0.00         0.00         1.00         158.395           7. (15) TOTAL SENOR FERSONNEL (-1-6)         33.00         1.00         1.00         158.395           7. (15) TOTAL SENOR FERSONNEL (-1-6)         33.00         0.00         0         22.286           3. (10) OF SOCTOCTORAL ASSOCIATES         0.00         0.00         22.286         0           1. (10) THER         0.00         0.00         0.02         22.286           3. (10) GRADUATE STUDENTS         10.610         0         0           5. (10) THER         0         0         0           7. (10	ORGANIZATION PROPOSAL							ON (months)				
PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR         AVARD NO.           A SENIOR PERSONNEL PIPD, Co-PTs, Faculty and Other Senior Associates (Lit each separatey with INE, A.T. show number in brackets)         BESCHART         Funds results of the senior Associate (Lit each separatey with INE, A.T. show number in brackets)         Funds CAL         Funds results of the senior CAL	University of Wisconsin-Madison				Proposed			Granted				
Mary Carnes         Fund.           A. SENIOR FERSIONEL: "PID. Co-PTs, Faculty and Other Sanior Associates         Fund.         Rescent           List each separately with title, A.T. show number in brackets)         CAL         ACAD [SLME]         Fund.           1. Mary Carnes - Professor         6.00         0.00         0.00         5.22(26)           2. Catitityn Allen - Associate Professor         0.00         0.00         1.05(20)           3. Vicki M Bier - Associate Professor         0.00         0.00         1.00         1.52(20)           4. Diame C Bowcock - Associate Director         6.00         0.00         1.00         1.57(2)           6. (10) OTHER List IN NUMBERS IN BRACKETS)         0.00         0.00         1.00         1.57(2)           7. (15) TOTAL SENORE (EGNONALE) (TO WOMBERS IN BRACKETS)         0.00         0.00         0.00         0.00         2.2280           3. (10) POST DOCTORAL ASSOCIATES         0.00         0.00         0.00         0.00         0.00         0.00         0.00           5. (11) OTHER         0.00         0.00         0.00         0.00         0.00         0.00           6. (10) OTHER         0.00         0.00         0.00         0.00         0.00           1. OTHER PROFESSIONALS (EFOWNUMBERS IN FRINGE DERE	PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR			AW	/ARD N	0.						
A. SENOR PERSONNEL: PIPD, Co-PTs, Faculty and Other Senior Associates         BSE_Description         Provide American Security Provide Provi	Mary Carnes											
Ulter each separately with title, A.7. show number in bracklets)         C.A.L         ACAD [SUME Professor         Cold	A. SENIOR PERSONNEL: PI/PD, Co-PI's, Faculty and Other Senior Ast	sociates	NS Pe	SF Funde	d s.	F	unds	Funds				
1. Mary Carnes - Professor       6.00       0.00       0.05       62.260       s.510         2. Catifun Allen - Associate Professor       1.20       0.00       0.00       1.00       10.620         3. Vicki M Bier - Associate Professor       0.00       0.00       0.00       1.00       10.620         4. Diamne C Bowcock - Associate Director       6.00       0.00       0.00       1.00       10.620         5. Patricia F Brennan - Professor       0.00       0.00       1.00       15.370       6         6. (10) OTHERS (UST NDIVIDUALLY ON BUDGET JISTIFICATION PAGE)       0.00       0.00       1.00       15.370         7. (15) TOTAL SENIOR PRESONNEL (1 - 0)       33.60       1.00       5.00       282.355       8         8. OTHER PERSONNEL (1 - 0)       33.60       0.00       0.00       22.280       3         3. (10) IGRADUATE STUDENTS       10.01       10.511       10.610       1       1.0161         5. (1) IGRAPROPERSIGNAL (ICENCAL (ICHARGED DIRECTLY)       15.914       10       10.610       1         6. (10) OTHER       10       10.610       10.610       1       10.610       1         6. (10) IGRAPHAL - CLENCAL (ICHARGED DIRECTLY)       15.914       10       1       10.610 <tr< td=""><td>(List each separately with title, A.7. show number in brackets)</td><td>C</td><td>CAL</td><td>ACAD</td><td>SUMR</td><td>requ pro</td><td>oposer</td><td>(if different)</td></tr<>	(List each separately with title, A.7. show number in brackets)	C	CAL	ACAD	SUMR	requ pro	oposer	(if different)				
2         Califilyn Allen - Associate Professor         1.20         0.00         0.00         1.00	1. Mary Carnes - Professor	6	5.00	0.00	0.00	\$	62.260	\$				
3. Vicki XI Bier - Associate Drofessor         0.00         0.00         1.06         1.0620           4. Diame C Bowcock - Associate Director         6.00         0.00         1.00         1.0620           5. Patricia F Brennan - Professor         0.00         0.00         1.00         1.00         3.00         1.00         1.00         3.00         1.5370           6. (10) OTHERS (LIST IND/IDUALLY ON BUDGET JUSTIFICATION PAGE)         20.40         1.00         3.00         1.5370         6.00         2.00         1.00         3.00         1.5370           7. (15) TOTAL SENOR PERSONNEL (- (-6)         33.60         1.00         5.00         2.2355         0         0         0         2.1         1.00 THER PERSONNEL (SHOW NUMBERS IN BRACKETS)         0         0.00         0.00         0.00         2.00         2.2355         0         0         0         2.1         1.00 THER PERSONALS (TECHNCIAN, PROGRAMMER, ETC.)         8.00         0.00         0.00         2.2350         0	2. Caitilyn Allen - Associate Professor	1	1.20	0.00	0.00		8.510					
4         Dianne C Bowcock - Associate Director         6.00         0.00         0.00         100         15.70           6.         10         Others Rust in Nonzoulally on Budget Justification Page         20.40         1.00         3.00         158,395           7.         (15) TOTAL SENOR PERSONNEL (I-0)         33.60         1.00         5.00         282,355           8.         OTHER PERSONNEL (ISHOW NUMBERS IN BRACKETS)         0.00         0.00         0.00         222,280           3.         (10) POST DOCTORAL ASSOCIATES         0.00         0.00         222,280         3.60         1.00         5.00         222,280           3.         (1) UNDERGRADUATE STUDENTS         10,610         5.00         0.00         22,280         3.1,159         1.50,114         6.60         0.00         0.00         22,280         3.1,159         1.00,610         5.00         1.00,610         5.00,100         0.00         1.00,80,400         1.00,510         2.00,100         1.00,100         1.00,500         2.00,100,100         1.00,100         1.00,100         1.00,100         1.00,100         1.00,100         1.00,100         1.00,100         1.00,100         1.00,100         1.00,100         1.00,100         1.00,100         1.00,100         1.00,100         1.00,10	3. Vicki M Bier - Associate Professor	0	).00	0.00	1.00		10,620					
5. Patricia F Brennan - Professor         0.00         0.00         1.00         1.5370           6. (10) OTHERS (LIST INDIVIDUALLY ON BUDGET JUSTFICATION PAGE)         20.40         1.00         3.00         158,395           7. (15) TOTAL SEMICR PERSONNEL (1-0)         33.360         1.00         5.00         282,355           B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)         0.00         0.00         0.00         20.00         0.00	4. Dianne C Bowcock - Associate Director	6	5.00	0.00	0.00		27,200					
6. (10) OTHERS (LIST INDIVIDUALLY ON BUDGET JUSTIFICATION PAGE)         20.40         1.00         3.00         158.395           7. (15) TOTAL SENIOR PERSONNEL (1-6)         33.60         1.00         5.00         282,355           B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)         0.00         0.00         0.00         0.00           1. (0) POST DOCTORAL ASSOCIATES         0.00         0.00         0.00         0.00           2. (1) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)         8.00         0.00         0.00           2. (1) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)         8.00         0.00         0.00           4. (0) UNDEGRAPOLATE STUDENTS         10.6010         0.0         0.00         0.00           5. (1) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)         15.914         0.0         0.0           6. (0) OTHER         0.0         10.00         0.0         0.0           7. (1) SECRETARIAL - CLERICAL (IF CHARGED DRECTLY)         15.914         0.0         0.0           6. (10) OTHER         0.0         10.00         10.00         10.00           7. (2) SECRETARIAL - CLERICAL (IF CHARGED DRECTLY)         15.914         0.0         10.00           0. CHARGE DAS AND FINICIS EERDENTS (IF CHARGED AS DIRECT COSTS)         10.00         10.00	5. Patricia F Brennan - Professor	0	).00	0.00	1.00		15.370					
7: (15) TOTAL SENIOR PERSONNEL (1-6)       33.60       1.00       5.00       282,355         B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)       0.00       0.00       0.00       0.00       0.00         2: (1) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)       8.00       0.00       0.00       0.00         2: (1) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)       8.00       0.00       0.0         3: (0) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)       8.00       0.00       0.0         4: (0) UNDERGRADUATE STUDENTS       10,610       0       0         5: (1) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)       15,914       0       0         TOTAL SALARIES, MAD WAGES (A + B)       331,159       0       0         C. FININGE BENFTS (F CHARGED AS DIRECT COSTS)       108,040       0       0         TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)       439,199       0       0         2. FOREIGN       0       0       0       0       0         2. FOREIGN       0       0       0       0       0       0         3. JUBSISTENCE       0       0       0       0       0       0       0       0       0       0       0       0       0       0	6. (10) OTHERS (LIST INDIVIDUALLY ON BUDGET JUSTIFICATIO	N PAGE) 20	).40	1.00	3.00	1	58.395					
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)       0.00       0.00       0.00       0.00       0.00       0.00       0.00       0.00       0.00       0       22,280       2.0       0.00       0.00       0.00       0.00       0.00       0.00       0.00       0.00       0.00       0.00       22,280       0.00       0       22,280       0.00       0       0       4.0       0       4.0       0       0.00       0.00       0.00       0.00       0.00       0.00       0       22,280       0	7. (15) TOTAL SENIOR PERSONNEL (1 - 6)	33	3.60	1.00	5.00	2	82.355					
1. ( 0) POST DOCTORAL ASSOCIATES       0.00       0.00       0.00       0         2. ( 1) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)       8.00       0.00       0.00       0         3. ( 0) GRADUATE STUDENTS       10.610       0       0       0         5. ( 1) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)       15.514       0       0         6. ( 0) OTHER       0       0       0       0       0         7. ( 1) OTHER PROFESSIONALS (IF CHRIGED DIS DIRECT LY)       15.514       0       0       0         6. ( 0) OTHER       0       0       0       0       0       0       0         7. ( 1) SECRETARIAL - CLERICAL (IF CHARGED AS DIRECT COSTS)       108,040       0       0       0         0. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING \$5.000.)       0       0       0         0. 2. FOREIGN       0       0       0       0       0         2. TRAVEL       1. DOMESTIC (INCL. CANADA, MEXICO AND U.S. POSSESSIONS)       15,000       0         2. TRAVEL       0       0       0       0       0         3. SUBSISTENCE       0       0       0       0       0         1. TATURE AND SUPPORT COSTS       0       0       0	B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)				2100		0_,000					
1       1       0 OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)       8.000       0.000       22,280         3.(0)       0 ORADUATE STUDENTS       0       0       0         4.(0)       UNDERGRADUATE STUDENTS       10,610       5         5.(1)       SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)       15,914         6.(0)       OTHER       0       0         TOTAL SALARIES, WADES (A + B)       0       0         C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)       108,040       0         TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)       439,199       0         D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING \$5,000.)       0       0         TOTAL EQUIPMENT       0       0       0         E. TRAVEL       0       0       0       0         2. TRAVEL       0       0       0       0         3. SUBSISTENCE       0       0       0       0         2. OTHER DIRECT COSTS       11,000       0       0         3. CONSULTANT SERVICES       0       0       0         4. OTHER       0       0       0       0         2. UNDERGENDATION DISSEMINATION       0       0       0       0	1 ( <b>0</b> ) POST DOCTORAL ASSOCIATES	0	) 00	0.00	0.00		0					
1       0)       GRADUATE STUDENTS       0         4. (0)       UNDERGRADUATE STUDENTS       10.610         5. (1)       SECRETARIAL - CERRICAL (IF CHARGED DIRECTLY)       15.914         6. (0)       OTHER       0         TOTAL SALARIES AND WAGES (A + B)       331,159         C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)       108,040         TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)       439,199         D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING \$5,000.)       0         E. TRAVEL       0         1. STOPENDS \$       0         2. FOREIGN       0         6. OTHER DIRECT COSTS       0         1. STIPENDS \$       0         2. FOREIGN       0         7. TARVEL       0         3. SUBSISTENCE       0         0. OTHER DIRECT COSTS       0         1. MATERIALS AND SUPPLIES       11,000         2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION       0         3. SUBSISTENCE       0         1. MATERIALS AND SUPPLIES       0         1. GONHILT STERVICES	2 ( 1) OTHER PROFESSIONALS (TECHNICIAN PROGRAMMER	FTC.)	R.00	0.00	0.00		22.280					
Image: Construct of Distribution of the structure in the str	3 ( <b>0</b> ) GRADUATE STUDENTS	210.)	<b>5.00</b>	0.00	0.00		<u>,0</u>					
10) SIGNETARIAL - CLERICAL (IF CHARGED DIRECTLY)       15,914         6. (0) OTHER       0         TOTAL SALARIES AND WAGES (A + B)       331,159         11.001       108,040         TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)       108,040         TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)       439,199         D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING \$5,000.)       439,199         D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING \$5,000.)       0         10.001       2. FOREIGN       0         10.001       2. FOREIGN       0         2. FOREIGN       0       0         2. FOREIGN       0       0         2. FOREIGN       0       0         3. SUBSISTENCE       0       0         3. SUBSISTENCE       0       0         1. MATER INLES AND SUPPLIES       11,000       0         3. CONSULTANT SERVICES       0       0         4. COMPUTER SERVICES       0       0         5. SUBAWARDS       0       0         6. OTHER DIRECT COSTS (FAN)       0       0         1. MATERIALS AND SUPPLIES       11,000       0         3. CONSULTANT SERVICES       0       0       0     <	4 ( <b>0</b> ) UNDERGRADUATE STUDENTS						10 610					
Indextrement       Indext and the set of the set	5 (1) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)						<u>10,010</u> 15 014					
International control of the contr							<u>13,914</u> N					
TOTAL OLADIA MURAGED AS DIRECT COSTS)       108,040         TOTAL SALARIES, WAGES AND FRINCE BENEFITS (A + B + C)       439,199         D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING \$5,000)       0         TOTAL EQUIPMENT       0         E. TRAVEL       0         2. FOREIGN       0         2. FOREIGN       0         3. SUBSISTENCE       0         3. SUBSISTENCE       0         4. OTHER DIRECT COSTS       0         4. OTHER DIRECT COSTS       0         7. TALNUMBER OF PARTICIPANTS (0) TOTAL PARTICIPANT COSTS       0         6. OTHER DIRECT COSTS       0         1. MATERIALS AND SUPPLIES       11,000         2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION       0         3. SUBAWARDS       0         6. OTHER DIRECT COSTS       0         5. SUBAWARDS       0         6. ONSULTANT SERVICES       0         0       5. SUBAWARDS         0       5. SUBAWARDS         0       5. SUBAWARDS         1. INDIRECT COSTS (FAI)       749,615         1. INDIRECT COSTS (A THROUGH G)       515,199         1. INDIRECT COSTS (A THROUGH G)       515,199         1. INDIRECT COSTS (FAA)       234,416	TOTAL SALAPIES AND $WAGES (A + B)$					3	31 150					
ID: PRIVAGE DEVENTION OF CONSIDERATION ON ON CONSIDERATION OF CONSIDERATION O						1	<u>08 040</u>					
D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING \$5,000.)       433,139         TOTAL EQUIPMENT       0         E. TRAVEL       1. DOMESTIC (INCL. CANADA, MEXICO AND U.S. POSSESSIONS)       15,000	C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)					1	20 100					
D. EQUIPMENT (LIST TEM AND DOLLAR AMOUNT FOR EACH TEM EACEEDING \$5,000.)  TOTAL EQUIPMENT 0 E. TRAVEL 1. DOMESTIC (INCL. CANADA, MEXICO AND U.S. POSSESSIONS) 15,000 2. FOREIGN 0  F. PARTICIPANT SUPPORT COSTS 1. STIPENDS 0 2. TRAVEL 0 3. SUBSISTENCE 0 4. OTHER 0 COTTAL NUMBER OF PARTICIPANTS 0 C. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES 0 4. COMPUTER SERVICES 0 5. SUBAWARDS 0 0 5. SUBAWARDS 0 0 5. SUBAWARDS 0 0 5. SUBAWARDS 50,000 TOTAL OTHER 50,000 TOTAL INDIRECT COSTS (A THROUGH G) 1. INDIRECT COSTS (FAA) 515,199 1. INDIRECT COSTS (FAA) 515,199 1. INDIRECT COSTS (FAA) 515,199 1. INDIRECT COSTS (FAA) 5749,615 5 PI/PD TYPED NAME & SIGNATURE* DATE DATE DATE DATE DATE DATE DATE DATE	TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)			<u>،</u>		4	59,199					
TOTAL EQUIPMENT       0         E. TRAVEL       1. DOMESTIC (INCL CANADA, MEXICO AND U.S. POSSESSIONS)       15,000         2. FOREIGN       0         2. FOREIGN       0         2. FOREIGN       0         2. TRAVEL       0         3. SUBSISTENCE       0         4. OTHER       0         TOTAL NUMBER OF PARTICIPANTS (       0)         TOTAL NUMBER OF PARTICIPANTS (       0)         G. OTHER DIRECT COSTS       0         1. MATERIALS AND SUPPLIES       11,000         2. PUBLICATION COSTSOOCUMENTATION/DISSEMINATION       0         3. CONSULTANT SERVICES       0         6. OTHER       0         7. SUBAWARDS       0         6. OTHER       50,000         TOTAL DIRECT COSTS (FRA/OSPECIFY RATE AND BASE)       0         MTDC H-D-F (Rate: 45,5000, Base: 515,200)       515,199         1. INDIRECT COSTS (FRA/OSPECIFY RATE AND BASE)       234,416         J. TOTAL DIRECT COSTS (FRA)       234,416         J. TOTAL DIRECT COSTS (FRA)       234,416         J. TOTAL DIRECT COSTS (FRA)       3         J. TOTAL DIRECT COSTS (FRA)       3         J. TOTAL DIRECT COSTS (FRA)       3         J. TOTAL DIRECT COSTS (FRA)       3 <td>D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM</td> <td>EXCEEDING \$</td> <td>\$5,000</td> <td>.)</td> <td></td> <td></td> <td></td> <td></td>	D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM	EXCEEDING \$	\$5,000	.)								
TOTAL EQUIPMENT         0           E. TRAVEL         1. DOMESTIC (INCL CANADA, MEXICO AND U.S. POSSESSIONS)         15,000           2. FOREIGN         0           2. FOREIGN         0           7. PARTICIPANT SUPPORT COSTS         0           1. STIPENDS \$         0           3. SUBSISTENCE         0           4. OTHER         0           TOTAL NUMBER OF PARTICIPANTS (         0)           TOTAL NUMBER OF PARTICIPANTS (         0)           TOTAL NUMBER OF PARTICIPANTS (         0)           TOTAL PARTICIPANT SUPPORT COSTS         0           G. OTHER         0           4. OTHER         0           2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION         0           3. CONSULTANT SERVICES         0           4. COMPUTER SERVICES         0           5. SUBAWARDS         0           6. OTHER         50,000           TOTAL INDIRECT COSTS (FAN/GEOLIFY RATE AND BASE)         11,000           MTDC H-D-F (Rate: 45.5000, Base: 515200)         515,199           1. INDIRECT COSTS (FAN/GEOLIFY RATE AND BASE)         234,416           J. TOTAL INDIRECT COSTS (FAN)         234,416           J. TOTAL LORECT AND INDIRECT COSTS (FA)         749,615           K. RESIDUA												
TOTAL EQUIPMENT       0         E. TRAVEL       1. DOMESTIC (INCL. CANADA, MEXICO AND U.S. POSSESSIONS)       15,000												
TOTAL EQUIPMENT       0         E. TRAVEL       1. DOMESTIC (INCL. CANADA, MEXICO AND U.S. POSSESSIONS)       15,000												
OTAL EQUIPMENT         0           E. TRAVEL         1. DOMESTIC (INCL. CANADA, MEXICO AND U.S. POSSESSIONS)         15,000												
E. TRAVEL       1. DOMESTIC (INCL. CANADA, MEXICO AND U.S. POSSESSIONS)       15,000         2. FOREIGN       0         2. FOREIGN       0         7. PARTICIPANT SUPPORT COSTS       0         1. STIPENDS       0         2. TRAVEL       0         3. SUBSISTENCE       0         4. OTHER       0         TOTAL NUMBER OF PARTICIPANTS (0)       TOTAL PARTICIPANT COSTS         0. AOTHER DIRECT COSTS       0         1. MATERIALS AND SUPPLIES       11,000         2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION       0         3. CONSULTANT SERVICES       0         4. COMPUTER SERVICES       0         5. OUSULTANT SERVICES       0         6. OTHER       50,000         TOTAL OTHER DIRECT COSTS (FRANCES       0         6. OTHER       50,000         TOTAL OTHER DIRECT COSTS (FRANCES       0         6. OTHER       50,000         TOTAL OTHER DIRECT COSTS (FRANCES       61,000         H. TOTAL DIRECT COSTS (FRANCES       61,000         H. TOTAL DIRECT COSTS (FRANCES       344,416         J. TOTAL DIRECT COSTS (FRANCES (FV ATE AND BASE)       234,416         J. TOTAL INDIRECT COSTS (FRANCES (FV ATE AND BASE)       344,416 <td< td=""><td>TOTAL EQUIPMENT</td><td></td><td></td><td></td><td></td><td></td><td>0</td><td></td></td<>	TOTAL EQUIPMENT						0					
2. FOREIGN         0           F. PARTICIPANT SUPPORT COSTS         0           1. STIPENDS         0           2. TRAVEL         0           3. SUBSISTENCE         0           4. OTHER         0           TOTAL NUMBER OF PARTICIPANTS         0           1. MATERIALS AND SUPPLIES         11,000           2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION         0           3. CONSULTANT SERVICES         0           4. COMPUTER SERVICES         0           6. OTHER         0           7. COMPUTER SERVICES         0           6. OTHER         0           7. SUBAWARDS         0           6. OTHER         50,000           TOTAL INDIRECT COSTS         0           6. OTHER         50,000           TOTAL OTHER DIRECT COSTS         0           6. OTHER         515,199           1. INDIRECT COSTS (FAA)(SPECIFY RATE AND BASE)         515,199           MTDC H-D-F (Rate: 45.5000, Base: 515200)         234,416           J. TOTAL INDIRECT COSTS (FEA)         234,416           J. TOTAL INDIRECT COSTS (H + I)         749,615           K. RESIDUAL FUNDS (F FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7.j.)         0           L. AMOUNT OF T	E. TRAVEL 1. DOMESTIC (INCL. CANADA, MEXICO AND U.	S. POSSESSIO	NS)				<u>15,000</u>					
F. PARTICIPANT SUPPORT COSTS         1. STIPENDS       0         2. TRAVEL       0         3. SUBSISTENCE       0         4. OTHER       0         TOTAL NUMBER OF PARTICIPANTS       0)         TOTAL NUMBER OF PARTICIPANTS       0)         G. OTHER DIRECT COSTS       0         1. MATTERIALS AND SUPPLIES       11,000         2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION       0         3. CONSULTANT SERVICES       0         4. COMPUTER SERVICES       0         5. SUBAWARDS       0         6. OTHER       50,000         TOTAL DIRECT COSTS (A THROUGH G)       515,199         1. INDIRECT COSTS (F&A) (SPECIFY RATE AND BASE)       61,000         MTDC H-D-F (Rate: 45.5000, Base: 515200)       61,000         TOTAL INDIRECT COSTS (F&A)       234,416         J. TOTAL DIRECT COSTS (H + I)       749,615         K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7.j.)       0         L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)       \$ 749,615         M. COST SHARING PROPOSED LEVEL \$ 150,000       AGREED LEVEL IF DIFFERENT \$         PI / PD TYPED NAME & SIGNATURE*       DATE       Date On Rate Sheet         MARY Carnes       DATE       Date On Rate Sheet	2. FOREIGN						0					
F. PARTICIPANT SUPPORT COSTS         1. STIPENDS       0         2. TRAVEL       0         3. SUBSISTENCE       0         4. OTHER       0         TOTAL NUMBER OF PARTICIPANTS       0         TOTAL NUMBER OF PARTICIPANTS       0         TOTAL NUMBER OF PARTICIPANTS       0         G. OTHER DIRECT COSTS       0         1. MATERIALS AND SUPPLIES       11,000         2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION       0         3. CONSULTANT SERVICES       0         4. COMPUTER SERVICES       0         5. SUBAWARDS       0         6. OTHER       50,000         TOTAL INDIRECT COSTS (FAA)(SPECIFY RATE AND BASE)       515,199         MTDC H-D-F (Rate: 45.5000, Base: 515200)       515,199         TOTAL INDIRECT COSTS (FAA)(SPECIFY RATE AND BASE)       749,615         MTDC H-D-F (Rate: 45.5000, Base: 515200)       749,615         TOTAL INDIRECT COSTS (FAA)       234,416         J. TOTAL INDIRECT COSTS (FAHOUGH G)       1234,416         J. TOTAL UNDER OF PURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7,j.)       0         L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)       \$ 749,615         M. COST SHARING PROPOSED LEVEL \$ 150,000       AGREED LEVEL IF DIFFERENT \$ <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>												
F. PARTICIPANT SUPPORT COSTS       0         1. STIPENDS       0         2. TRAVEL       0         3. SUBSISTENCE       0         4. OTHER       0         TOTAL NUMBER OF PARTICIPANTS       0         TOTAL NUMBER OF PARTICIPANTS       0         TOTAL NUMBER OF PARTICIPANTS       0         3. SUBSISTENCE       0         4. OTHER       0         2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION       0         3. CONSULTANT SERVICES       0         4. COMPUTER SERVICES       0         6. OTHER       0         7. SUBAWARDS       0         6. OTHER DIRECT COSTS       61,000         1. TOTAL DIRECT COSTS (A THROUGH G)       515,199         1. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE)       0         MTDC H-D-F (Rate: 45.5000, Base: 515200)       749,615         VIDTAL INDIRECT COSTS (F&A)       234,416         J. TOTAL DIRECT COSTS (FAA)       234,416         J. TOTAL DIRECT COSTS (H + 1)       749,615         K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7,j.)       0         L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)       \$ 749,615 \$         M. COST SHARING PROPOSED LEVEL \$ 150,000       AGREED LEVEL IF DIFFERENT \$ <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>												
1. STIPENDS       9         2. TRAVEL       0         3. SUBSISTENCE       0         4. OTHER       0         TOTAL NUMBER OF PARTICIPANTS       0)         TOTAL NUMBER OF PARTICIPANTS       0)         G. OTHER DIRECT COSTS       0         1. MATERIALS AND SUPPLIES       11,000         2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION       0         3. CONSULTANT SERVICES       0         4. COMPUTER SERVICES       0         5. SUBAWARDS       0         6. OTHER       50,000         TOTAL OTHER DIRECT COSTS       61,000         H. TOTAL DIRECT COSTS (F&A)       515,199         I. INDIRECT COSTS (F&A)       234,416         J. TOTAL DIRECT COSTS (F&A)       \$ 749,615         K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.T.j.)       0         L. AMOUNT OF	F. PARTICIPANT SUPPORT COSTS											
2. TRAVEL       0         3. SUBSISTENCE       0         4. OTHER       0         TOTAL NUMBER OF PARTICIPANTS (0) TOTAL PARTICIPANT COSTS       0         G. OTHER DIRECT COSTS       11,000         2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION       0         3. CONSULTANT SERVICES       0         4. COMPUTER SERVICES       0         5. SUBAWARDS       0         6. OTHER       0         70TAL DIRECT COSTS (F&A)       0         6. OTHER       50,000         TOTAL OTHER DIRECT COSTS       61,000         H. TOTAL DIRECT COSTS (F&A)       61,000         H. TOTAL DIRECT COSTS (F&A)       515,199         1. INDIRECT COSTS (F&A)       234,416         J. TOTAL DIRECT COSTS (F&A)       \$ 749,615         K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.T.J.)       0         L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)       \$ 749,615 \$         M. COST SHARING PROPOSED LEVEL \$ 150,000	1. STIPENDS \$											
3. SUBSISTENCE       0         4. OTHER       0         TOTAL NUMBER OF PARTICIPANTS (0) TOTAL PARTICIPANT COSTS 0         G. OTHER DIRECT COSTS         1. MATERIALS AND SUPPLIES         1. MATERIALS AND SUPPLIES         2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION         0         3. CONSULTANT SERVICES         0         4. COMPUTER SERVICES         0         5. SUBAWARDS         0         6. OTHER         0         5. SUBAWARDS         0         6. OTHER         0         70         1. NOTAL DIRECT COSTS         1. INDIRECT COSTS (A THROUGH G)         1. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE)         MTDC H-D-F (Rate: 45.5000, Base: 515200)         TOTAL INDIRECT COSTS (F&A)         234,416         J. TOTAL DIRECT AND INDIRECT COSTS (H + I)         K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7,j.)         0         L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)         M. COST SHARING PROPOSED LEVEL \$ 150,000         AGREED LEVEL IF DIFFERENT \$         PI/PD TYPED NAME & SIGNATURE*         DATE       Date         Mary Car	2. TRAVEL											
4. OTHER       U         TOTAL NUMBER OF PARTICIPANTS       (0)         TOTAL NUMBER OF PARTICIPANTS       (0)         G. OTHER DIRECT COSTS       0         1. MATERIALS AND SUPPLIES       11,000         2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION       0         3. CONSULTANT SERVICES       0         4. COMPUTER SERVICES       0         5. SUBAWARDS       0         6. OTHER       0         70 TOTAL OTHER DIRECT COSTS       0         6. OTHER       50,000         TOTAL OTHER DIRECT COSTS (A THROUGH G)       515,199         1. INDIRECT COSTS (A THROUGH G)       515,199         1. INDIRECT COSTS (F&A) (SPECIFY RATE AND BASE)       234,416         J. TOTAL DIRECT COSTS (F&A)       234,416         J. TOTAL DIRECT COSTS (H + I)       749,615         K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7,j.)       0         L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)       \$ 749,615 \$         M. COST SHARING PROPOSED LEVEL \$ 150,000       AGREED LEVEL IF DIFFERENT \$         PI / PD TYPED NAME & SIGNATURE*       DA	3. SUBSISTENCE											
TOTAL NUMBER OF PARTICIPANTS         0           G. OTHER DIRECT COSTS         1           MATERIALS AND SUPPLIES         11,000           2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION         0           3. CONSULTANT SERVICES         0           4. COMPUTER SERVICES         0           5. SUBAWARDS         0           6. OTHER         50,000           TOTAL DIRECT COSTS         61,000           H. TOTAL DIRECT COSTS (A THROUGH G)         515,199           I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE)         61,000           MTDC H-D-F (Rate: 45.5000, Base: 515200)         234,416           J. TOTAL DIRECT COSTS (F&A)         5 749,615           K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7,j.)         0           L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K) <t< td=""><td>4. OTHER</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	4. OTHER											
G. OTHER DIRECT COSTS       11,000         1. MATERIALS AND SUPPLIES       11,000         2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION       0         3. CONSULTANT SERVICES       0         4. COMPUTER SERVICES       0         5. SUBAWARDS       0         6. OTHER       0         5. SUBAWARDS       0         6. OTHER       50,000         TOTAL OTHER DIRECT COSTS       61,000         H. TOTAL DIRECT COSTS (A THROUGH G)       515,199         I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE)       0         MTDC H-D-F (Rate: 45.5000, Base: 515200)       234,416         J. TOTAL DIRECT COSTS (F&A)       234,416         J. TOTAL DIRECT COSTS (F&A)       234,416         J. TOTAL DIRECT AND INDIRECT COSTS (H + I)       749,615         K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7.].)       0         L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)       \$ 749,615 \$         M. COST SHARING PROPOSED LEVEL \$ 150,000       AGREED LEVEL IF DIFFERENT \$         PI / PD TYPED NAME & SIGNATURE*       DATE       FOR NSF USE ONLY         Mary Carnes       INDIRECT COST RATE VERIFICATION       Initials - ORG         ORG. REP. TYPED NAME & SIGNATURE*       DATE       Date Of Rate Sheet       Initials - ORG </td <td>TOTAL NUMBER OF PARTICIPANTS ( <b>0</b>) TO</td> <td>TAL PARTICIP</td> <td>PANT C</td> <td>COSTS</td> <td></td> <td></td> <td>0</td> <td></td>	TOTAL NUMBER OF PARTICIPANTS ( <b>0</b> ) TO	TAL PARTICIP	PANT C	COSTS			0					
1. MATERIALS AND SUPPLIES       11,000         2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION       0         3. CONSULTANT SERVICES       0         4. COMPUTER SERVICES       0         5. SUBAWARDS       0         6. OTHER       0         70 A. OTHER DIRECT COSTS       61,000         H. TOTAL DIRECT COSTS (A THROUGH G)       515,199         I. INDIRECT COSTS (F&A) (SPECIFY RATE AND BASE)       61,000         MTDC H-D-F (Rate: 45.5000, Base: 515200)       749,615         YOTAL INDIRECT COSTS (F&A)       234,416         J. TOTAL DIRECT COSTS (F&A)       234,416         J. TOTAL DIRECT COSTS (F&A)       749,615         K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7.j.)       0         L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)       \$ 749,615 \$         M. COST SHARING PROPOSED LEVEL \$ 150,000       AGREED LEVEL IF DIFFERENT \$         PI / PD TYPED NAME & SIGNATURE*       DATE       FOR NSF USE ONLY         Mary Carnes       Initials - ORG       Initials - ORG         ORG. REP. TYPED NAME & SIGNATURE*       DATE       Date Checked       Date Of Rate Sheet       Initials - ORG         Sheri severson       Initials - ORG       Initials - ORG       Initials - ORG       INDIRECT COST RATE VERIFICATION <td>G. OTHER DIRECT COSTS</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	G. OTHER DIRECT COSTS											
2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION       0         3. CONSULTANT SERVICES       0         4. COMPUTER SERVICES       0         5. SUBAWARDS       0         6. OTHER       0         707AL OTHER DIRECT COSTS       61,000         H. TOTAL DIRECT COSTS (A THROUGH G)       515,199         I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE)       61,000         MTDC H-D-F (Rate: 45.5000, Base: 515200)       234,416         J. TOTAL DIRECT COSTS (F&A)       234,416         J. TOTAL DIRECT COSTS (F&A)       0         K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7.j.)       0         L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)       \$ 749,615         M. COST SHARING PROPOSED LEVEL \$ 150,000       AGREED LEVEL IF DIFFERENT \$         PI / PD TYPED NAME & SIGNATURE*       DATE       FOR NSF USE ONLY         Mary Carnes       INDIRECT COST RATE VERIFICATION       Initials - ORG         ORG. REP. TYPED NAME & SIGNATURE*       DATE       Date Of Rate Sheet       Initials - ORG	1. MATERIALS AND SUPPLIES						11,000					
3. CONSULTANT SERVICES       0         4. COMPUTER SERVICES       0         5. SUBAWARDS       0         6. OTHER       50,000         TOTAL OTHER DIRECT COSTS       61,000         H. TOTAL DIRECT COSTS (A THROUGH G)       515,199         I. INDIRECT COSTS (F&A) (SPECIFY RATE AND BASE)       234,416         J. TOTAL DIRECT COSTS (F&A)       234,416         J. TOTAL DIRECT COSTS (F&A)       0         L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)       \$ 749,615         M. COST SHARING PROPOSED LEVEL \$ 150,000       AGREED LEVEL IF DIFFERENT \$         PI / PD TYPED NAME & SIGNATURE*       DATE         Mary Carnes       INDIRECT COST RATE VERIFICATION         ORG. REP. TYPED NAME & SIGNATURE*       DATE         MATE       Date Of Rate Sheet         Initials - ORG       Initials - ORG         sheri severson       Initials - ORG	2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION						0					
4. COMPUTER SERVICES       0         5. SUBAWARDS       0         6. OTHER       50,000         TOTAL OTHER DIRECT COSTS       61,000         H. TOTAL DIRECT COSTS (A THROUGH G)       515,199         I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE)       515,199         MTDC H-D-F (Rate: 45.5000, Base: 515200)       234,416         J. TOTAL DIRECT COSTS (F&A)       234,416         J. TOTAL DIRECT COSTS (F&A)       749,615         K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7.j.)       0         L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)       \$ 749,615 \$         M. COST SHARING PROPOSED LEVEL \$ 150,000       AGREED LEVEL IF DIFFERENT \$         PI / PD TYPED NAME & SIGNATURE*       DATE       FOR NSF USE ONLY         Mary Carnes       INDIRECT COST RATE VERIFICATION       Initials - ORG         ORG. REP. TYPED NAME & SIGNATURE*       DATE       Date Of Rate Sheet       Initials - ORG	3. CONSULTANT SERVICES						0					
5. SUBAWARDS       0         6. OTHER       50,000         TOTAL OTHER DIRECT COSTS       61,000         H. TOTAL DIRECT COSTS (A THROUGH G)       515,199         I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE)       515,199         MTDC H-D-F (Rate: 45.5000, Base: 515200)       234,416         J. TOTAL INDIRECT COSTS (F&A)       234,416         J. TOTAL DIRECT AND INDIRECT COSTS (H + I)       749,615         K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7.j.)       0         L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)       \$ 749,615 \$         M. COST SHARING PROPOSED LEVEL \$ 150,000       AGREED LEVEL IF DIFFERENT \$         PI / PD TYPED NAME & SIGNATURE*       DATE       FOR NSF USE ONLY         Mary Carnes       INDIRECT COST RATE VERIFICATION       0         ORG. REP. TYPED NAME & SIGNATURE*       DATE       Date Of Rate Sheet       Initials - ORG         sheri severson       Initials - ORG       Initials - ORG       Initials - ORG	4. COMPUTER SERVICES						0					
6. OTHER       50,000         TOTAL OTHER DIRECT COSTS       61,000         H. TOTAL DIRECT COSTS (A THROUGH G)       515,199         I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE)       234,416         J. TOTAL INDIRECT COSTS (F&A)       234,416         J. TOTAL DIRECT AND INDIRECT COSTS (H + I)       749,615         K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7.j.)       0         L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)       \$ 749,615 \$         M. COST SHARING PROPOSED LEVEL \$ 150,000       AGREED LEVEL IF DIFFERENT \$         PI / PD TYPED NAME & SIGNATURE*       DATE       FOR NSF USE ONLY         Mary Carnes       INDIRECT COST RATE VERIFICATION       NORG. REP. TYPED NAME & SIGNATURE*       DATE         ORG. REP. TYPED NAME & SIGNATURE*       DATE       Date Of Rate Sheet       Initials - ORG	5. SUBAWARDS						0					
TOTAL OTHER DIRECT COSTS       61,000         H. TOTAL DIRECT COSTS (A THROUGH G)       515,199         I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE)       234,416         MTDC H-D-F (Rate: 45.5000, Base: 515200)       234,416         J. TOTAL DIRECT COSTS (F&A)       234,416         J. TOTAL DIRECT AND INDIRECT COSTS (H + I)       749,615         K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7.j.)       0         L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)       \$ 749,615 \$         M. COST SHARING PROPOSED LEVEL \$ 150,000       AGREED LEVEL IF DIFFERENT \$         PI / PD TYPED NAME & SIGNATURE*       DATE       FOR NSF USE ONLY         Mary Carnes       INDIRECT COST RATE VERIFICATION         ORG. REP. TYPED NAME & SIGNATURE*       DATE       Date Of Rate Sheet       Initias - ORG         sheri severson       Initias - URG       Initias - ORG       Initias - ORG	6. OTHER						50.000					
H. TOTAL DIRECT COSTS (A THROUGH G)       515,199         I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE)       234,416         MTDC H-D-F (Rate: 45.5000, Base: 515200)       234,416         J. TOTAL DIRECT COSTS (F&A)       234,416         J. TOTAL DIRECT AND INDIRECT COSTS (H + I)       749,615         K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7.j.)       0         L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)       \$ 749,615 \$         M. COST SHARING PROPOSED LEVEL \$ 150,000       AGREED LEVEL IF DIFFERENT \$         PI / PD TYPED NAME & SIGNATURE*       DATE       FOR NSF USE ONLY         Mary Carnes       INDIRECT COST RATE VERIFICATION         ORG. REP. TYPED NAME & SIGNATURE*       DATE       Date Of Rate Sheet       Initials - ORG         sheri severson       Initial - ORG       DATE       Date Of Rate Sheet       Initials - ORG	TOTAL OTHER DIRECT COSTS						<u>61.000</u>					
I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE)         MTDC H-D-F (Rate: 45.5000, Base: 515200)         TOTAL INDIRECT COSTS (F&A)         J. TOTAL DIRECT AND INDIRECT COSTS (H + I)         K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7.j.)         I. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)         M. COST SHARING PROPOSED LEVEL \$         150,000         AGREED LEVEL IF DIFFERENT \$         PI / PD TYPED NAME & SIGNATURE*         DATE         FOR NSF USE ONLY         INDIRECT COST RATE VERIFICATION         ORG. REP. TYPED NAME & SIGNATURE*         DATE         Date Of Rate Sheet         Initials - ORG         NOTE							15,199					
MTDC H-D-F (Rate: 45.5000, Base: 515200)         TOTAL INDIRECT COSTS (F&A)         J. TOTAL DIRECT AND INDIRECT COSTS (H + I)         K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7.j.)         L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)         M. COST SHARING PROPOSED LEVEL \$         150,000         AGREED LEVEL IF DIFFERENT \$         PI / PD TYPED NAME & SIGNATURE*         DATE         FOR NSF USE ONLY         INDIRECT COST RATE VERIFICATION         ORG. REP. TYPED NAME & SIGNATURE*         DATE         Date Checked         Date Of Rate Sheet         Initials - ORG							10,177					
INT DC IPDFT (Kate: 45.5000, Base: 515200)         TOTAL INDIRECT COSTS (F&A)         J. TOTAL DIRECT AND INDIRECT COSTS (H + I)         J. TOTAL DIRECT AND INDIRECT COSTS (H + I)         K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7.j.)         L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)       \$ 749,615         M. COST SHARING PROPOSED LEVEL \$ 150,000       AGREED LEVEL IF DIFFERENT \$         PI / PD TYPED NAME & SIGNATURE*       DATE         Mary Carnes       INDIRECT COST RATE VERIFICATION         ORG. REP. TYPED NAME & SIGNATURE*       DATE         Date Of Rate Sheet       Initials - ORG         NOTE	$MTDC H_D_F (Bate: 45 5000 Base: 515200)$											
J. TOTAL DIRECT AND INDIRECT COSTS (H + I)       749,615         K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7.j.)       0         L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)       \$ 749,615 \$         M. COST SHARING PROPOSED LEVEL \$ 150,000       AGREED LEVEL IF DIFFERENT \$         PI / PD TYPED NAME & SIGNATURE*       DATE       FOR NSF USE ONLY         ORG. REP. TYPED NAME & SIGNATURE*       DATE       Date Of Rate Sheet         Initials - ORG       Initials - ORG	11110 11-D-T (Naw, 43.3000, Dast; 313400)					r	34 416					
B. TOTAL DIRECT AND INDIRECT COSTS (IT + I)       749,015         K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7.j.)       0         L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)       \$ 749,615 \$         M. COST SHARING PROPOSED LEVEL \$ 150,000       AGREED LEVEL IF DIFFERENT \$         PI / PD TYPED NAME & SIGNATURE*       DATE       FOR NSF USE ONLY         ORG. REP. TYPED NAME & SIGNATURE*       DATE       Date Of Rate Sheet         Initials - ORG       sheri severson       Initials - ORG							/10 615					
N. RESIDUAL FORUS (IF FOR FORTHER SUPPORT OF CORRENT PROJECTS SEE GPG II.D.7.).)       U         L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)       \$ 749,615 \$         M. COST SHARING PROPOSED LEVEL \$ 150,000       AGREED LEVEL IF DIFFERENT \$         PI / PD TYPED NAME & SIGNATURE*       DATE       FOR NSF USE ONLY         Mary Carnes       INDIRECT COST RATE VERIFICATION         ORG. REP. TYPED NAME & SIGNATURE*       DATE       Date Of Rate Sheet         Initials - ORG       sheri severson       Initials - ORG							<del>лэ,013</del> Л					
L. AMOUNT OF THIS REQUEST (J) OR (J MINUS R)     \$ 749,015 \$       M. COST SHARING PROPOSED LEVEL \$ 150,000     AGREED LEVEL IF DIFFERENT \$       PI / PD TYPED NAME & SIGNATURE*     DATE     FOR NSF USE ONLY       Mary Carnes     INDIRECT COST RATE VERIFICATION       ORG. REP. TYPED NAME & SIGNATURE*     DATE     Date Checked       Sheri severson     DATE     Date Checked     Date Of Rate Sheet		NUJEUIS SEE	GPG	п.บ.7.J	.)	¢ 7	<u>U</u> 10 61 F	¢				
M. COST SHARING PROPOSED LEVEL \$     150,000     AGREED LEVEL IF DIFFERENT \$       PI / PD TYPED NAME & SIGNATURE*     DATE     FOR NSF USE ONLY       Mary Carnes     INDIRECT COST RATE VERIFICATION       ORG. REP. TYPED NAME & SIGNATURE*     DATE     Date Checked       Sheri severson     DATE     Date Checked     Date Of Rate Sheet						۵ /	47,013	Φ				
PI/PD TYPED NAME & SIGNATURE*     DATE     FOR NSF USE ONLY       Mary Carnes     INDIRECT COST RATE VERIFICATION       ORG. REP. TYPED NAME & SIGNATURE*     DATE     Date Checked     Date Of Rate Sheet     Initials - ORG       sheri severson     Initials - ORG     Initials - ORG     Initials - ORG	M. COST SHARING PROPOSED LEVEL \$ 150,000 AG			FEREN	II \$ === ·	105 115						
INIARY Carnes     INDIRECT COST RATE VERIFICATION       ORG. REP. TYPED NAME & SIGNATURE*     DATE     Date Checked     Date Of Rate Sheet     Initials - ORG       sheri severson     Initials - ORG     Initials - ORG     Initials - ORG	PI/PD TYPED NAME & SIGNATURE*	DATE	<u> </u>		FORM	NSF US						
ORG. REP. IYPED NAME & SIGNATURE*     DATE     Date Checked     Date Of Rate Sheet     Initials - ORG       sheri severson     NOE     Initials - ORG     Initials - ORG     Initials - ORG	INIARY Carnes	D 4 7 7		NDIRE		SI RAT						
sneri severson	UKG. REP. TYPED NAME & SIGNATURE*	DATE	Date C	necked	Dat	e Of Rate	Sneet	initials - ORG				
	Sner1 severson				VECT							

Other Senior Personnel Name - Title	Cal	Acad	Sumr Funds	Requested
Durand, Bernice - Professor	0.00	0.00	1.00	9270
Ford, Cecilia - Professor	0.00	0.00	1.00	8950
Handelsman, Jo E - Professor	4.80	0.0	D 0.00	43260
Millar, Susan B - Director	1.20	0.00	0.00	9320
Peercy, Paul - Dean	0.00	0.00	0.00	0
Sarto, Gloria - Professor	1.20	0.00	0.00	11010
Stambach, Amy - Assistant Profess	or O.	00 (	).00 1.00	6440
To be, named - Administrator	12.00	0.0	0 0.00	53045
Tong, Lillian - Faculty Associate	1.20	0.00	0.00	6050
Wendt, Amy - Assistant Professor	0.0	D 1.	00 0.00	11050

SUMMA									
PROPOSAL B	PROPOSAL BUDGET FOR					R NSF USE ONLY			
ORGANIZATION			PRO	POSAL	NO.	DURATIC	ON (months)		
University of Wisconsin-Madison						Proposed	Granted		
PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR			AW	ARD N	О.				
Mary Carnes									
A. SENIOR PERSONNEL: PI/PD, Co-PI's, Faculty and Other Senior Ass	ociates	P	SF Funde	d S.	Re	Funds	Funds granted by NSF		
(List each separately with title, A.7. show number in brackets)		CAL	ACAD	SUMR	F	proposer	(if different)		
1. Mary Carnes - Professor		6.00	0.00	0.00	\$	64,130	\$		
2. Caitilyn Allen - Associate Professor		1.20	0.00	0.00		8,770			
3. Vicki M Bier - Associate Professor		0.00	0.00	1.00		10,940			
4. Dianne C Bowcock - Associate Director		6.00	0.00	0.00		28,020			
5. Patricia F Brennan - Professor		0.00	0.00	1.00		15,830			
6. ( $10$ ) others (list individually on Budget Justification	N PAGE)	20.40	1.00	3.00		163,146			
7. ( 15 ) TOTAL SENIOR PERSONNEL (1 - 6)		33.60	1.00	5.00		290,836			
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)									
1. ( 0) POST DOCTORAL ASSOCIATES		0.00	0.00	0.00		0			
2. ( 1) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER,	ETC.)	8.00	0.00	0.00		22,950			
3. ( <b>0</b> ) GRADUATE STUDENTS						0			
4. ( 0) UNDERGRADUATE STUDENTS						10.930			
5. (1) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)						16.390			
6. ( 0) OTHER						0			
TOTAL SALARIES AND WAGES (A + B)						<u>341.106</u>			
C ERINGE BENEFITS (IF CHARGED AS DIRECT COSTS)						112,990			
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)						454 096			
	EXCEEDING	\$5.00	าง			101,070			
		φ0,00	0.)						
TOTAL EQUIPMENT						0			
E. TRAVEL 1. DOMESTIC (INCL. CANADA, MEXICO AND U.S	. POSSESS	IONS)				12,000			
2. FOREIGN						0			
F. PARTICIPANT SUPPORT COSTS									
1. STIPENDS \$0									
2. TRAVEL									
3. SUBSISTENCE 0									
4. OTHER0									
TOTAL NUMBER OF PARTICIPANTS $(0)$ TO	TAL PARTIC	IPANT	COSTS			0			
G. OTHER DIRECT COSTS									
1. MATERIALS AND SUPPLIES						9.300			
2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION						0			
3. CONSULTANT SERVICES						0			
4 COMPLITER SERVICES						0			
						0			
6 OTHER						10 000			
						40,000			
						47,500			
						515,590			
I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE)									
IVIIDU H-D-F (Kale: 45.3000, Base: 515400)						224 507			
						<u>234,507</u>			
J. TOTAL DIRECT AND INDIRECT COSTS (H + I)					749,903				
K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7.j.)					0				
L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)					\$	749,903	\$		
M. COST SHARING PROPOSED LEVEL \$ 150,000 AG	REED LEVE	L IF DI	FEREN	Т\$					
PI / PD TYPED NAME & SIGNATURE*	DATE			FOR N	ISF U	SE ONLY			
Mary Carnes			INDIRE	CT COS	T RA	TE VERIFIC	CATION		
ORG. REP. TYPED NAME & SIGNATURE*	DATE	Date	Checked	Date	e Of Ra	te Sheet	Initials - ORG		
sheri severson									

Other Senior Personnel Name - Title	Cal	Acad	Sumr Fun	lds Requested
Durand, Bernice - Professor	0.00	0.00	1.00	9550
Ford, Cecilia - Professor	0.00	0.00	1.00	9220
Handelsman, Jo E - Professor	4.80	0.0	0.00	44560
Millar, Susan B - Director	1.20	0.00	0.00	9600
Peercy, Paul - Dean	0.00	0.00	0.00	0
Sarto, Gloria - Professor	1.20	0.00	0.00	11340
Stambach, Amy - Assistant Profess	or 0.	00 (	).00 1.	00 6630
To be, named - Administrator	12.00	0.0	0.00	54636
Tong, Lillian - Faculty Associate	1.20	0.00	0.00	6230
Wendt, Amy - Associate Professor	0.0	01.	.00 0.0	0 11380

SUMMA	RY	YE	AR	5						
PROPOSAL BUDGET						FOR NSF USE ONLY				
ORGANIZATION PROPOSAL							ON (months)			
University of Wisconsin-Madison				Propose			Granted			
PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR			AV	/ARD N	0.					
Mary Carnes										
A. SENIOR PERSONNEL: PI/PD, Co-PI's, Faculty and Other Senior Ass	sociates	N	SF Funde erson-mo	d s.	F	unds	Funds			
(List each separately with title, A.7. show number in brackets)	(	CAL	ACAD	SUMR	Requ pro	oposer	(if different)			
1. Mary Carnes - Professor	(	6.00	0.00	0.00	\$	66.050	\$			
2. Caitilyn Allen - Associate Professor	1	1.20	0.00	0.00		9.030				
3. Vicki M Bier - Associate Professor	(	0.00	0.00	1.00		11.270				
4. Dianne C Bowcock - Associate Director	(	6.00	0.00	0.00		28.860				
5. Patricia F Brennan - Professor	(	0.00	0.00	1.00		16.300				
6. ( <b>10</b> ) OTHERS (LIST INDIVIDUALLY ON BUDGET JUSTIFICATIO	N PAGE) 19	9.20	1.00	4.00	1	<u>68.060</u>				
7 (15) TOTAL SENIOR PERSONNEL (1 - 6)	30	2.40	1.00	6.00	2	99.570				
B OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)			1.00	0.00		<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>				
	(	0.00	0.00	0.00		0				
2 ( 1) OTHER PROFESSIONALS (TECHNICIAN PROGRAMMER	ETC)	8 00	0.00	0.00		23 640				
$2.(\mathbf{n})$ CDADUATE STUDENTS		5.00	0.00	0.00		<u>23,040</u>				
3.(0) GRADUATE STUDENTS						11 260				
4. $(\mathbf{U})$ UNDERGRADUATE STUDENTS						16 990				
5. (1) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)						10,000				
					2	U 51 250				
					3	<u>51,350</u> 10,120				
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)						18,130				
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)					4	<u>69,480</u>				
D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM	EXCEEDING §	\$5,000	).)							
TOTAL EQUIPMENT						0				
E. TRAVEL 1. DOMESTIC (INCL. CANADA, MEXICO AND U.S	S. POSSESSIC	DNS)				3,000				
2. FOREIGN						0				
F. PARTICIPANT SUPPORT COSTS										
1. STIPENDS \$										
2. TRAVEL0										
3. SUBSISTENCE0										
4. OTHER0										
TOTAL NUMBER OF PARTICIPANTS ( <b>0</b> ) TO	TAL PARTICIP	PANT	COSTS			0				
G. OTHER DIRECT COSTS										
1 MATERIALS AND SUPPLIES						2 900				
2 PUBLICATION COSTS/DOCI IMENITATION/DISSEMINATION						<u></u> 0				
3 CONSULTANT SERVICES						<u>0</u>				
						0				
						<u> </u>				
						<u> </u>				
						<u>40,000</u> 42,000				
						42,900				
H. TOTAL DIRECT COSTS (A THROUGH G)						15,380				
I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE)										
A+B+C+E+G (Rate: 45.5000, Base: 515380)						<b>0 1</b> 100				
TOTAL INDIRECT COSTS (F&A)						<u>34,498</u>				
J. TOTAL DIRECT AND INDIRECT COSTS (H + I)						49,878				
K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7.j.)						0				
L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)						49,878	\$			
M. COST SHARING PROPOSED LEVEL \$ 150,000 AGREED LEVEL IF DIFFERENT \$										
PI / PD TYPED NAME & SIGNATURE*	DATE			FOR N	ISF US	EONLY				
Mary Carnes			INDIRE	CT COS	ST RAT	E VERIFIC	CATION			
ORG. REP. TYPED NAME & SIGNATURE*	DATE	Date	Checked	Date	e Of Rate	Sheet	Initials - ORG			
sheri severson		L								
NSE Form 1030 (10/99) Supersedes all previous editions 5*SI	GNATURES RE			Y FOR	REVISE					

Other Senior Personnel Name - Title	Cal	Acad	Sumr Fun	ds Requested
Durand, Bernice - Professor	0.00	0.00	1.00	9840
Ford, Cecilia - Professor	0.00	0.00	1.00	9500
Handelsman, Jo E - Professor	4.80	0.0	0.00	45900
Millar, Susan B - Director	1.20	0.00	0.00	9890
Peercy, Paul - Dean	0.00	0.00	0.00	0
Sarto, Gloria - Professor	0.00	0.00	1.00	11680
Stambach, Amy - Assistant Profess	or O.	00 (	D.00 1.	00 6830
To be, named - Administrator	12.00	0.0	0 0.00	56280
Tong, Lillian - Faculty Associate	1.20	0.00	0.00	6420
Wendt, Amy - Associate Professor	0.0	01.	.00 0.0	0 11720

	RY	Cumula	tive		
PROPOSAL	BUDGET		FOF	R NSF USE ONL	.Y
ORGANIZATION		PRO	DPOSAL	NO. DURATI	ON (months)
University of Wisconsin-Madison				Propose	d Granted
PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR		A	NARD N	0.	
Mary Carnes					_
A. SENIOR PERSONNEL: PI/PD, Co-PI's, Faculty and Other Senior A	ssociates	NSF Fund Person-m	ed os.	Funds Requested By	Funds granted by NSF
(List each separately with title, A.7. show number in brackets)	C	CAL ACAD	SUMR	proposer	(if different)
1. Mary Carnes - Professor	30	<u>).00 0.00</u>	0.00	\$ 311,576	\$
2. Caitilyn Allen - Associate Professor	6	<u>5.00 0.00</u>	0.00	42,587	/
3. Vicki M Bier - Associate Professor	0	0.00 0.00	5.00	53,153	
4 Dianne C Bowcock - Associate Director	30	0.00 0.00	0.00	136,126	j
5. Patricia F Brennan - Professor	0	0.00 0.00	5.00	76,902	
6. (10) OTHERS (LIST INDIVIDUALLY ON BUDGET JUSTIFICATI	ON PAGE) $100$	0.80 5.00	<u>16.00</u>	792,684	•
7. (15) TOTAL SENIOR PERSONNEL (1 - 6)	166	<u>5.80 5.00</u>	26.00	1,413,028	6
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)					
1. ( 0) POST DOCTORAL ASSOCIATES	0	<u>).00 0.00</u>	0.00	0	
2. ( 5) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMME	a, etc.) <b>40</b>	<b>).00 0.0</b> (	0.00	111,500	)
3. ( <b>0</b> ) GRADUATE STUDENTS				0	
4. ( 2) UNDERGRADUATE STUDENTS				53,100	)
5. ( <b>5</b> ) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)				79,634	•
6. ( <b>0</b> ) OTHER				0	)
TOTAL SALARIES AND WAGES (A + B)				1,657,262	
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)				541,150	)
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)				2,198,412	
D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEI	I EXCEEDING \$	5,000.)			
					\ \
	0.000000000			77 500	
E. TRAVEL 1. DOMESTIC (INCL. CANADA, MEXICO AND C	.5. PU55E5510	NS)		//,500	
				U	,
1 STIDENDS C 0					
0					
3. SUBSISTENCE					
				0	\
	JTAL PARTICIP	ANT COST	5	U	,
G. OTHER DIRECT COSTS				=0 =00	
1. MATERIALS AND SUPPLIES				70,700	
2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION					
3. CONSULTANT SERVICES				0	
4. COMPUTER SERVICES				0	)
5. SUBAWARDS				0	
6. OTHER				230,000	
TOTAL OTHER DIRECT COSTS				300,700	
H. TOTAL DIRECT COSTS (A THROUGH G)				2,576,612	
I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE)					
TOTAL INDIRECT COSTS (F&A)			1,172,361		
J. TOTAL DIRECT AND INDIRECT COSTS (H + I)			3,748,973		
K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7.j.)			0		
L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)				\$ 3,748,973	\$
M. COST SHARING PROPOSED LEVEL \$ 750,000 A	GREED LEVEL I	F DIFFERE	NT \$		
PI / PD TYPED NAME & SIGNATURE*	DATE		FOR N	SF USE ONLY	
Marv Carnes		INDIR	ст соз	ST RATE VERIF	ICATION
ORG. REP. TYPED NAME & SIGNATURE*	DATE	Date Checked	Dat	e Of Rate Sheet	Initials - ORG
sheri severson					

#### **Budget Justification**

The overall structure of WISELI is presented diagrammatically on the next page. We request funding for 50% and 40% of the salaries of the Co-Directors, Carnes and Handelsman, respectively. Their commitment to this project is substantial and it will require intense and time-consuming effort. To be successful, it is essential that WISELI has visible and attentive leadership. Philosophically, we believe that financial support makes an important statement about the value of gender activities and that have traditionally been piggybacked on the rest of the workload for women. The University will cost-share 10% of Handelsman's salary so that both co-directors will dedicate half of their time to this initiative.

Faculty and staff members of the Leadership Team (other than Dean Peercy) will be provided 10% of their salaries from the project to release them from teaching or administrative responsibilities. This release time will enable them to serve as liaisons between the individual initiatives and WISELI, participate themselves in leadership activities, provide leadership to the overall program and specific initiatives, write about WISELI activities, and disseminate WISELI results at national meetings in their scientific disciplines.

The salary request from NSF for the Executive Administrator will be \$50,000 and will be supplemented by \$10,000 from the College of Engineering to enable us to hire an experienced doctoral level person who can coordinate and administer WISELI as well as contribute to scientific aspects of the evaluation of the program. The Co-Directors and Executive Administrator will be supported by a half-time clerical position as well as the infrastructure of the College of Engineering. The salaries for the Evaluation team include Dianne Bowcock and "other professionals" (line B2).

The fringe benefit rate at the UW-Madison is 32% for faculty and academic staff and 44.5% for classified staff (clerical position). Salaries for years 2-5 are based on an estimated 3% yearly increase. Indirect costs are 45.5%.

The travel budget in the first year will enable the PIs and members of the Leadership Team to attend conferences to promote their own leadership development and learn about initiatives for women in science and engineering. They will also visit other NSF Institutional Transformation sites to learn about and share strategies and data. The travel budget in all years includes travel of our External Advisory Team to Madison as well as travel for the PIs and Leadership Team members to select meetings and to visit other campuses.

Line G1 refers to purchase of computer, phones, and fax machines for the WISELI office in the first year (\$10,000) and office supplies and mailing costs in all years. Some of this will include costs to advertise the national workshops. The supplies costs are minimal by the end of the project because we anticipate that the fees charged to attendees of the workshops will cover the costs of advertising the workshops by the end of the program.

Line F6 refers to the cost of the survey. We request \$50,000 from NSF and this will be supplemented with \$35,000 from UW-Madison. The survey will be conducted largely in the first and fifth years, but we have spread the budget over all years of the program to stay within budget limitations.

#### The Women in Science and Engineering Leadership Institute co-Directors Molly Carnes and Jo Handelsman

and Executive Administrator, to be identified

#### Leadership Team

Caitilyn Allen, Vicki Bier, Patti Brennan, Bernice Durand, Susan Millar, Paul Peercy, Gloria Sarto, Amy Stambach, Lillian Tong, Amy Wendt



#### University of Wisconsin-Madison Cost Sharing Contribution

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Faculty/Academic staff support	\$ 46,593	\$ 56,593	\$ 56,593	\$ 56,593	\$ 56,593	\$272,965
WISE Symposium Support	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$100,000
Climate Surveys	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 50,000
WISE Research Resource Booklet	\$ 10,000	\$ -	\$ -	\$ -	\$ -	\$ 10,000
WISE Student/Administrative Support	\$ 16,500	\$ 16,500	\$ 16,500	\$ 16,500	\$ 16,500	\$ 82,500
Total Direct Costs	\$103,093	\$103,093	\$103,093	\$103,093	\$103,093	\$515,465
Indirect Costs	\$ 46,907	\$ 46,907	\$ 46,907	\$ 46,907	\$ 46,907	\$234,535
Total Contribution	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$750,000

**Current and Pending Support** (See GPG Section II.D.8 for guidance on information to include on this form.)

The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.
Other agencies (including NSF) to which this proposal has been/will be submitted. Investigator: Mary Carnes
Support: ⊠Current □Pending □Submission Planned in Near Future □*Transfer of Support
Project/Proposal Title: University of Wisconsin National Center of Excellence in
Women's Health
Source of Support: US DHHS/OWH
Total Award Amount: \$ 164,631 Total Award Period Covered: 10/01/98 - 09/30/02
Location of Project: UW-Madison Person-Months Per Year Committed to the Project Cal:6.00 Acad: 0.00 Sumr: 0.00
Support: Current Pending Submission Planned in Near Future * Transfer of Support
Tojech toposal fille. Women's freaten Academic Leadersnip Award
Source of Support: NIH/NIA
Location of Project: UW-Madison
Person-Months Per Year Committed to the Project. Cal:6.00 Acad: 0.00 Sumr: 0.00
Support: ⊠Current □Pending □Submission Planned in Near Future □*Transfer of Support
Project/Proposal Title: Women's Heath and Aging: Research & Leadership Grant
Source of Support: NIH/NIA
Total Award Amount: \$ 145,214 Total Award Period Covered: 07/01/99 - 05/31/04
Location of Project: UW-Madison Person-Months Per Year Committed to the Project Cal:0.00 Acad:0.00 Sumr: 0.00
Support: Current Pending Submission Planned in Near Future "I ransfer of Support Project/Proposal Title: Manapause and Midlife Aging Effects on Sleep Disorders
Project/Proposal fille. Menopause and Minume Aging Effects on Sleep Disorders
Source of Support: NIH/NIA
Location of Project: UW-Madison
Person-Months Per Year Committed to the Project. Cal:0.00 Acad: 0.00 Sumr: 0.00
Support: ⊠Current □Pending □Submission Planned in Near Future □*Transfer of Support
Project/Proposal Title: Women's Health Fellowship Program
Source of Support: Department of Veteran's Affairs
Total Award Amount: \$ 126,000 Total Award Period Covered: 07/01/95 - 06/30/01
Location of Project: UW-Madison Person-Months Per Year Committed to the Project Cal-0.00 Acad-0.00 Summ: 0.00
* If this assist has appringly, have funded by another assays place list and furnish information for immediately another funding particul

NSF Form 1239 (10/99) Page G-1 USE ADDITIONAL SHEETS AS NECESSARY

**Current and Pending Support** (See GPG Section II.D.8 for guidance on information to include on this form.)

The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.
Other agencies (including NSF) to which this proposal has been/will be submitted. Investigator: Mary Carnes
Support: ⊠Current □Pending □Submission Planned in Near Future □*Transfer of Support
Project/Proposal Title: Development and evaluation of a hormone replacement therapy
decision-aid
Source of Support: Department of Veteran's Affairs
Total Award Amount: \$ 5,297,000 Total Award Period Covered: 10/01/99 - 09/30/02
Location of Project: UW-IVIACISON Person-Months Per Vear Committed to the Project Cal: 1 20 Acad: 0.00 Sumr: 0.00
Support: ⊠Current □Pending □Submission Planned in Near Future □*Transfer of Support
Project/Proposal Title: DES National Eduational Campaign: Health Professional
Education and Training
Source of Support: US DHHS/UWH
Location of Project: UW-Madison
Person-Months Per Year Committed to the Project. Cal: 0.60 Acad: 0.00 Sumr: 0.00
Support: Current Pending Submission Planned in Near Future 1*Transfer of Support
Project/Proposal Title: ADVANCE Institutional Transformation Award
Source of Support: NSF - this proposal
Total Award Amount: \$ 3.748.973 Total Award Period Covered: 10/01/01 - 09/30/06
Location of Project: UW-Madison
Person-Months Per Year Committed to the Project. Cal: $6.00$ Acad: $0.00$ Sumr: $0.00$
Support: Current Dending DSubmission Planned in Near Future D*Transfer of Support
Project/Pronosal Title:
Source of Support:
Total Award Amount: \$ Total Award Period Covered:
Location of Project:
Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:
Support:
Project/Proposal Title:
Source of Support:
Source of Support: Total Award Amount: \$ Total Award Period Covered:
Source of Support: Total Award Amount: \$ Total Award Period Covered: Location of Project: Person-Months Per Year Committed to the Project Cal: Acad: Summ:

## **Current and Pending Support**

(See GPG Section II.D.8 for g	uidance on information to in	clude on this form	1.)
The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.			
	Other agencies (including NSF	to which this proposal h	as been/will be
Investigator: Jo Handelsman			
Support: 🛛 Current 🔄 Pending Project/Proposal Title:	Submission Planned in Ne	ar Future *Tr	ansfer of Support
Resistance to zwittermicin A			
Source of Support: Hatch			
Total Award Amount: \$65,430 Tota	Award Period Covered: 10/1/97-	9/30/01	
Location of Project: UW-Madison			
Person-Months Per Year Committed to the Project.	5% Cal: A	cad: Sumr:	
Support: 🛛 Current 🗌 Pending	Submission Planned in Ne	ar Future 🗌 *Tr	ansfer of Support
Project/Proposal Title: Microbial communication in the	rhizosphere community		
Source of Support: Hatch			
Total Award Amount: \$90,262 Tota	Award Period Covered: 10/1/01-	9/30/04	
Location of Project: UW-Madison			
Person-Months Per Year Committed to the Project.	5% Cal: A	cad: Sumr:	( ()
Project/Proposal Title:	Submission Planned in Ne	ar Future 📋 * I r	anster of Support
Enhancing safety of biocontrol with Bacillus cereus			
Source of Support: USDA NRICGP			
Total Award Amount: \$125,000 Tota	Award Period Covered: 8/15/98-	8/31/01	
Location of Project: UW-Madison			
Person-Months Per Year Committed to the Project.	5% Cal: A	cad: Sumr:	( (0 )
Support: Current Pending		ar Future 📋 * I r	ansfer of Support
Project/Proposal Litle: Graduate fellowship for A. Dun	n		
Source of Support: EPA			
Total Award Amount: \$75,259 Tota	Award Period Covered: 9/2/99-9	/1/02	
Location of Project: UW-Madison			
Person-Months Per Year Committed to the Project.	% Cal: A	cad: Sumr:	
Support: 🛛 Current 🗌 Pending	Submission Planned in Ne	ar Future 🗌 *Tr	ansfer of Support
Project/Proposal Title: Using chemistry and biology	to explore the soil metagenom	e	
(Co-PIs R. Goodman and J. Clardy)			
Source of Support: The David and Lucile Packard F	oundation		
Total Award Amount: \$960,000 Tota	Award Period Covered: 7/1/99-	6/30/04	
Location of Project: UW-Madison and Cornell Univ	ersity		
Person-Months Per Year Committed to the Project.	10% Cal: A	cad: Sumr:	
*If this project has previously been funded by ano	ther agency, please list and fu	nish information for	immediately
NSF Form 1239 (10/99)		USE ADDITIONAL S	HEETS AS NECESSARY

## **Current and Pending Support**

(See GPG Section II.D.8 for guidance on information to include on this form.)	
The following information should be provided for each investigator and other senior personnel. Failure to provide this	
information may delay consideration of this proposal.	
Other agencies (including NSF) to which this proposal has been/will be	
Investigator: Jo Handelsman	
Support: 🛛 Current 🔲 Pending 🗌 Submission Planned in Near Future 🔲 *Transfer of Support Project/Proposal Title:	
Discovery of antimicrobial compounds from novel microbial sources	
(Co-PI R. Goodman)	
Source of Support: NIH	
Total Award Amount: \$194,595 Total Award Period Covered: 5/1/98-4/30/02	
Location of Project: UW-Madison	
Person-Months Per Year Committed to the Project. 5% Cal: Acad: Sumr:	
Support: Current Pending Submission Planned in Near Future *Transfer of Support Project/Proposal Title: Postdoctoral Fellowship for David Mann: A new era in drug discovery: tapping into the soil metagenome	
Source of Support: The Cancer Research Fund of the Damon Runvon-Walter Winchell Foundation	
Total Award Amount: \$ 125,000 Total Award Period Covered: 1/1/00-12/31/02	
Location of Project: LIW-Madison	
Person-Months Per Year Committed to the Project % Cal: Acad: Sumr:	
Support: Xurrent Pending Submission Planned in Near Future Transfer of Support	
Project/Proposal Title: Fellowshin for Mark Liles: Functional genomics of uncultivated soil bacteria	
(Co PLP Goodman)	
Source of Support: NIH NDSA	
Source of Support. NIT NRSA	
Location of Project: UW-Madison	
Person-Months Per Year Committed to the Project. 5% Cal: Acad: Sumr:	
Support: ⊠ Current ∐ Pending ∐ Submission Planned in Near Future ∐ *Transfer of Support Project/Proposal Title:	
CPBR fellowship for potentiators of microbial insecticides for biomass trees	
(Co-PIs K. Raffa and R. Goodman)	
Source of Support: Consortium for Plant Biotechnology Research, Inc.	
Total Award Amount: \$20,000 Total Award Period Covered: 1/1/01-12/31/01	
Location of Project: UW-Madison	
Person-Months Per Year Committed to the Project. 5% Cal: Acad: Sumr:	
Support: 🛛 Current 🗌 Pending 🔄 Submission Planned in Near Future 🗌 *Transfer of Support	
Project/Proposal Title: A tropical microbial observatory: collaborative research on microbial diversity in caterpillars	
Co-PIs R. Goodman and H. Simon	
Source of Support: NSF	
Total Award Amount: \$646,069 Total Award Period Covered: 10/1/00-9/30/04	
Location of Project: UW-Madison	
Person-Months Per Year Committed to the Project. 5% Cal: Acad: Sumr:	
*If this project has previously been funded by another agency, please list and furnish information for immediately	
preceding funding period.	

NSF Form 1239 (10/99)

USE ADDITIONAL SHEETS AS NECESSARY

# Current and Pending Support

Current and Pending Support
(See GPG Section II.D.o for guidance on Imormation to include on this form.)
information may delay consideration of this proposal
Other agencies (including NSF) to which this proposal has been/will be
Investigator: Jo Handelsman
Support: Current Pending Submission Planned in Near Future *Transfer of Support
Project/Proposal Title: Enhancing the commercial value of metagenomic libraries: identifying and characterizing clones that inhibit
growth of human pathogens or human cell lines
Co-PI R. Goodman
Source of Support: University-Industry Relations UW-Madison
Total Award Amount: \$30,000       Total Award Period Covered: 7/1/01-6/30/02
Location of Project: UW-Madison
Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:
Support: Current Pending Submission Planned in Near Future Transfer of Support
Project/Proposal Title: Enhancing safety of biocontrol with Bacillus cereus
Source of Support: USDA NRICGP
Total Award Amount: \$48,117 Total Award Period Covered: 9/1/01-8/31/02
Location of Project: UW-Madison
Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:
Support: Current Pending Submission Planned in Near Future *Transfer of Support
Project/Proposal Title: Molecular cross-talk between rhizosphere microorganisms and the biocontrol agent, Bacillus cereus
Source of Support: USDA NRICGP
Total Award Amount: \$279,993       Total Award Period Covered: 7/1/01-6/30/04
Location of Project: UW-Madison
Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:
Support: Current Pending Submission Planned in Near Future *Transfer of Support
Project/Proposal Title: Phylogeny of Bacillus cereus strains for biocontrol of plant disease
(Biological Control Postdoctoral Fellowship in Systematics)
Source of Support: USDA NBCI
Total Award Amount:\$77,746Total Award Period Covered: 4/9/01-4/8/03
Location of Project: UW-Madison
Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:
Support:  Current Pending Submission Planned in Near Future  *Transfer of Support
Project/Proposal Title:
Microfabricated chips for bacterial growth assays
(Co-PIs D. van der Weide, B. Kay, F. Blattner, and R. Goodman)
Source of Support: NIH
Total Award Amount: ~\$2,000,000Total Award Period Covered: 7/1/01-6/30/06
Location of Project: UW-Madison
Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:
*If this project has previously been funded by another agency, please list and furnish information for immediately
PRECEDING TUNDING PERIOD.
NOT FOR 1200 (1000) USE ADDITIONAL STILLES AS NECESSART
(See GPG Section II.D.8 for guid
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The following information should be provided for eac
Investigator: Jo Handelsman
Support: Current Pending Project/Proposal Title: Biocomplexity analysis of an acid
And environmental geochemical data
Source of Support: NSF
Total Award Amount: \$1,5000,000 Total Av
Location of Project: UW-Madison
Person-Months Per Year Committed to the Project.
Support: Current Pending
Project/Proposal Title: ADVANCE Institutional Transformation
Source of Support: NSF – this proposal
Total Award Amount: \$3,748,973 Total Av
Location of Project: UW-Madison
Person-Months Per Year Committed to the Project.
Support: Current Pending
Project/Proposal Litle:
Source of Support:
Total Award Amount: \$ Total Aw
Location of Project:
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Source of Support:
Total Award Amount: \$ Total Av
Location of Project:
Person-Months Per Year Committed to the Project.
Support: Current Pending
Project/Proposal Title:
Source of Support:
Local Award Amount: I otal Av
Person-Months Per Year Committed to the Project.
n uns project has previously been funded by anothe preceding funding period
NSF Form 1239 (10/99)

The following information should be provided for each investigator and other senior personnel. Failure to provide this information may dela	y consideration of this proposal.
Other agencies (including NSF) to which this proposal has been Investigator: Caitilyn Allen	n/will be submitted.
Support: ⊠Current □Pending □Submission Planned in Near Future □*T	ransfer of Support
Project/Proposal Title: Biological role of motility in bacterial wilt of plants	
Source of Support: NSF	
Total Award Amount: \$ 350,000 Total Award Period Covered: 03/15/01 -	03/14/04
Person-Months Per Year Committed to the Project Cal: 4.20 Acad: 0.00 S	umr: 0.00
Support: ⊠Current □Pending □Submission Planned in Near Future □*T	ransfer of Support
Project/Proposal Title: Characterizing bacterial wilt virulence gene express	sion in
the plant host	
Source of Support USDA Hatch Project	
Total Award Amount: \$ 82.000 Total Award Period Covered: 10/01/00 -	09/30/03
Location of Project: UW-Madison	
Person-Months Per Year Committed to the Project. Cal: $1.80$ Acad: $0.00$ S	umr: <b>0.00</b>
Support: Current Rending Submission Planned in Near Future T*T	ransfer of Support
Project/Proposal Title: ADVANCE Institutional Transformation Award	
Source of Support: NSF - this proposal	
Total Award Amount: \$ 3,748,973 Total Award Period Covered: 10/01/01 -	09/30/06
Location of Project: UW-Madison Person-Months Per Vear Committed to the Project Cal: 1 20 Acad: 0.00 S	umr: 0.00
Support: □Current □Pending □Submission Planned in Near Future □*T	ransfer of Support
Project/Proposal Title:	
Source of Support	
Total Award Amount: \$ Total Award Period Covered:	
Location of Project:	
Person-Months Per Year Committed to the Project. Cal: Acad: S	umr:
Support: Current Pending Submission Planned in Near Future T*T	ransfer of Support
Support: □Current □Pending □Submission Planned in Near Future □*T Project/Proposal Title:	ransfer of Support
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Support: □Current □Pending □Submission Planned in Near Future □*T Project/Proposal Title: Source of Support: Total Award Amount: \$Total Award Period Covered:	ransfer of Support
Support: □Current □Pending □Submission Planned in Near Future □*T Project/Proposal Title: Source of Support: Total Award Amount: \$Total Award Period Covered: Location of Project: Person-Months Per Year Committed to the Project Cal:	ransfer of Support

The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.
Other agencies (including NSF) to which this proposal has been/will be submitted. Investigator: Vicki Bier
Support: Current Pending Submission Planned in Near Future Transfer of Support Project/Proposal Title: Modeling and Simulation Environment for Critical Infrastructure Protection
Source of Support:Army Research OfficeTotal Award Amount:\$ 4,250,000 Total Award Period Covered:05/01/01 - 04/30/06Location of Project:UW-MadisonPerson-Months Per Year Committed to the Project.Cal:1.10Acad: 0.00Sumr:1.10
Support: □ Current ⊠ Pending □ Submission Planned in Near Future □ *Transfer of Support Project/Proposal Title: <b>Development of Tools for Reduction of Errors in Medicine</b>
Source of Support:NIHTotal Award Amount:\$ 548,000 Total Award Period Covered:07/01/01 - 06/30/05Location of Project:UW-MadisonPerson-Months Per Year Committed to the Project.Cal:1.10Acad: 1.10Sumr:0.00
Support:       □ Current       ☑ Pending       □ Submission Planned in Near Future       □ *Transfer of Support         Project/Proposal Title:       Design of Incentive Systems for Risk-Informed Regulation: A         Game-Theoretic Approach
Source of Support:NSFTotal Award Amount:\$ 179,000 Total Award Period Covered:07/01/01 - 06/30/03Location of Project:UW-MadisonPerson-Months Per Year Committed to the Project.Cal:2.00Acad: 0.00Sumr: 2.00
Support: Current Pending Submission Planned in Near Future Transfer of Support Project/Proposal Title: A Center for Building-Vulnerability Science and Education
Source of Support:NSFTotal Award Amount:\$ 19,998,000 Total Award Period Covered:08/01/02 - 07/31/07Location of Project:UW-MadisonPerson-Months Per Year Committed to the Project.Cal:2.00Acad: 1.00Sumr: 1.00
Support: □ Current ⊠ Pending □ Submission Planned in Near Future □ *Transfer of Support Project/Proposal Title: <b>ADVANCE Institutional Transformation Award</b>
Source of Support:       NSF - this proposal         Total Award Amount:       \$ 3,748,973 Total Award Period Covered:       10/01/01 - 09/30/06         Location of Project:       UW-Madison         Person-Months Per Year Committed to the Project.       Cal:0.00       Acad: 0.00       Summ: 1.00
*If this project has previously been funded by another agency, please list and furnish information for immediately preceding funding period.

The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.
Other agencies (including NSF) to which this proposal has been/will be submitted. Investigator: Dianne Bowcock
Support: ⊠Current □Pending □Submission Planned in Near Future □*Transfer of Support
Project/Proposal Title: Professional Development in the Milwaukee Public School
System
Source of Support: NIH-SEPA
Total Award Amount: \$ 729,000 Total Award Period Covered: 09/01/00 - 08/31/03
Location of Project: Milwaukee School of Engineering
Person-Months Per Year Committed to the Project. Cal: 3.00 Acad: 0.00 Sumr: 0.00
Support: ⊠Current □Pending □Submission Planned in Near Future □*Transfer of Support
Project/Proposal Title: Molecular Structure and Function in Undergraduate
Curriculum
Source of Support: NSF - CCLI
Total Award Amount: \$ 498,000 Total Award Period Covered: 07/01/01 - 06/30/04
Location of Project: Milwaukee School of Engineering
Person-Months Per Year Committed to the Project. Cal: 3.00 Acad: 0.00 Sumr: 0.00
Support: □Current ⊠Pending □Submission Planned in Near Future □*Transfer of Support
Project/Proposal Title: ADVANCE Institutional Transformation Award
Source of Support: NSF- this proposal
Total Award Amount: \$ 3,748,973 Total Award Period Covered: 10/01/01 - 09/30/06
Location of Project: UW-Madison Person-Months Per Vear Committed to the Project Cal:6.00 Acad: 0.00 Sumr: 0.00
Support: Current Pending Submission Planned in Near Future Transfer of Support
Project/Proposal Title:
Source of Support:
Total Award Amount: \$ Total Award Period Covered:
Location of Project: Person-Months Per Year Committed to the Project Cal: Acad: Sumr:
Support: Current Pending Submission Planned in Near Future Transfer of Support
Project/Proposal Litle:
Source of Support:
Total Award Amount: \$ Total Award Period Covered:
Person-Months Per Year Committed to the Project. Cal: Acad: Summ:

The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.
Other agencies (including NSF) to which this proposal has been/will be submitted. Investigator: Patricia Brennan
Support: 🛛 Current 🗆 Pending 🗆 Submission Planned in Near Future 🗖 *Transfer of Support
Project/Proposal Title: Customized Computer Support: Home Care of CABG Patients
Source of Support: NIH/NLM
Total Award Amount: \$ 951,180 Total Award Period Covered: 07/01/97 - 06/30/01
Location of Project: UW-IVIACISON Person-Months Per Vear Committed to the Project Cal:0.00 Acad: 1.80 Sumr: 0.60
Support: ⊠Current □Pending □Submission Planned in Near Future □*Transfer of Support
Project/Proposal Title: Patient-Centered Informational Interventions
Course of Cupports NIH/NINP
Total Award Amount: \$ 1.089.125 Total Award Period Covered: 07/01/98 - 06/30/03
Location of Project: UW-Madison
Person-Months Per Year Committed to the Project. Cal:0.00 Acad: 1.35 Sumr: 0.45
Support: 🛛 Current 🗆 Pending 🗆 Submission Planned in Near Future 🗖 *Transfer of Support
Project/Proposal Title: University of Wisconsin Health Sciences IAIMS Initiative
Source of Support: NIH/NLM
Total Award Amount: \$ 300,000 Total Award Period Covered: 03/01/98 - 02/28/02
Person-Months Per Year Committed to the Project Cal. 0.00 Acad. 1.80 Sumr. 0.00
Support: Current Pending Submission Planned in Near Future Transfer of Support
Project/Proposal Title: Computer Information, Support and Platform Impact: Breast
Cancer
Source of Support: NIH/NLM
Total Award Amount: \$ 1,142,311 Total Award Period Covered: 09/01/98 - 08/31/01
Location of Project: UW-Madison
Person-Months Per Year Committed to the Project. Cal:0.00 Acad: 0.00 Sumr: 0.00
Support: ⊠Current □Pending □Submission Planned in Near Future □*Transfer of Support
Project/Proposal Title: Implementation of Computer-Based Health Support Systems
Source of Support: AHCPR
Location of Project: UW Madison
Person-Months Per Year Committed to the Project. Cal: 0.00 Acad: 0.00 Summ: 0.00

(See GPG Section II.D.8 for guidance on information to include on this form.) The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal. Other agencies (including NSF) to which this proposal has been/will be submitted. Investigator: Patricia Brennan Support: Current ☑ Pending □ Submission Planned in Near Future □ \*Transfer of Support Project/Proposal Title: Internet Telehealth for Pediatric Asthma Case Management NIH/NINR Source of Support: Total Award Amount: \$ 2,160,335 Total Award Period Covered: 01/01/02 - 12/31/05**UW-Madison** Location of Project: Person-Months Per Year Committed to the Project. Cal:0.00 Acad: 0.00 Sumr: 0.00 Support: Project/Proposal Title: ADVANCE Institutional Transformation Award **NSF** - this proposal Source of Support: Total Award Amount: \$ 3,748,973 Total Award Period Covered: 10/01/01 - 09/30/06 Location of Project: **UW-Madison** Person-Months Per Year Committed to the Project. Cal:0.00 Acad: 0.00 Sumr: 1.00 Support: □ Current □ Pending □ Submission Planned in Near Future □ \*Transfer of Support Project/Proposal Title: Source of Support: Total Award Amount: \$ **Total Award Period Covered:** Location of Project: Person-Months Per Year Committed to the Project. Cal: Acad: Sumr: □ Pending □ Submission Planned in Near Future Support: Current □ \*Transfer of Support Project/Proposal Title: Source of Support: **Total Award Period Covered:** Total Award Amount: \$ Location of Project: Person-Months Per Year Committed to the Project. Cal: Acad: Sumr: Support: □ Current Pending □ Submission Planned in Near Future □\*Transfer of Support Project/Proposal Title: Source of Support: Total Award Amount: \$ **Total Award Period Covered:** Location of Project: Person-Months Per Year Committed to the Project. Acad: Summ: Cal: \*If this project has previously been funded by another agency, please list and furnish information for immediately preceding funding period.

(See GPG Section II.D.8 for guidance on information to include on this form.) The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal. Other agencies (including NSF) to which this proposal has been/will be submitted. Investigator: Bernice Durand Support: Current □ Pending □ Submission Planned in Near Future □ \*Transfer of Support Project/Proposal Title: Research in high energy physics/institute for elementary particle physics research DOE Source of Support: Total Award Amount: \$ **760,000** Total Award Period Covered: 11/01/00 - 10/31/01 **UW-Madison** Location of Project: Person-Months Per Year Committed to the Project. Cal:0.00 Acad: 0.00 Sumr: 0.00 Support: Project/Proposal Title: ADVANCE Institutional Transformation Award **NSF** - this proposal Source of Support: Total Award Amount: \$ 3,748,973 Total Award Period Covered: 10/01/01 - 09/30/06 Location of Project: **UW-Madison** Person-Months Per Year Committed to the Project. Cal:0.00 Acad: 0.00 Sumr: 1.00 Support: □ Current □ Pending □ Submission Planned in Near Future □ \*Transfer of Support Project/Proposal Title: Source of Support: Total Award Amount: \$ **Total Award Period Covered:** Location of Project: Person-Months Per Year Committed to the Project. Cal: Acad: Sumr: Submission Planned in Near Future Support: □ Current Pending □ \*Transfer of Support Project/Proposal Title: Source of Support: Total Award Amount: \$ **Total Award Period Covered:** Location of Project: Person-Months Per Year Committed to the Project. Cal: Acad: Sumr: Support: □ Current Pending □ Submission Planned in Near Future □ \*Transfer of Support Project/Proposal Title: Source of Support: Total Award Amount: \$ **Total Award Period Covered:** Location of Project: Person-Months Per Year Committed to the Project. Acad: Summ: Cal: \*If this project has previously been funded by another agency, please list and furnish information for immediately preceding funding period.

(See GPG Section II.D.8 for guidance on information to include on this form.) The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal. Other agencies (including NSF) to which this proposal has been/will be submitted. Investigator: Cecilia Ford Support: ☑ Current ☐ Pending ☐ Submission Planned in Near Future ☐ \*Transfer of Support Project/Proposal Title: Rhetorical Combinations as Units of Language in Interaction Graduate School, University of Wisconsin-Madison Source of Support: Total Award Amount: \$ 7,383 Total Award Period Covered: 06/01/01 - 06/30/01 Location of Project: **UW-Madison** Person-Months Per Year Committed to the Project. Cal:0.00 Acad: 0.00 Sumr: 1.00 Current Pending Submission Planned in Near Future \*Transfer of Support Support: Project/Proposal Title: Doctoral Dissertation Research: A Conversation Analytic **Approach to Codeswitching in Urban Tanzania NSF** Source of Support: Total Award Amount: \$ **10.940** Total Award Period Covered: 02/01/01 - 08/15/02Location of Project: Dar es Salaam, Tanzania Person-Months Per Year Committed to the Project. Cal:0.00 Acad: 0.00 Sumr: 0.00 Support: Current ☑ Pending □ Submission Planned in Near Future □ \*Transfer of Support Project/Proposal Title: Mellon Workshop in the Humanities: Language and Social Interaction Mellon Foundation & Center for the Humanities. UW-Madison Source of Support: Total Award Amount: \$ **5.000** Total Award Period Covered: 01/09/01 - 05/31/02 Location of Project: **UW-Madison** Sumr: 0.00 Person-Months Per Year Committed to the Project. Cal:0.00 Acad: 0.00 ■ Pending □ Submission Planned in Near Future □ \*Transfer of Support Support: □ Current Project/Proposal Title: ADVANCE Institutional Transformation Award **NSF** - this proposal Source of Support: Total Award Amount: \$ 3,748,973 Total Award Period Covered: 10/01/01 - 09/30/06 **UW-Madison** Location of Project: Person-Months Per Year Committed to the Project. Cal:0.00 Acad: 0.00 Sumr: 1.00 Support: □ Current □ Pending □ Submission Planned in Near Future □ \*Transfer of Support Project/Proposal Title: Source of Support: Total Award Amount: \$ **Total Award Period Covered:** Location of Project: Person-Months Per Year Committed to the Project. Acad: Summ: Cal: \*If this project has previously been funded by another agency, please list and furnish information for immediately preceding funding period.

(See GPG Section II.D.8 for guid	ance on information to include on the	nis form.)
The following information should be provided for each investigator and other senior personnel. Failure to provide this		
information may delay consideration of this proposal.	Other agencies (including NSF) to which this p	roposal has been/will be
Investigator: Susan Millar	g (	
Support: Current X Pending	Submission Planned in Near Future	Transfer of Support
Project/Proposal Title: : ADVANCE Institutional Transform	nation Award	
Source of Support: National Science Foundation		
Total Award Amount \$3,748,973 Total Aw	ard Period Covered: 10/01/01-09/30/06	
Location of Project: University Of Wisconsin-Madison		
Person-Months Per Year Committed to the Project.	Cal: 1.2 Acad: 0.0	Sumr: 0.0
Support: Current X Pending	Submission Planned in Near Future	*Transfer of Support
Project/Proposal Title: : A Center for Building-Vulnerability	y Science and Education	
o control National Osianas Escurdation		
Source of Support: National Science Foundation		
Iotal Award Amount: \$19,998,217 Iotal Aw	ard Period Covered: 08/01/02-7/31/07	
Location of Project: University Of Wisconsin-Madison		
Person-Months Per Year Committed to the Project.	Cal: 3 Acad: 0.0	Sumr: 0.0
Support: X Current Pending	Submission Planned in Near Future	
Project/Proposal fille Supplement to the Completion of	Case Studies for the Learning through the	echnology (LT2) web Site
Source of Support: National Science Foundation		
Total Award Amount: \$104 447 Total Aw	ard Period Covered: 0/01/01-8/31/01	
Location of Project: University Of Wisconsin-Madison		
Person-Months Per Year Committed to the Project.	Cal: 3 Acad: 0.0	Sumr 0.0
Support: X Current Pending	Submission Planned in Near Future	Transfer of Support
Project/Proposal Litle: : Completion of Case Studies for tr	ie "Learning through Technology (LT2)" W	ed Site
Source of Support: National Science Foundation		
Total Award Amount: \$162,681	ard Pariod Covarad: 07/01/00 12/31/00	
Total Award Amount: \$102,001 Total Award Period Covered: 07/01/00-12/31/00		
Person-Months Per Vear Committed to the Project		Sumr: 0.0
	Cal. 5 Acad. 0.0	Sumr. 0.0
Project/Proposal Title:		
Source of Support:		
Total Award Amount: \$ Total Aw	ard Period Covered:	
Location of Project:		
Person-Months Per Year Committed to the Project.	Cal: Acad:	Sumr:
*If this project has previously been funded by another	agency, please list and furnish informa	ation for immediately
preceding funding period.		

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USE ADDITIONAL SHEETS AS NECESSARY



The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.
Other agencies (including NSF) to which this proposal has been/will be submitted.
Investigator: Paul Peercy
Support: □Current ☑Pending □Submission Planned in Near Future □*Transfer of Support
Project/Proposal Title: ADVANCE Institutional Transformation Award
Source of Support: NSF
Total Award Amount: \$ 3,748,973 Total Award Period Covered: 10/01/01 - 09/30/06
Location of Project: UW-IVIACISON Person-Months Per Vear Committed to the Project Cal:0.00 Acad:0.00 Sumr: 0.00
Support: □Current □Pending □Submission Planned in Near Future □*Transfer of Support
Project/Proposal Title:
Source of Support:
I otal Award Amount: \$ I otal Award Period Covered:
Person-Months Per Year Committed to the Project Cal: Acad: Sumr
Support:
Project/Proposal Title:
Source of Support:
Location of Project:
Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:
Support:   Current  Pending  Submission Planned in Near Future  *Transfer of Support
Project/Proposal Title:
Source of Support:
Location of Project:
Person-Months Per Year Committed to the Project Cal Acad Sumr
Support: □Current □Pending □Submission Planned in Near Future □*Transfer of Support
Project/Proposal Title:
Source of Support:
Location of Project
Person-Months Per Year Committed to the Project Cal Acad Summ
*If this project has providually been funded by another agency, please list and furnish information for immediately proceeding funding period

NSF Form 1239 (10/99) Page G-10 USE ADDITIONAL SHEETS AS NECESSARY

(See GPG Section II.D.8 for guidance on information to include on this form.)		
The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.		
Other agencies (including NSF) to which this proposal has been/will be Investigator: Gloria E. Sarto MD PhD		
Support: X Current Pending Submission Planned in Near Future Transfer of Support		
Project/Proposal Title: UW National Center of Excellence in Women's Health		
Source of Support: Federal DHHS: Office of Women's Health		
Total Award Amount: \$749,675 Total Award Period Covered: Four years		
Location of Project: University of Wisconsin Medical School, Madison WI		
Person-Months Per Year Committed to the Project. 25% Cal: X Acad: Sumr:		
Support: Current Pending Submission Planned in Near Future *Transfer of Support		
Project/Proposal Title: ADVANCE Institutional Transformation Award		
Source of Support: NSF – this proposal		
Total Award Amount: \$3,748,973Total Award Period Covered: 10/01/01-09/30/06		
Location of Project: UW-Madison		
Person-Months Per Year Committed to the Project. Cal: 1.2 Acad: Sumr:		
Support: Current Pending Submission Planned in Near Future I *Transfer of Support		
Project/Proposal little:		
Source of Support		
Total Award Amount: \$ Total Award Period Covered:		
Location of Project:		
Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:		
Support: Current Pending Submission Planned in Near Future *Transfer of Support		
Project/Proposal Title:		
Source of Support:		
Total Award Amount: \$ Total Award Period Covered:		
Location of Project:		
Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:		
Source of Support:		
Total Award Amount: \$ Total Award Period Covered:		
Location of Project:		
Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:		
*If this project has previously been funded by another agency, please list and furnish information for immediately		
preceding funding period.		
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(See GPG Section II.D.8 for guidance on information to include on this form.)
The following information should be provided for each investigator and other senior personnel. Failure to provide this
Information may delay consideration of this proposal.
Investigator: AMY STAMBACH
Support: 🛛 Current 🗌 Pending 🔄 Submission Planned in Near Future 🔲 *Transfer of Support
Project/Proposal Title: RECONSIDERING THE INTERRELATIONSHIP OF ANTHROPOLOGY AND EDUCATION
Source of Support: SPENCER FOUNDATION, ADVANCED STUDIES INSTITUTE
Total Award Amount: \$113,000 Total Award Period Covered: OCTOBER 2000 – SEPTEMBER 2001
Location of Project: SAN FRANCISCO, CHICAGO, CHAPEL HILL
Person-Months Per Year Committed to the Project. 3 Cal: Acad: Sumr:
Support: X Current Pending Submission Planned in Near Future X *Transfer of Support
Floject Floposal Hue. Schooling and the Reconflooration of Families
Total Award Amount: \$60,000 Total Award Period Covered: SEPT 1999 – AUGUST 2001
Location of Project: UNITED STATES, TANZANIA
Person-Months Per Year Committed to the Project. 12 (99-00) Cal: Acad: Sumr:
Support: Current Z Pending Submission Planned in Near Future Transfer of Support
Project/Proposal Title: FAITH-BASED OVERSEAS EDUCATIONAL INITIATIVES
Source of Support: WENNER GREN
Total Award Amount: \$12,000 Total Award Period Covered: APRIL 2002-JULY 2002
Location of Project: TEXAS; MOSHI, TANZANIA
Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:
Support: Current Pending Submission Planned in Near Future Transfer of Support
Project/Proposal Title: ADVANCE Institutional Transformation Award
Source of Support NSE - this proposal
Total Award Amount: \$ 3 748 973 Total Award Period Covered: 10/01/01-09/30/06
Leasting of Dreight LIW Modiogn
Location of Project. UW-Induison
Person-Montris Per Year Committee to the Project. Cal: Acad: Sumr: 1
Project/Proposal fille:
Source of Support:
Total Award Amount: \$ Total Award Period Covered:
Location of Project:
Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:
*If this project has previously been funded by another agency, please list and furnish information for immediately
preceding funding period.
NSF Form 1239 (10/99) USE ADDITIONAL SHEETS AS NECESSARY



(See GPG Section II.D.8 for guidance on information to include on this form.)
The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.
Other agencies (including NSF) to which this proposal has been/will be Investigator: Lillian Tong
Support: Current Pending X Submission Planned in Near Future C *Transfer of Support
Project/Proposal Title Project SyMBiosis: A First-Year Science and Mathematics Curriculum for Biology Majors (approx.)
Source of Support: NSF
Total Award Amount: \$200,000 (approx) Total Award Period Covered: 24 months
Location of Project: NSF DUE CCLI
Person-Months Per Year Committed to the Project. 1 Cal: Acad: Sumr:
Support: Current Pending Submission Planned in Near Future Transfer of Support
Project/Proposal Title: ADVANCE Institutional Transformation Award
Source of Support: NSF - this proposal
Total Award Amount: \$ 3748973 Total Award Period Covered: 10/01/01-09/30/06
Location of Project: LIW-Madison
Person-Months Per Year Committed to the Project Cal: 1.2 Acad: Sumr:
Support: Current Pending Submission Planned in Near Future *Transfer of Support
r tojecut toposal tule.
Source of Support:
Total Award Amount:
Total Award Period Covered:
Location of Project:
Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:
Support: Current Pending Submission Planned in Near Future 1 "I ransfer of Support
Project/Proposal Intie:
Source of Support:
Total Award Amount: \$ Total Award Period Covered:
Location of Project:
Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:
Support: Current Pending Submission Planned in Near Future I *Transfer of Support
Project/Proposal Title:
Source of Support:
Total Award Amount: \$       Total Award Period Covered:
Location of Project:
Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:
*If this project has previously been funded by another agency, please list and furnish information for immediately
preceding funding period.
NSF Form 1239 (10/99) USE ADDITIONAL SHEETS AS NECESSARY



(See GPG Section II.D.8 for g	uidance on	information to	o include on th	nis form.)
The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal				
	Other age	encies (including N	SF) to which this p	roposal has been/will be
Investigator: Amy Wendt			- ,	
Support: 🛛 Current 🗌 Pending	Submiss	sion Planned in	Near Future	*Transfer of Support
Project/Proposal Title:Selectivity Mechanisms and Enha	ancement for	Low-K Etching		
Source of Support: Semiconductor Research Corpo	oration			
Total Award Amount: \$150,000 Total	Award Period	d Covered: 8/00-	7/03	
Location of Project: UW-Madison				
Person-Months Per Year Committed to the Project.	0.5	Cal:	Acad:	Sumr: 0.5
Support: 🛛 Current 🗌 Pending	Submiss	sion Planned in	Near Future	*Transfer of Support
Project/Proposal Title: Control of Ion Energy Distributio	n at Substrate	es During Plasma	a Processing	
Source of Support: National Science Foundation				
Total Award Amount: \$280,000 Total	Award Period	d Covered: 9/00-	8/03	
Location of Project: UW-Madison				
Person-Months Per Year Committed to the Project.	0.5	Cal:	Acad:	Sumr: 0.5
Support: 🛛 Current 🗌 Pending	Submiss	ion Planned in	Near Future	*Transfer of Support
Project/Proposal Title:MRSEC on Nanostructured Mate	rials and Inte	rfaces		
Source of Support: National Science Foundation				
Total Award Amount: \$11.7M Total	Award Period	d Covered: 9/00-	·8/05	
Location of Project: UW-Madison				
Person-Months Per Year Committed to the Project.	0.5	Cal:	Acad:	Sumr: 0.5
Support: 🛛 Current 🗌 Pending	Submiss	sion Planned in	Near Future	*Transfer of Support
Project/Proposal Title: Ion Energy Control in Plasma Pr	ocessing			
	Ū			
Source of Support: Agilent Technologiex				
Total Award Amount: \$50,000 Total	Award Period	d Covered: 1/01-	12/01	
Location of Project: UW-Madison				
Person-Months Per Year Committed to the Project.	0.5	Cal	Acad <sup>.</sup>	Sumr: 0.5
Support: Current Pending		sion Planned in	Near Future	Transfer of Support
Project/Proposal Title: Microplasmas for Dry Etching				
Source of Support: National Science Foundation				
Total Award Amount: \$270.000 Total	Award Period	d Covered: 4/01-	4/04	
Location of Project:			-	
Person-Months Per Year Committed to the Project	0.5	Cal <sup>.</sup>	Acad.	Sumr: 0.5
*If this project has previously been funded by anot	her agency	please list and	furnish informa	ation for immediately
preceding funding period.		P.Saco not and		
NSE Form 1220 (10/00)				

NSF Form 1239 (10/99)

USE ADDITIONAL SHEETS AS NECESSARY

(See GPG Section II.D.8 for guid	ance on information to include on this form.)	
The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal		
Investigator: Amy Wendt	Other agencies (including NSF) to which this proposal has been/will be	
Support:  Current  Project/Proposal Title: ADVANCE Institutional Transforma	Submission Planned in Near Future   *Transfer of Support tion Award	
Source of Support: NSF – this proposal Total Award Amount: \$3,748,973 Total Aw Location of Project: UW-Madison Person-Months Per Year Committed to the Project. Support: Current Pending Project/Proposal Title:	ard Period Covered: 10/01/01-09/30/06 Cal: Acad: 1 Sumr: Submission Planned in Near Future I *Transfer of Support	
Source of Support:		
I otal Award Amount: \$ I otal Aw	ard Period Covered:	
Location of Project:		
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Project/Proposal Title:		
Source of Support: Total Award Amount: \$ Total Aw Location of Project:	ard Period Covered:	
Person-Months Per Year Committed to the Project.	Cal: Acad: Sumr:	
Support:  Current Pending Project/Proposal Title:	Submission Planned in Near Future 🗌 *Transfer of Support	
Source of Support:		
Total Award Amount: \$ Total Aw	ard Period Covered:	
Location of Project:		
Person-Months Per Year Committed to the Project.	Cal: Acad: Sumr:	
Support: Current Pending	Submission Planned in Near Future   *Transfer of Support	
Project/Proposal Title:		
Source of Support:		
Total Award Amount: \$     Total Award Period Covered:		
Location of Project:		
Person-Months Per Year Committed to the Project.	Cal: Acad: Sumr:	
*If this project has previously been funded by another preceding funding period. NSF Form 1239 (10/99)	agency, please list and turnish information for immediately USE ADDITIONAL SHEETS AS NECESSARY	

### FACILITIES, EQUIPMENT AND OTHER RESOURCES

The facilities needed for this project are an office for WISELI, which will be provided in the College of Engineering, and the rest of the campus, which will serve as the laboratory for the research.

#### Office of the Dean

2610 Engineering Hall 1415 Engineering Drive Madison, WI 53706-1691

Phone: 608/262-3482 Fax #: 608/262-6400

May 8, 2001

Ms. Alice Hogan ADVANCE Program Director National Science Foundation 4201 Wilson Boulevard Arlington, VA 22230

Dear Ms. Hogan:

I am writing to express my most enthusiastic support for the ADVANCE Institutional Transformation Initiative with the National Science Foundation. As you know, I am concerned about the dearth of women in the science and engineering workforce and am committed to doing everything I can to improve the situation here at UW-Madison and nationally. I applaud NSF's foresight in targeting this program to senior women in academic science and engineering. More successful senior women faculty members in our departments pave the way for more women at each step below. I am also pleased that your proposal incorporates attention to younger women in the academic pipeline. Too many of our women students are dropping out or switching to other fields.

I am delighted that the College of Engineering was chosen as the administrative home for the proposal, honored to participate on the Leadership Team, and pleased that so many women faculty in the College of Engineering are members of the Leadership Team or Affiliates. The resulting administrative structure will ensure a campus-wide presence. The College of Engineering will provide space where the Women in Science and Engineering Leadership Institute can be prominently located. I am pleased to be able to cost share \$10,000 per year toward the Executive Administrator, \$2,000 per year for the Celebrating Women in Science and Engineering Symposia and Life Cycle Research Grants, \$5,000 toward the climate surveys and \$10,000 for the development of a WISE Research Resource Booklet.

Thank you, again, for taking the initiative to bring this outstanding opportunity to the University of Wisconsin.

Sincerely,

Paul Steering

Paul S. Peercy Dean



May 7, 2001

Dear Professors Handelsman and Carnes:

I am delighted to provide my strongest endorsement for the ADVANCE Institutional Transformation Initiative with the National Science Foundation. Your proposal is closely aligned with my agenda for the campus. I have long been a champion of gender equity at UW-Madison and clearly announced when I recently became Chancellor that campus climate for faculty and staff was my top priority. As Provost, I supported the Women's Faculty Mentoring Program, the Dual Career Hiring Program, the Gender Pay Equity Initiative, the Sexual Harassment Informational Sessions, and the WISE Dormitory Program. I have ensured that our Committee on Women is a central voice on campus and have implemented initiatives developed by the Committee each year.

I am enthusiastic about your proposed comprehensive approach to improving the recruitment, retention, and advancement of women in science and engineering at UW-Madison, addressing both institutional and personal/professional issues. I am particularly pleased that you have infused rigorous evaluation and scholarship into the proposal, making UW-Madison a living laboratory as we embark on a change in culture. I think your idea to create a Women in Science and Engineering Leadership Institute to coordinate the proposed initiatives will provide the initiative with visibility, cohesion, and provide a point of access for women on campus and on other campuses, administrators, and fund-raisers.

To support and augment your efforts, I am placing endowed chairs for Women in Science and Engineering on the fund-raising goals for the UW Foundation with a target of 20 million dollars. I also support your proposal for a researcher in the Provost's Office to continue institutional research on women beyond the tenure of the proposed contract. Furthermore, Interim Provost Gary Sandefur and I are pleased to commit to the cost shares for the portion of salaries of members of the Provost's Office who work on the initiatives designed to recruit and retain women that will be part of the proposed evaluation and analysis.

We are indeed fortunate to have the two of you directing this initiative. Given your reputations as scholars, your demonstrated commitment to advancing women in academic science, and your past success in bringing initiatives to fruition, I can think of no team better suited to tackle these issues and effect positive and sustainable change. I look forward to working with you on this exciting initiative for our campus and the nation.

Sincerely John D. Wiley Chancellor

cc: Interim Provost Gary Sandefur Vice Chancellor John Torphy

Office of the Chancellor



May 4, 2001

Dear Professors Carnes and Handelsman,

We are writing to express our enthusiastic support for your Institutional Transformation proposal for Women in Science and Engineering that will be submitted to the National Science Foundation's ADVANCE Program. The proposal contains pioneering approaches to studying and addressing the challenging issues that have resulted in a dearth of women in science and engineering. Our Schools and Colleges will benefit from the studies you will conduct, which will help us define the issues and identify interventions to improve the recruitment, retention, and success of women.

Your proposal is well aligned with current campus priorities and we applaud your efforts to include departments of biological and physical science. We have reviewed the cost-sharing presented in the proposal and agree that it accurately reflects our commitments.

Thank you for investing your time and energy in developing this exciting project and best of luck in moving this initiative forward.

Sincerely,

for Mule

Elton Aberle Dean, College of Agricultural and Life Sciences

The Uhy for.

Philip Farrell Dean, School of Medicine

Dun

Daryl Buss Dean, School of Veterinary Medicine

Atully R. Cuta:

Philip Certain Dean, College of Letters and Sciences

Melvin Weinswig Dean, School of Pharmacy

#### MARY PIKUL ANDERSON

University of Wisconsin; Department of Geology and Geophysics; 419 Weeks Hall, Madison, WI 53706

Phone: 608-262-2396; andy@geology.wisc.edu

EDUCATION			
State University of New York at Buffalo	Geology	B.A.	1970
Stanford University	Geology	M.S.	1971
Stanford University	Hydrology	Ph.D.	1973

#### APPOINTMENTS

*Aug. 1985 - present:* Professor of Geology and Geophysics with appointments in the Institute for Environmental Studies (IES) and the Water Resources Management Program, and affiliated with the Center for Limnology, and the Geological Engineering Program.

*Sept. 1973 - June 1975:* Adjunct Assistant Professor of Geology, Southampton College of Long Island University and Visiting Lecturer in Geology at SUNY-Stony Brook (Spring 1974)

#### HONORS

2000 C.V. Theis Award, American Institute of Hydrology

- 1999 Fellow, American Geophysical Union
- 1998 O.E. Meinzer Award, Hydrogeology Division, Geological Society of America
- 1995 WARF Mid-Career Award, The Graduate School, UW-Madison
- *1993* C.C. Furnas Award for outstanding contributions in science by an alumnus of SUNY-Buffalo, SUNY-Buffalo Alumni Association.
- *1992* M.K. Hubbert, Association of Ground Water Scientists and Engineers
- 1986 Invited participan, Dahlem Conference on Resources and World Development, West Berlin

1981 Paper selected for inclusion in the Benchmark Papers in Geology Series

**COURSES TAUGHT INCLUDE**: Hydrogeology, Groundwater Flow Modeling, Contaminant Transport Modeling, Seminar in Hydrogeology, Environmental Geology.

**PAST MEMBERSHIP ON EDITORIAL BOARDS:** Ground Water, Geology, Eos, Jrnl. Of Contaminant Hydrology, Water Resources Research, Hydrological Processes.

National Committees include work with the National Research Council, Office of Technology Assessment (U.S. Congress). USEPA, American Geophysical Union (President of the Hydrology Section 1996-98), National Water Well Assoc., Geological Society of America, International Union of Geodesy and Geophysics, Union Carbide Ag Products Division, Savannah River Site, Earth Science Advisory Committee (1989-93), Committee on Opportunities in Hydrologic Science (National Research Council) 1999-2002.

### **PUBLICATION LIST**

### Books

Wang, H.F. and M.P. Anderson, 1982, Introduction to Groundwater Modeling: Finite Difference and Finite Element Methods, W.H. Freeman and Co., 237 p. REPRINTED, 1995, Academic Press, San Diego.

- Anderson, M.P. and W.W. Woessner, 1992, *Applied Groundwater Modeling: Simulation of Flow and Advective Transport*, Academic Press, 381 p. (Second edition is in preparation)
- Anderson, M.P. and W.W. Woessner, 1994, *Applied Groundwater Modeling: Simulation of Flow and Advective Transport, Japanese edition*, translation copyright, Kyoritsu Shuppan Co., LTD., 246
   p. (Also a Chinese edition published in Taiwan in 2000)

#### Selected Refereed Articles (1993- present)

- M.P. Anderson, and X. Cheng, 1993, Long- and Short-Term Transience in a Groundwater/Lake System in Wisconsin, U.S.A., *Journal of Hydrology* 145, 1-18.
- Cheng, X., and M.P. Anderson, 1993, Numerical simulation of ground-water interaction with lakes allowing for fluctuating lake levels, *Ground Water* 31(6), 929-933.
- Cheng, X., and M.P. Anderson, 1994, Simulating the influence of lake position on groundwater, *Water Resources Research* 30(7), 2041-49.
- Webb, E.K., and M.P. Anderson, 1996, Simulation of preferential flow in three-dimensional heterogeneous conductivity fields with realistic internal architecture, *Water Resources Research* 32(3), 533-546.
- Hunt, R.J., D.P. Krabbenhoft, and Anderson, M.P., 1996, Groundwater inflow measurements in wetland systems, *Water Resources Research* 32(3), 495-508.
- Anderson, M.P., 1997, Characterization of Geological Heterogeneity, in: *Subsurface Flow and Transport: A Stochastic Approach*, Cambridge Univ. Press, pp. 23-43.
- Anderson, M.P., 1997, Basic science required for decision making: geological setting, in: *Subsurface Restoration*, C.H. Ward, J.A. Cherry, M.R. Scalf eds, Ann Arbor Press, p. 17-25.
- Hunt, R.A., D. P. Krabbenhoft, and M.P. Anderson, 1997, Assessing hydrogeological heterogeneity in natural and created wetlands, *Biogeochemistry* 39, 271-293.
- Anderson, M.P., and X. Cheng, 1998, Sensitivity of groundwater/lake systems in the Upper Mississippi River Basin, Wisconsin, USA, to possible effects of climate change, in: Headwater Control IV: *Hydrology, Water Resources and Ecology in Headwaters*, IAHS proceedings, p. 3-8.
- Hunt, R.A., M.P. Anderson and V.A. Kelson, 1998, Improving a complex finite difference groundwater-flow model through the use of an analytic element model, *Ground Water 36(6)*, 1011-1017.
- Kim, K., Anderson, M. P., & Bowser, C. J., 1999, Model Calibration using multiple targets: a case study from Northern Wisconsin, *Ground Water* 37(3), 345-351.
- Anderson, M.P., Aiken, J.S., Webb, E.K., and D.M. Mickelson, 1999, Sedimentology and hydrogeology of two braided stream deposits, *Sedimentary Geology*, 129/3-4, p. 187-199, (invited).
- Kim, K., Anderson, M. P., & Bowser, C. J., 2000, Enhanced dispersion in groundwater caused by temporal changes in recharge rate and lake levels, *Advances in Water Resources* 23, p. 625-635.
- Anderson, M.P., R.J. Hunt, J. Krohelski, and K. Chung, 2001, Using High Hydraulic Conductivity Nodes to Simulate Seepage Lakes, *Ground Water*, in review.
- Anderson, M.P., The Use of Groundwater Temperatures in Hydrogeological Investigations, Reviews in Geophysics, in preparation.

#### **ELIZABETH A. CRAIG**

#### **EDUCATION**

University of Rhode Island, Kingston	Bacteriology	B.S.	1968
Washington University, St. Louis	Microbiology	Ph. D.	1972
St. Louis University, St. Louis	Molecular Virology		1973-75
University of California-San Francisco	Molecular Biology		1976-1979

#### **APPOINTMENTS**

1995-present	Chair, Biomolecular Chemistry, University of Wisconsin
1979-present	Asst., Assoc, Full Professor of Biomolecular (Physiological Chemistry), University
	of Wisconsin
1976-1978	Senior Postdoctoral Fellow, ACS, Univ California, San Francisco
1972-1975	NIH Postdoctoral Fellow, St. Louis University
1968-1972	NIH Predoctoral Trainee, Washington University

### ACADEMIC HONORS AND AWARDS

1981-1986	NIH Research Career Development Award
1986-1991	Romnes Professor Fellowship
1992-1997	Elizabeth Cavert Miller (WARF) Professor
1992-	Steenbock Professor of Microbiological Sciences
1998-	elected to National Academy of Science
1999-	elected to American Academy of Arts and Sciences

#### FEDERAL SERVICE

1986-1990	NIH Genetics Study Section
1976-1978	Frederick Cancer Center Scientific Advisory Board

#### PUBLICATIONS

James. P, Pfund, C. and Craig, E. (1997) Determinants of specificity of Hsp70s. Science, 275:387-389.

Pfund, C., Lopez-Hoyo, N., Ziegelhoffer, T., Schilke, B., Lopez-Buesa, P., Walter, W., Weidmann, M. and Craig, E. (1998) The molecular chaperone Ssb from *S. cerevisiae* is a component of the ribosome-nascent chain complex. EMBO J. *17*:3981-3989.

Yan, W., Schilke, B., Walter, W., Kim, S. and Craig, E. (1998) Zuotin, a ribosome-associated DnaJ molecular chaperone. EMBO J. *17*:4809-4817.

Lopez-Buesa, P., Pfund, C. and Craig, E. (1998) Domain-Domain Communication Determines the Biochemical Characteristics of Hsp70 ATPase Activity, Proc. Natl. Acad. Sci. (USA), 95, 15253-15258.

Voisine C, Craig EA, Zufall N, von Ahsen O, Pfanner N, and Voos W (1999) The protein import motor of mitochondria: unfolding and trapping of preproteins are distinct and separable functions of matrix Hsp70. Cell, *97*:565-74.

Schilke, B, Voisine, C, Beinert, H, and Craig, E. (1999) Evidence for a conserved system for iron metabolism in the mitochondria of *Saccharomyces cerevisiae*. Proc. Natl. Acad. Sci. (USA), 96: 9269-

9276.

Davis, J, Voisine, C. and Craig, E (1999) Intragenic suppressors of Hsp70 mutants: Interplay between the ATPase and peptide-binding domains. Proc. Natl. Acad. Sci. (USA), 96: 9269-9276.

Bukau, B., Duerling, E., Pfund, C and EACraig (2000) Getting newly synthesized protein into shape. Cell. 101:119-122 (minireview).

Voisine, C, Cheng, Y, Ohlson, M, Schilke, B, Hoff, K, Beinert, H, Marszalek, J and Craig, EA (2001) Jac1, a mitochondrial J-type chaperone involved in biogenesis of Fe/S clusters in *S. cerevisiae*. Proc. Natl. Acad. Sci (USA). 98:1483-1488.

Johnson, J and Craig, E (2001) An essential role for the substrate-binding region of Hsp40s in *Saccharomyces cerevisiae* J. Cell Biol. 152:851-856.

Sondheimer, N, Lopez, N, Craig, EA and Linquist, S (2001) The role of Sis1 in the maintenance of the  $[RNQ^+]$  prion. EMBO J, in press.

Bukau, B., Duerling, E., Pfund, C and EACraig (2000) Getting newly synthesized protein into shape. Cell. 101:119-122.

#### **COLLABORATORS:**

Susan Lindquist (University of Chicago) Nikolaus Pfanner (U. Freiberg) Daniel Masison (NIH)

#### **GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS:**

Wei Yan (U. Washington-Fred Hutchison Cancer Ctr.)
Bonnie Baxter (U. Wisconsin)
Helene Eisenmann (U. Wisconsin)
Philip James (U. Wisconsin)
Jill Johnson (U. Wisconsin)
Brenda Shilke (U. Wisconsin)
Bingie Miao (private computer company)
Joerg Becker (Max Planck-Dortmund)
John Halladay (U. Texas)
Rebecca Aron (U. Wisconsin)

#### THESIS ADVISOR AND POSTDOCTORAL ADVISOR:

David Schlessinger (U. Maryland) Brian McCarthy (UCSF)

#### WENDY C. CRONE

# DEPT. OF ENGINEERING PHYSICS, UNIVERSITY OF WISCONSIN-MADISON; 1500 ENGINEERING DRIVE, MADISON, WI 53706

Phone: 608-262-8384; crone@engr.wisc.edu

#### **EDUCATION**

University of Illinois	Engineering Mechanics	BS with Honors January 1990
Brown University	Engineering (Solid Mechanics)	MS May 1991
University of Minnesota	Engineering Mechanics	Ph.D. October 1998

#### **PROFESSIONAL EXPERIENCE**

Assistant Professor, Dept. of Engineering Physics, University of Wisconsin-Madison
Faculty Affiliate, Materials Science Program, University of Wisconsin-Madison
Faculty Affiliate, Dept. of Biomedical Engineering, University of Wisconsin-
Madison
Research Assistant and Extension Instructor, Dept. of Aerospace Engineering and
Mechanics, University of Minnesota
Assistant to the Dean and Director of the Program for Women, Institute of
Technology, University of Minnesota
Process Quality Engineer, GUIDANT Cardiac Pacemakers, Inc., St. Paul, MN
Teaching Assistant, School of Mechanical and Manufacturing Engineering,
University of New South Wales, Australia
Research Assistant, Dept. of Theoretical and Applied Mechanics, University of
Illinois
Research Assistant, Division of Engineering, Brown University

#### MENTORING RELATED PUBLICATIONS

W.C. Crone, "Survive and Thrive: Guided Mentoring for Untenured Faculty," *Women in Engineering Programs Advocates Network National Conference Proceedings* (2000).

- J. Frestedt, W. [Crone] Grebner, K. James, J. Morgan, "Thriving Through the Experience: An Assessment Guide for Graduate and Professional Students," Coalition of Women Graduate Students, University of Minnesota (1997).
- N. Schulz, W.C.C. [Crone] Grebner, and S. Gregory Kohlstedt, "A Proactive Approach to the Retention of Women Graduate Students," *ASEE Annual Conference Proceedings*, Session 3292, 2458-2463 (1994).

#### SELECTED RESEARCH PUBLICATIONS

- W.C. Crone and W.J. Drugan "Comparison of Experiment and Theory for Crack Tip Fields in Ductile Single Crystals," International Congress of Fracture, ICF 10, Honolulu, HI, 2001.
- W.C. Crone, A.N. Yahya, J. Perepezko, "Influence of Grain Refinement on Superelasticity in NiTi," Proceedings of the SEM Annual Conference on Experimental Mechanics, Portland, OR, 2001.
- W.C. Crone, and T. W. Shield, "Experimental Study of the Deformation Near a Notch Tip in Copper and Copper Beryllium Single Crystals," accepted for publication in the *Journal of the Mechanics and Physics of Solids* (2000).

- W.C. Crone, "Compositional Variation and Precipitate Structures of Copper Beryllium Single Crystals Grown by the Bridgman Technique," *Journal of Crystal Growth*, 218, 381-389 (2000).
- W.C. Crone, and K. Sridharan, "Plasma Source Ion Implanted Nickel Titanium for Biomedical Applications," *Proceedings of the International Conference on Shape Memory and Superelastic Technologies* (2000).
- W.C. Crone, P.H. Leo, and T.W. Shield, "Comparisons Between Load Controlled and Displacement Controlled Extensions of NiTi Wires," *Scripta Materialia*, 38(12), 1825-1828 (1998).
- T.W. Shield, P.H. Leo, and W.C.C. [Crone] Grebner, "Quasi-Static Extension of Shape Memory Wire Under Constant Load," *Acta Materialia*, 45(1), 67-74 (1997).
- J.W. Phillips, D. deCamara, M.D. Lockwood, and W.C.C. [Crone] Grebner, "Strength of Silicone Breast Implants," *Journal of Plastic and Reconstructive Surgery*, 97 (6), 1215-1224 (1996).

#### OTHER EVIDENCE OF INTERNATIONAL RECOGNITION AND CONTRIBUTIONS

<u>Invited Speaker:</u> "Symposium on New Faculty for the Academy of the 21st Century," Association of American Colleges and Universities, January 2001, New Orleans, LA.

<u>Panel Moderator:</u> "Life in Graduate School and the Workplace for WISE Women," <u>Caucus Facilitator:</u> "Funding Women's Research and Programs," Women in Higher Education Teleconference, March 2000, Minneapolis, MN

<u>Session Moderator:</u> "The K-12 Experience: Laying the Foundation," Women in Engineering Programs Advocates Network National Conference, June 2000, Washington, DC

<u>Reviewer:</u> National Science Foundation, Mechanics and Materials Program (December 1997 and January 1999); Swiss National Science Foundation, Division of Science and Engineering (June 2000); National Science Foundation, Research Opportunities for Undergraduates, Engineering Education and Centers Division (November 1996)

<u>Invited Young Investigator Participant:</u> Workshop on Nano and Micromechanics of Solids: Emerging Science and Technology, sponsored by NSF, October 1999, Palo Alto, CA

#### **COLLABORATORS (LAST 48 MONTHS)**

University of Wisconsin: R. M. Albrecht, R. Carpick, J. R. Conrad, W. J. Drugan, A. B. Ellis, J. H. Perepezko, K. Sridharan, D. S. Stone
University of Minnesota: P. H. Leo, T. W. Shield

#### GRADUATE AND POSTDOCTORAL STUDENTS ADVISED

Lizhen Tan, Ph.D. student, Materials Science; Dabin Wu, Ph.D. student, Materials Science; Buck Johnson, MS student, Biomedical Engineering

Alief N. Yahya, Postdoctoral Research Associate, Engineering Physics; Mikhail Khoudiakov, Postdoctoral Research Associate, Chemistry (co-advised with Art Ellis)

#### **GRADUATE ADVISOR**

T. W. Shield, Aerospace Engineering and Mechanics, University of Minnesota

#### JOAN F. GILLMAN

24 Hidden Hollow Trail; Madison, WI 53717; (608)262-9982 (Office)

#### **EDUCATION**

Indiana University-Bloomington	Art Education/Radio & Television	BS (Honors)	1963-67
University of Wisconsin-Madison	Graduate courses in Communication Arts		1976-79
University of Wisconsin-Madison	Health Service Administration/Business	M.A.B.	1984-86
University of Wisconsin-Madison	Administrative Development Program		1988-89

#### SPECIAL INDUSTRY PROGRAMS, School of Business, University of Wisconsin-Madison, Director 1996 - Present

Create and direct outreach programs for niche markets for Wisconsin and the upper Midwest. (Including the Family Business Center and a joint Agribusiness Executive Management Education Program with the School of Business, the College of Agriculture and Life Sciences and the University of Wisconsin Extension). This includes:

\* recruitment, training, and evaluating staff;

\* preparation and administration of federal, state, county and city budgets of \$670,000+/yr;

\* oversee the development of reports and educational materials;

\* develop and maintain a working network of UW faculty and staff, SCORE, professional organizations, and government agencies;

\* plan and develop a coordinated program of educational courses for family businesses, agribusinesses and other niche industries;

\* participate in teaching and administration of the above education programs;

\* develop and execute a plan to market the above programs.

\* conduct fundraising from county, city and private partners - \$100,000+

#### SMALL BUSINESS DEVELOPMENT CENTER, School of Business, University of Wisconsin-Madison, Director 1989-1995

Direct small business counseling and outreach programs offered to five Wisconsin counties including:

\* recruitment, training, and evaluation of 4 SBDC permanent and 35 ad hoc staff and students;

\* preparation and administration of federal, state, county and city budgets of \$400,000/yr;

\* oversee the development of reports and educational materials;

\* develop and maintain a working network of UW faculty and staff, SCORE, professional organizations, and government agencies.

Coordinate the development of small business management educational activities including:

\* 90+ small business conferences, workshops and seminars;

\* one-to-one counseling to 180 area small businesses;

\* a Small Business Access Line that provides management advice to 1900 businesses.

Conduct fundraising from county, city and private partners - \$68,000

Responsible for a weekly business column in the Wisconsin State Journal.

#### **Program Director**

#### 1987-1989

Expanded SBDC conferences, seminars and workshops from 35 to 95 programs. Established relationships with the University Outreach function, chambers, city, county and state. Participated as a trainer in small business marketing and management classes. Provided public relations and

developed promotional materials. Reviewed, evaluated course material and recruited instructors. Provided one-to-one business management counseling.

#### UNITED STATES ASSOCIATION FOR SMALL BUSINESS AND ENTREPRENEURSHIP Executive Director 1989-Present

Coordinate the functions of a comprehensive organization of 500 outstanding researchers, scholars, teachers, administrators, and policy makers interested in entrepreneurship and small business.

\* Administer budget, elections, national meeting

\* Attend the International Council for Small Business meetings and act as liaison.

#### THE OPEN SOCIETY, SOROS FOUNDATION Consultant

Develop entrepreneurship centers in Croatia and Bulgaria using the Madison Small Business Development Center model. A flagship center has been developed in Osijek Croatia in coordination with the JJ Strossmayer University of Osijek. These centers will help restore economic viability to the war torn and developing areas.

#### CENTER ON EDUCATION AND TRAINING FOR EMPLOYMENT, THE OHIO STATE UNIVERSITY Trainer 1993-1994

Conducted 2 "Train the trainers" three week courses in Hungary in cooperation with the Globinfo Foundation. Trained teachers to use new teaching techniques to advance entrepreneurship in the unemployed population.

# WAISMAN CENTER FOR MENTAL RETARDATION AND HUMAN DEVELOPMENT,U.W.-MadisonSpecial Assistant to the Director (half time)1984-1987

Assisted director in procurement of non-federal fund raising. Coordinated special projects, public relations. Served as liaison to Friends of the Waisman Center. Analyzed billing and reimbursement services-Clinical Services.

#### DEPARTMENT OF PSYCHOLOGY, University of Wisconsin-Madison Program Supervisor 1980-1984

Supervised 4 federal grants in hypertension, smoking, cancer and geriatrics. Recruited, trained and supervised a staff of 40; managed a \$500,000 budget and coordinated field studies. Coordinated audiovisual production, including 21 major slide-tape shows. Liaison to local and state health agencies, field sites, other UW departments, and medical centers. Prepared applications for federal grants and progress reports.

#### DEPARTMENT OF PREVENTIVE MEDICINE, University of Wisconsin-Madison Research Technician 1977-1980

Coordinated National Institute of Occupational Safety and Health grant, including data management. Devised new methods and procedures to increase systems efficiency and to meet schedule requirements. Coordinated cold and allergy studies for Vicks Pharmaceutics.

MADISON INTERVIEWS, INC Market Researcher (part time)	1975-1977
MADISON PUBLIC SCHOOL SYSTEM - Substitute Teacher	1968-1974
EASTERN SCHOOL, Green County, Indiana - Art Teacher	1967-1968

#### 1997-Present

#### COLLEEN E. HAYES

#### **EDUCATION**

DePauw Univ., Greencastle, IN	Chemistry	B.A.	1965-1969
Univ. of Michigan, Ann Arbor, MI	Biochemistry	Ph.D.	1969-1973
Harvard Univ., Boston, MA	Immunobiology	Postdoc	1975-1977

#### APPOINTMENTS

1990-present	Prof. of Biochemistry, U. of Wisconsin-Madison
1991-94	Editorial Board, Journal of Nutrition
1987	Sabbatical Research in Molecular Biology with Dr. Michael Steinmetz
	Basel Institute for Immunology and Hoffman-La Roche, Basel, Switzerland
1984-89	Assoc. Prof. of Biochemistry, U. of Wisconsin-Madison
1979-84	Assist. Prof. of Biochemistry, U. of Wisconsin-Madison
1977-79	Assist. Res. Sci., Immunobiol. Res. Ctr., U. of WiscMadison

#### HONORS

1965-69	McMahan Scholar, DePauw Univ.
1969	Phi Beta Kappa, Sigma Pi Sigma honor societies
1969-71	National Science Foundation Predoctoral Fellow
1971-73	American Cancer Society Predoctoral Fellow
1973	Sigma Xi Scientific Honorary Society
1975-78	Helen Hay Whitney Postdoctoral Research Fellow
1978-81	National Foundation March of Dimes Basil O'Connor Fellow
1983-88	Leukemia Society of America Scholar
1987-91	Romnes Fellow
1997-99	Vilas Associate Award
1999	Madison Metropolitan Women's Club Multiple Sclerosis Research Award

#### National Service

1988-1993	Member, National Institutes of Health Small Business Innovation Research Study
	Section
1991-1995	Editorial Board, J. Nutrition
1994-present	Chair, National Institutes of Health Small Business Innovation Research Study
	Section
1993-present	Consultant; National Cancer Institute
1980-present	Reviewer, J. Immunol., J. Nutrition, Infection and Immunity
1990-present	Reviewer, Department of Veteran's Affairs, Immunology Section; USDA, Nutrition
	and Immunology Sections

#### Inventions

DeLuca, H.F., C.E. Hayes, and M.T. Cantorna. 1996. Multiple Sclerosis Treatments. US Patent #5716946

DeLuca, H.F., C.E. Hayes, and M.T. Cantorna. 1996. Rheumatic Disease Treatments. US Patent #5891865

- DeLuca, H.F., C.E. Hayes, M.T. Cantorna, H.W. Sollinger, and D.A. Hullett. 1997. Use of Vitamin D Compounds to Prevent Transplant Rejection. US Patent #P98272US pending.
- Hayes, C.E., and F.E. Nashold 1999. Inflammatory Bowel Disease Prevention and Treatments. US Patent pending.

#### Publications

- Cantorna, M.T., W.D. Woodward, C.E. Hayes, and H.F. DeLuca. 1,25-Dihydroxyvitamin D<sub>3</sub> is a positive regulator for the two anti-encephalitogenic cytokines TGF- 1 and IL-4. J. Immunol. 160:5314-5319 (1998).
- Hullett, D. A., M. T. Cantorna, C. Redaelli, J. Humpal-Winter, C.E. Hayes, H.W. Sollinger, and H.F. DeLuca. Prolongation of allograft survival by 1,25-dihydroxyvitamin D<sub>3</sub>. Transplantation 66:824-828 (1998).
- Hayes, C. E., F.E. Nashold, F. Enrique Gomez, and K.A. Hoag, "Retinoids and Immunity", in <u>Handbook of Experimental Pharmacology, Retinoids</u>, H. Nau and W.S. Blaner, Eds. Springer-Verlag, 1999, pp. 589-610.
- Hayes, C.E. "Climate as a Risk Factor Possible Role of Vitamin D" in <u>Environmental Factors in</u> <u>Multiple Sclerosis</u>, G. Ebers, Eds. Parexel MMS Europe Ltd., Worthing UK, 1999, pp. 20-22.
- Steckley, J., D. Dyment, D. Sadovnick, N. Risch, C. Hayes, G. Ebers, and the Canadian Collaborative Study Group. Genetic analysis of vitamin D related genes in Canadian multiple sclerosis patients. Neurology, 54:729-732 (2000).
- Nashold, F.E., D.J. Miller, and C.E. Hayes. 1,25-Dihydroxyvitamin D<sub>3</sub> decreases macrophage accumulation in the CNS of mice with experimental autoimmune encephalomyelitis. J. Neuroimmunology 103:171-179 (2000).
- Hoag KA. Clise-Dwyer K. Lim YH. Nashold FE. Gestwicki J. Cancro MP. Hayes CE. A quantitative-trait locus controlling peripheral B-cell deficiency maps to mouse Chromosome 15. Immunogenetics. 51:924-929 (2000).
- Hayes, C.E. Vitamin D: a Natural Inhibitor of Multiple Sclerosis. Proc. Nutr. Soc. 59:1-5 (2000).
- Lentz, V. M., A.P. Sah, R. G. Fields, C. E. Hayes, and M. P. Cancro. Peripheral B cell longevity is maintained through repeated signaling via the lineage-specific *Bcmd-1* pathway. Submitted (2000).
- Nashold, F.E., Hoag K.A., Hayes C.E. *Rag-1*-dependent cells are necessary for 1,25dihydroxyvitamin D<sub>3</sub> inhibition of experimental autoimmune encephalomyelitis and induction of T cell tolerance in the CNS. Submitted (2000).

#### JANET SHIBLEY HYDE Department of Psychology University of Wisconsin

#### **EDUCATION**

Oberlin College	Mathematics	B.A., 1969
University of California, Berkeley	Psychology	Ph.D., 1972

#### **APPOINTMENTS**

- 1999- Helen Thompson Woolley Professor of Psychology and Women's Studies, University of Wisconsin–Madison
- 1998-2001 Chair, Department of Psychology, University of Wisconsin–Madison
- 1986 Professor of Psychology and Women's Studies, University of Wisconsin–Madison
- 1986-1990 Director, Women's Studies Research Center, University of Wisconsin–Madison
- 1985-1986 Acting Provost, Denison University
- 1983-1986 Professor of Psychology, Denison University
- 1979-1983 Associate Professor of Psychology, Denison University
- 1976-1979 Associate Professor of Psychology, Bowling Green State University
- 1972-1976 Assistant Professor of Psychology, Bowling Green State University

#### PUBLICATIONS

(i) Most closely related

- \*\*Kling, K. C., Hyde, J. S., Showers, C., & \*\*Buswell, B. (1999). Gender differences in self-esteem: A meta-analysis. <u>Psychological Bulletin, 125</u>, 470-500.
- Clark, R., Hyde, J. S., Essex, M. J., & Klein, M. H. (1997). Length of maternity leave and quality of mother-infant interactions. <u>Child Development, 68</u>, 364-383.
- Hyde, J. S., Klein, M. H., Essex, M. J., & Clark, R. (1995). Maternity leave and women's mental health. <u>Psychology of Women Quarterly, 19</u>, 257-285.
- Hyde, J. S., Fennema, E., \*\*Ryan, M., \*\*Frost, L. A., & \*\*Hopp, C. (1990). Gender comparisons of mathematics attitudes and affect: A meta-analysis. <u>Psychology of Women Quarterly, 14</u>, 299-324.
- Hyde, J. S., Fennema, E., & \*\*Lamon, S. (1990). Gender differences in mathematics performance: A meta-analysis. <u>Psychological Bulletin, 107</u>, 139-155.

(ii) Other publications

- \*\*Durik, A.M., Hyde, J. S., & Clark, R. (2000). Sequelae of cesarean and vaginal deliveries: Psychosocial outcomes for mothers and infants. Developmental Psychology, 36, 251-260.
- \*\*Jaffee, S. R. & Hyde, J. S. (2000). Gender differences in moral orientation: A meta-analysis. <u>Psychological Bulletin, 126</u>, 703-726.
- \*\*Plant, E. A., Hyde, J. S., Keltner, D., & Devine, P. G. (2000). The gender stereotyping of emotions. <u>Psychology of Women Quarterly, 24</u>, 81-92.
- Price, K. C., Hyde, J. S., & Coe, C. L. (1999). Matrilineal transmission of birth weight in the Rhesus monkey (*Macaca mulatta*) across several generations. <u>Obstetrics & Gynecology</u>, 94, 128-134.
- Vandell, D. L., Hyde, J. S., \*\*Plant, E. A., & Essex, M. J. (1997). Fathers and "others" as infant care providers: Predictors of parents' well-being and marital satisfaction. <u>Merrill-Palmer</u> <u>Quarterly, 43</u>, 361-385.

- DeLamater, J. D. & Hyde, J. S. (1998). Essentialism vs. social constructionism in the study of human sexuality. Journal of Sex Research, 35, 10-18.
- Byrd, J. E., Hyde, J. S., DeLamater, J. D. & Plant, E. A. (1998). Sexuality during pregnancy and the year postpartum. Journal of Family Practice, 47, 305-308.

Hyde, J. S., DeLamater, J. D., & \*\*Hewitt, E. (1998). Sexuality and the dual-earner couple. <u>Journal</u> of Family Psychology, 12, 354-368.

- Hyde, J. S., Essex, M. J., Clark, R., Klein, M.H., & Byrd, J. E. (1996). Parental leave: Policy and research. Journal of Social Issues, 52(3), 91-109.
- Hyde, J. S. & \*\*McKinley, N. M. (1993). Beliefs about the consequences of maternal employment for children: Psychometric analyses. <u>Psychology of Women Quarterly, 17</u>, 177-192.

\*Undergraduate student, \*\*Graduate student

#### Synergistic Activities

I am the author of an undergraduate textbook, <u>Half the Human Experience: The Psychology of</u> <u>Women</u> (5<sup>th</sup> ed., 1996, Houghton-Mifflin), which is studied by perhaps 10,000 students around the nation each year.

From 1996 to 1999 I served as Director of the Women Faculty Mentoring Program at the University of Wisconsin. I have a tireless commitment to mentoring women faculty and graduate students in ways that transform the university.

From 1990 to 1992 I served as Associate Vice Chancellor at the University of Wisconsin, with the responsibility of promoting gender equity for faculty and academic staff. This activity again demonstrates my experience with and deep commitment to working on such issues.

#### COLLABORATORS

(i) Collaborators last 48 months: Alibali, M.W., Univ. of Wisconsin (UW); Buswell, B., UW; Byrd, J., Dean Medical Center; Caplan, P., not known; Clark, R., UW; Coe, C., UW; Conley, T., UCLA; Crawford, M., U. of Connecticut; DeLamater, J., UW; Durik, A., UW; Essex, M., UW; Klein, M., UW; Goldsmith, H., UW; Jadack, R., Ohio State; Jaffee, S., UW; Kling, K., St. Cloud State; Mezulis, A., UW; Oliver, M.B., Penn State; Plant, E.A., Florida State; Price, K., UW; Richardson, J.T.E., University of Sheffield, UK; Showers, C., U. of Kansas; Vandell, D., UW; (ii) Advisors: Graduate advisor: W. Meredith, Univ. of California, Berkeley (emeritus) (iii) Thesis Advisor, last 5 years:

Carlson, J. P., Division of Information Technology, University of Wisconsin

Frost, L. A., Private Practice

Plant, E.A., Department of Psychology, Florida State University

Jaffee, S. R., Postdoc, Institute of Psychiatry, London

Mezulis, Amy H., Graduate Student, University of Wisconsin

Durik, Amanda M., Graduate Student, University of Wisconsin

#### NANCY PULANE KELLER Associate Professor Phone: 608 262 9795 Email: npk@plantpath.wisc.edu

**EDUCATION** 

Penn State, State College, PA	Biological Sciences	B.S	1977
Cornell University, Ithaca, NY	Plant Pathology	M.S.	1985
Cornell University	Plant Pathology	Ph.D.	1990

#### APPOINTMENTS

University of Wisconsin, Associate Professor, present Texas A&M University, Adjunct Professor, present Texas A&M University, Associate Professor, 1997-2000 Texas A&M University, Assistant Professor, 1991-1997

#### **PROFESSIONAL AFFILIATIONS**

Sigma Xi, American Phytopathological Society (APS), APS Postharvest & Mycotoxicology Committee, AAAS, American Society for Microbiology (ASM), American Peanut Research and Education Society, Food Research Institute (UW)

#### **PROFESSION SERVICES**

Associate Editor for Phytopathology 1996-97 Ad Hoc Reviewer for Phytopathology, Plant Disease, MGG, AEM, Mol Microbiol and other peer reviewed journals 1991-2001 Ad Hoc Reviewer for USDA competitive grants 1993-2001 Panel member of USDA competitive grants 1999 Panel member of NSF metabolic biochemistry competitive grants 1999 Manager of *Aspergillus* Chromosome IV Sequencing Project 1998-2001 President Division O ASM 2001 Manager of Fungal Genetics Meeting, Asilomar 2001

#### **Refereed Journal Articles**

 Wilson R A, Gardner H W, Keller N P (accepted) Cultivar-dependent expression of a maize lipoxygenase responsive to *Aspergillus* and *Fusarium* colonization Mol Plant Microbe Inter
 Calvo A, Gardner H W, Keller N P (accepted) Genetic connection between fatty acid metabolism and sporulation in *Aspergillus nidulans*. J Biol Chem

3. HICKS J, LOCKINGTON R A, STRAUSS J, DIERINGER D, KUBICEK C, KELLY J, KELLER N (2001) RCOA HAS PLEIOTROPIC EFFECTS ON *ASPERGILLUS NIDULANS* CELLULAR DEVELOPMENTAL. MOL MICROBIOL 39:1482-1493.

4. Shimizu K., Keller N. P. (2001) Genetic involvement of a CAMP-dependent protein kinase in a G protein signaling pathway regulating morphological and chemical transitions in *Aspergillus Nidulans* Genetics157: 591-600

5. TAG A, HICKS J, GARIFULLINA G, BEREMAND M, KELLER N (2000) G-PROTEIN SIGNALING MEDIATES DIFFERENTIAL PRODUCTION OF TOXIC SECONDARY METABOLITES. MOL MICROBIOL 38:658-665.

6. Spencer P, Agnelli F, Williams H J, Keller N P, Sulikowski G A (2000) Biosynthetic studies on the fungal secondary metabolites CP-225,917 and CP-263,114 J Amer Chem Soc 122:420-421

7. Keller N P, Watanabe C, Kelkar H, Adams T H, Townsend C (2000) Requirement of monooxygenase-mediated steps for sterigmatocystin biosynthesis by *Aspergillus nidulans*. Appl Environ Microbiol. 66:359-362.

8. Burow G B, Gardner H W, Keller N P (2000) Characterization of an *Aspergillus* responsive peanut seed lipoxygenase. Plant Mol Biol 42:689-701.

9. Calvo A, Hinze L, Gardner H W, Keller N P (1999) Sporogenic effect of polyunsaturated fatty acids on *Aspergillus* spp. development. Appl Environ Microbiol 65:3668-3673

10. Butchko R A E, Adams T H, Keller N P (1999) Aspergillus nidulans mutants defective in stc gene cluster regulation. Genetics 153:715-20

11. Fernandes M, Keller N P, Adams T. (1998) Sequence-specific binding by *Aspergillus nidulans* AflR, a C<sub>6</sub> zinc cluster protein regulating mycotoxin biosynthesis. Mol Microbiol 28:1355-1365.

#### M. ELIZABETH MEYERAND

#### EDUCATION

Yale University	Biophysics & Biochemistry	B.S.	1990
University of North Carolina	Biomedical Engineering	M.S.	1992
Medical College of Wisconsin	Biophysics	Ph.D.	1996

#### **APPOINTMENTS**

10/98-present	Assistant Professor of Medical Physics, University of Wisconsin, Madison, WI
4/98-9/98	Research Assistant Professor, Dartmouth Medical School, Hanover, NH
2/96-3/98	Research Associate, Dartmouth Medical School, Hanover, NH

#### **PUBLICATIONS (5 publications closely related to the proposed project)**

- Quigley M., D. Cordes, G. Wendt, P. Turski, C. Moritz, K. Arfanakis, V. Haughton, M.E. Meyerand (2001) Effect of Focal and Non-focal Cerebral Lesions on Functional Connectivity: An fMRI Study. *AJNR* 22: 294-300.
- Stein, T.D., C. Moritz, M. Quigley, D. Cordes, V. Haughton, M.E. Meyerand (2000) Functional Connectivity in the Thalamus and Hippocampus Studied with fMRI. *AJNR* 21: 1397-1401
- Nybakken, G.E., M. Quigley, C. Moritz, D. Cordes, V. Haughton, M.E. Meyerand (2000) Test-Retest Precision of two fMRI Data Processing Techniques: Independent Component Analysis and Student t-test. *Neurorad.*. (*submitted*)
- Quigley, M., V. Haughton, D. Cordes, G. Wendt, P. Turski, C. Moritz, K. Arfanakis, M. E. Meyerand (2000) AComparison of Independent Component Analysis and Student-t analysis for Processing Clinical Functional Magnetic Resonance Images. *AJNR (in press)*
- Arfanakis K., D. Cordes, V. Haughton, C. Moritz, M. Quigley, M.E. Meyerand (2000) Combining Independent Component analysis and Correlational Analysis to Probe Interregional Connectivity in fMRI Task Activation Data sets. *Magnetic Resonance Imaging* 18: 921-930

#### **PUBLICATIONS (5 other significant publications)**

- Meyerand, M.E., J.M. Pipas, A. Mamourian, T. Tosteson and J.F. Dunn (1999) Classification of Clinically Identified Brain Tumors Using Single Voxel MR Spectroscopy. *AJNR* 20(1): 117-123.
- Dunn, J.F., Y. Zaim Wadghiri and M.E. Meyerand (1999) Regional Heterogeneity of Brain to BOLD MR Imaging. *Magn. Reson. Med.* 41: 850-854.
- Moritz, C., M.E. Meyerand, D. Cordes, V. Haughton (2000) Functional MR Imaging Activation After Finger Tapping Has Shorter Duration in the Basal Ganglia Than in the Sensorimotor Cortex. *AJNR* **21**, 1228-1234 (2000)
- Moritz, C., V. Haughton, D. Cordes, M.E. Meyerand (2000) Whole Bbrain Functional MR Iimaging Activation From a Finger-tapping Task Examined With Independent Component Analysis. *AJNR* 21: 1629-1635
- Cordes, D., V. Haughton, G. Wendt, P. Turski, C. Moritz, M. Quigley, K. Arfanakis, M.E. Meyerand (2000) Mapping Functionally Related Regions of Brain with Functional Connectivity MRI (fcMRI). *AJNR* 21: 1636-1644.

#### SYNERGISTIC ACTIVITIES

- Development of Independent Component Analysis (ICA) methods for processing functional MRI data for use in clinical and neuropsychiatry applications
- Development of a clinical fMRI database to be used in training clinical personnel re: the benefits of a fMRI exam
- Membership and participation in the minority affairs committee of the University of Wisconsin Neuroscience Training Program
- Development of new methods to examine functional connectivity using fMRI (Cordes et al., *AJNR* 2000)

#### **COLLABORATORS AND OTHER AFFILIATIONS**

- (i) Collaborators: University of Wisconsin: Haughton V., Hermann B., Moritz C., Sorenson J., Stein T.D., Turski, P., Wendt G. Dartmouth Medical School: Saykin A., Dunn J.F., Tosteson T., Mamourian A.
- (ii) Undergraduate and Graduate Advisors: Medical College of Wisconsin: Hyde J.S., Jesmanowicz A.J., University of California – San Diego: Wong E.C., University of North Carolina: Kwock L., Yale University: Gore J.C.
- (iii) *Thesis Advisor and Postgraduate-Scholar Sponsor:* Postgraduate-sponsor: Cordes D. (University of Washington –

Seattle), M. Quigley (University of Wisconsin)

#### ANNE S. MINER

#### **EDUCATION**

Stanford University	Ph.D.	1985	Business
Stanford University	M.S.	1980	Sociology
Radcliffe/Harvard	B.A.	1962	English/Pre-Med

#### APPOINTMENTS

Professor	School of Business, University of Wisconsin-Madison	2000
Associate Professor	School of Business, University of Wisconsin-Madison	1992-2000
Assistant Professor	School of Business, University of Wisconsin-Madison	1985-1992
Assistant to the President	Stanford University	1971-1978
Assistant Director, Annual FundStanford University		
Executive Vice President	Tolos Associates, Palo Alto, CA	1966
Research Assistant	Department of Psychiatry, Stanford University	1962-1965

#### PUBLICATIONS MOST CLOSELY RELATED TO THE PROPOSED PROJECT

- Miner, Anne S., Ji-Yub Kim, Ingo Holzinger and Pamela Haunschild. 1999. "Fruits of failure: Organizational level failure and population level learning." In Advances in Strategic Management: Population Level Learning and Industry Change. (Eds. Anne S. Miner and Philip Anderson). Stamford, CT: JAI Press. 187-220.
- Miner, Anne S. and Philip Anderson. 1999. "Industry and population level learning: Organizational, interorganizational and collective learning processes." In <u>Advances</u> <u>in Strategic Management: Population Level Learning and Industry Change</u>. (Eds. Anne S. Miner and Philip Anderson.) Stamford, CR: JAI Press. 1-32.
- Haunschild, Pamela and Anne S. Miner. 1997. Modes of interorganizational imitation: The effects of outcome salience and uncertainty. *Administrative Science Quarterly*, 42: 472-500.
- Amburgey, Terry and Anne S. Miner. 1992. "Strategic momentum: The effects of history, strategic position and structure on merger activity." *Strategic Management Journal*. (13): 335-348.
- Moorman, Christine and Anne S. Miner. 1997. The impact of organizational memory in new product performance and creativity. *Journal of Marketing Research*. Special Issue

#### FIVE OTHER RELATED AND UNRELATED SIGNIFICANT PUBLICATIONS

- Miner, Anne S., Paula Bassoff and Christine Moorman. 2001. "Contours of organizational improvisation and learning." Provision acceptance, *Administrative Science Quarterly*.
- Miner, Anne S., Michael DeVaughn, Dale Eesley and Thekla Rura. 2000. "The magic beanstalk vision of university venture formation." In <u>The Entrepreneurship</u> <u>Dynamic.</u> (Eds. Kaye Schoonhoven and Elaine Romanelli). Stanford, CA: Stanford University Press. Forthcoming.
- Moorman, Christine and Anne S. Miner. 1998. "Organizational improvisation and organizational memory." *Academy of Management Review*. Vol. 23, No. 4, 698-723.
- Moorman, Christine and Anne S. Miner. 1998. "The convergence of planning and execution: Improvisation in new product development." *Journal of Marketing*. 61.1-20.
- Miner, Anne S. 1991. Organizational evolution and the social ecology of jobs. *American Sociological Review*. 56: 772-785.
## **Synergistic Activities**

- 1. Design and teach required MBA and Executive MBA classes on technology strategies, including problems of organizational learning from other organizations and challenges in dealing with fast-moving pervasive technologies, including contemporary internet and ethical issues.
- 2. Co-Chair, UW-TEC, 1995-1999, campus-wide group linking the Schools of Engineering, Business, and the College of Agriculture and Life Sciences. This group sponsors three technology-related prizes, but also facilitates faculty involvement in technology ventures, provides some seed funding, and sponsors seminars.
- 3. Business-School organizer of the G. Steven Burrill Technology Business Plan competition for best technology based business plan submitted by a student team with both business and science/technology background (sponsored by UW-TEC).
- 4. Participant in Hewlett Packard grant spearheaded by School of Engineering to investigate innovative uses of HP's E-Speak for curriculum development and delivery, and in research...
- 5. Created experimental courses in School of Business on: Strategic Management of Breakthrough Platform Technologies: The Case of the Life Sciences; Resource Seminar on Technology Entrpreneurship (associated with Burill Prize; involves community entrepreneurs); International Strategic Management of Technology.
- 6. Regularly participated in annual program to encourage women high school students to consider science careers.

## (i) COLLABORATORS

Philip Anderson, School of Business, Dartmouth College Michael DeVaughn, University of Wisconsin (doctoral student) Dale Eesley, University of Wisconsin (doctoral student) Ingo Holzinger, University of Wisconsin (doctoral student) Ji-Yub Kim, Dartmouth, U. Southern California (postdoc; Asst. Professor, Fall 2001) Divakaran Liginlal, University of Wisconsin (Business) Pamela Haunschild, Stanford University Christine Moorman, University of Wisconsin; now Duke University Craig Olson, University of Wisconsin Sri Raghavan, University of Wisconsin (doctoral student) David Robinson, University of Wisconsin doctoral student; now Texas Tech Thekla Rura-Polley, University of Technology, Sydney, Australia Andreas Schwab, University of Wisconsin doctoral student; now University of Mississippi Raj Veeramani, University of Wisconsin (Engineering) (ii) Own Graduate and Postdoctoral Advisors James G. March, School of Business, Stanford University Jeffrey Pfeffer, School of Business, Stanford University W. Richard Scott, Department of Sociology, Stanford University Thesis Advisor and Postgraduate-Scholar Sponsor. (iiii) Ji-Yub Kim, Dartmouth College. Postdoc; Asst. Prof. U. Southern California, Fall 2001. David Robinson, Texas Tech Thekla Rura-Polley, University of Technology, Sidney, Australia Andreas Schwab. University of Mississippi. Gary Mischke, University of Manitoba Total students whose completed dissertations chaired or co-chaired: 5. I have not sponsored any

post-docs.

## HARRIET BLACK NEMBHARD

Department of Industrial Engineering University of Wisconsin-Madison 1513 University Avenue Madison, WI 53706 Tel: (608) 265-9776 Email: hbnem@engr.wisc.edu

## EDUCATION

Claremont McKenna College	Management	B.A.	1990
Arizona State University	Industrial Engineering	B.S.E.	1990
The University of Michigan	Industrial and Operations Engineering	M.S.E.	1993
The University of Michigan	Industrial and Operations Engineering	Ph.D.	1994

## **APPOINTMENTS**

6/98 – present University of Wisconsin-Madison, Dept. of Industrial Engineering, Assistant
Professor
9/94 – 5/98 Auburn University, Dept. of Industrial and Systems Engineering, Assistant Professor

## PUBLICATIONS RELATED TO PROPOSED PROJECT

- 1. Nembhard, H. B. and Kao, M.-S. (2000) "Implementing SPC in a Simulation Model for Manufacturing Transitions," to appear in *Quality Engineering*.
- 2. Nembhard, D. A. and Nembhard, H. B. (2000). "A Demerits Control Chart for Autocorrelated Data," *Quality Engineering*, 13, 2, 179-190.
- 3. Nembhard, H. B. (1998). "Simulation Using the State-Space Representation of Noisy Dynamic Systems to Determine Effective Integrated Process Control Designs," *IIE Transactions*, 30, 3, 247-256.
- 4. Nembhard, H. B. and Mastrangelo, C. M. (1998). "Integrated Process Control for Startup Operations," *Journal of Quality Technology*, 30, 3, 201-211.
- 5. Nembhard, H. B. and Birge, J. R. (1998). "A Startup Procedure for Process Industries Using a Multiple Objective Nonlinear Program," *IIE Transactions*, 30, 4, 291-300.

## **OTHER SIGNIFICANT PUBLICATIONS**

1. Nembhard, H. B. and Nembhard, D. A. (2001). "The Use of Bayesian Forecasting to Make Process Adjustments During Transitions," to appear in *European Journal of Operations Research*.

- 2. Nembhard, H. B. (2001). "Controlling Change: Process Monitoring and Adjustment During Transition Periods," to appear in *Quality Engineering*.
- 3. Nembhard, H. B., Shi, L., and Park, C. S. (2000). "Manufacturing Transitions as Real Options in an E-Commerce Environment," *The Engineering Economist*, 45, 3, 232-258.
- Nembhard, H. B., Shi, L., and Aktan, M. (2000). "A Real Options Design for Quality Control Charts," *Proceedings of the 2000 Winter Simulation Conference* (ed. J. A. Joines, R. R. Barton, P. Fishwick, and K. Kang).
- Nembhard, H. B. and Park, C. S. (1999). "Capturing Manufacturing Transitions Using Real Options," *Proceedings of the 1999 Industrial Engineering Research Conference* (ed. D. Taylor, E. Malstrom, J. Watson, and K. Standley).

## COLLABORATORS

None other than those listed in above publications.

## **CURRENT GRADUATE STUDENTS**

Ming-Shu Kao, Ph. D. expected May 2001 René Valverde, Ph.D. expected December 2002 Mehmet Aktan, Ph.D. expected May 2003 Ayse Gurses, Ph.D. expected December 2003

## **GRADUATE ADVISOR**

Dr. John R. Birge, Northwestern University, Dean of Engineering

## SUZANNE PINGREE

EDUCATION				
University of California, Santa Barbara, CA		Art History	B.S.	1967
Stanford University		Communication	M.A.	1973
Stanford University		Communication	Ph.D.	1975
Appointments				
1981-Present	Professor, Life Scienc	es Communication		
1975-1981	Lecturer, Women's St	udies Program		
	Biology and Psychology	ogy of Women		
	Mass Media and the S	Sexes		

Dr. Pingree is Professor of Life Sciences Communication and Chair of Family and Consumer Communication, as well as a long-time member of the Women Studies Program. She has held visiting positions at Murdoch University (Perth, Western Australia), the University of California at Santa Barbara, Stanford University and the University of Lund, Sweden.

## PUBLICATIONS

Pingree, S., Hawkins, R.P., Hitchon, J., Gilligan, E., Radler, B., Kahlor, L., Gorham, B.W., Kolbeins, G.H., Schmidt, T., & Kannaovakun, P. (in press). If College Students are Appointment Television Viewers ... *J. Broadcasting and Electronic Media*.

Hawkins, R.P., Pingree, S., Hitchon, J., Gorham, B.W., Kannaovakun, P., Kahlor, L., Gilligan, E., Radler, B., Kolbeins, G.H., & Schmidt, T. (in press) Predicting Selection and Activity in Television Genre Viewing. *Media Psychology*.

Gustafson, D.H., Hawkins, R.P., Pingree, S., McTavish, F., Arora, N.K., Mendenhall, J., Cella, D.F., Serlin, R.C., Apantaku, F.M., Stewart, J., & Salner, A. (in press) Effect of computer support on younger women with breast cancer. *J. General Internal Medicine*.

Shaw, B.R., McTavish, F., Hawkins, R.P., Gustafson, D.H., & Pingree, S. (2000) Experiences of women with breast cancer: Exchanging social support over the CHESS computer network. *J. Health Communication*, 5, 135-139.

Pingree, S., Hawkins, R.P. & Botta, R.A. (2000) The effect of family communication patterns on young people's science literacy. *Science Communication*, 22(2), 115-132.

Gustafson, D.H., Hawkins, R.P., Boberg, E., Pingree, S., Serlin, R.E., Graziano, F., and Chan, C-L. "Impact of a Patient-centered, Computer-based Health Information Support System." *American Journal of Preventive Medicine*, 16(1), 1-9, 1999. Smaglik, P., Hawkins, R.P. and Pingree, S., with Gustafson, D.H., Boberg, E.W., and Bricker, E. (1998) The quality of interactive computer use among HIV-infected individuals. *J. of Health Communication*, 3(1), 53-79.

Hawkins, R.P., Pingree, S., Gustafson, D.H., Boberg, E.W., Bricker, E., McTavish, F., Wise, M., and Owens, B. (1997), "Aiding Those Facing Health Crises: The Experience of the CHESS Project." In: Street, R., W. Gold, & T. Manning (eds), *Health promotion and interactive technology: Theoretical applications and future directions*. Hillsdale, NJ: Lawrence Erlebaum Associates, 79-102.

Pingree, S., Hawkins, R.P., Gustafson, D.H., Boberg, E., Bricker, E., Wise, M., Behre, H. & Hsu, E. (1996) Will the disadvantaged ride the information highway? Hopeful answers from a computer-based health crisis system. *Journal of Broadcasting and Electronic Media*, 40(3), 331-353.

## **MARJORIE A. ROSENBERG**

## **EDUCATION**

INSTITUTION	DEGREE	YEAR	FIELD OF STUDY
University of Michigan	B.S.	1976	Mathematics
University of Michigan	M.S.	1977	Mathematics
University of Michigan	A.M.	1989	Statistics
University of Michigan	Ph.D.	1994	Business

## APPOINTMENTS

Current Posit	ion Assistant Professor, University of Wisconsin-Madison, School of Business and Department of Biostatistics and Medical Informatics
1997	Appointment on Program Faculty in Dept of Preventive Medicine, Population
	Health Program, University of Wisconsin Medical School, Madison, WI
1996	Joint appointment with Department of Biostatistics, University of Wisconsin
	Medical School, Madison, WI
1994	Assistant Professor, University of Wisconsin School of Business, Madison, WI
198894	Ph.D. student, University of Michigan Business School, Ann Arbor, MI
197788	Actuary, Allstate Life Insurance Company, Northbrook, IL

## **RELATED PUBLICATIONS**

- Frees, E.W., Kung, Y.C., Rosenberg, M.A., Young, V.R., and Lai S.W., Forecasting Social Security Actuarial Assumptions, North American Actuarial Journal, October 1997, Volume 1, Number 4, pp. 49 - 82.
- Rosenberg, M., A Statistical Control Model for Utilization Management Programs, North American Actuarial Journal, Volume 2, Number 2, April 1998, pp. 77 87.
- Sze, Michael and Rosenberg, Marjorie, Overview of the Project: Impact of Mortality Improvement on Social Security: Canada, Mexico, and the United States, North American Actuarial Journal, October 1998, Volume 2, Number 4, pp. 10 -12.
- Rosenberg, Marjorie and Luckner, Warren, Summary of Survey Results of Impact of Mortality Improvement on Social Security: Canada, Mexico, and the US, North American Actuarial Journal, October 1998, Volume 2, Number 4, pp. 64 - 82.
- Rosenberg, M., Andrews, R., and Lenk, P., A Hierarchical Bayesian Model for Predicting the Rate of Non-Acceptable In-Patient Hospital Utilization, Journal of Business and Economic Statistics, Volume 17, Number 1, January 1999, pp. 1 8.
- Rosenberg MA, Fryback DG, Lawrence WF. Computing population-based estimates of healthadjusted life expectancy. Medical Decision Making, 1999; 19:90-97.
- Rosenberg, M. and Young, V., A Bayesian Approach to Time Series, North American Actuarial Journal, Volume 3, Number 2, April 1999, pp. 130-43.

- **Rosenberg**, M. and Griffith, J., A Management Tool for Controlling the Rate of Non-Acceptable Inpatient Hospital Claims, **Inquiry**, Volume 36, Number 4, Winter 1999/2000, pp. 461 - 470.
- Foster, S., McMurray, J., Linzer, M., Leavitt, J., Rosenberg, M., Carnes, M., Assessing the Climate: The Gender Climate Survey Report from a Midwest Academic Health Center. Academic Medicine, Volume 75, No. 6, June 2000, 79 - 86.
- Fryback, D., Stout, N., Rosenberg, M., An Elementary Introduction to Bayesian Computing Using WinBUGS. International Journal of Technology Assessment in Health Care. To appear in Winter 2001.
- Crandall, C., Zitzelberger, T., **Rosenberg, M**., Winner, C., and Holaday, L., Information Technology and the Centers of Excellence. To appear in the **Journal of Women's Health**.
- **Rosenberg**, M., A Decision-Theoretic Method for Assessing a Change in the Rate of Non-Acceptable Inpatient Claims. To appear in the **Journal of Health Services and Outcomes Research Methodology**.
- **Rosenberg, M**., A Statistical Method for Monitoring a Change in the Rate of Non-Acceptable Inpatient Claims. To appear in the **North American Actuarial Journal**.
- Rosenberg, M., Fryback, D., Katz, D., A Statistical Model to Detect DRG Upcoding. To appear in the Journal of Health Services and Outcomes Research Methodology.

## LINDA A. SCHULER

University of Wisconsin; Department of Comparative Biosciences; 2015 Linden Dr.; Madison, WI 53706

Phone: (608)263-9825; FAX: (608)263-3926; schulerl@svm.vetmed.wisc.edu

EDUCATION			
University of Wisconsin, Madison	B.A.	1974	Zoology
University of Pennsylvania	Ph.D.	1980	Physiology
University of Pennsylvania	V.M.D.	1981	Veterinary Medicine
University of Wisconsin, Madison	postdoc	1983	Biochemistry

## APPOINTMENTS

1997-present Professor, Department of Comparative Biosciences, University of Wisconsin
1985-present Affiliate, Wisconsin Regional Primate Center
1995-present Affiliate, University of Wisconsin Comprehensive Cancer Center
1997-present Affiliate, Environmental Toxicology Center
1998-present, Affiliate, Center of Excellence in Women's Health
1989-1997 Associate Professor, Department of Comparative Biosciences, University of Wisconsin

## **Research Interests**

Prolactin and related hormones: their receptors, signaling pathways and processing; cell specific actions on maternal and fetal tissues, and role in mammary cancer. Cytokine action, especially IL-1: cell specific control of expression of ligands, receptors and signal transduction.

## **TEACHING RESPONSIBILITIES**

Undergraduate: Biocore: Organismal Physiology. Veterinary Medicine: Reproductive Physiology, Developmental Anatomy. Graduate: lectures in Endocrinology, Developmental Biology, Environmental Toxicology.

## FIVE PUBLICATIONS CLOSELY RELATED TO PROJECT

Schroeder, M., T. Rose-Hellekant, E. Sandgren and L.A. Schuler. Dysregulation of STATs 1,3,and 5 and prolactin receptors by overexpression of mammary  $TGF\alpha$ , Mol. Cell. Endocrinol 175: 173-183, 2001.

Schuler, L.A., J-C. Lu and J.L. Brockman. Prolactin receptor heterogeneity: Processing and signaling of the long and short isoforms during development. Biochemical Society Transactions 29:52-56, 2001.

Tseng, Y.-H. and L.A. Schuler. IL-1 $\beta$  induces IL-1 expression in thymic stromal cells: IL-1 $\beta$  stimulates transcription of its own gene by inducing Oct-1 binding to the 5' flanking region, J. Biol. Chem. 273: 12633-12641, 1998.

Yu, P.W., L.A. Schuler, J. Rejman, H.T. Chen, K. Gosink, M. Kehrli, L. Pelan, and C.J. Czuprynski. Regulation of bovine interleukin 1 receptors. Vet. Immunol. Immunopath. 63: 21-25, 1998.

Scott, P., Lu, J.-C., Strous, G.J., and L.A. Schuler. Internalization of prolactin receptor isoforms: distinct mechanisms from the growth hormone receptor, submitted.

## FIVE OTHER SIGNIFICANT PUBLICATIONS

Schuler, L.A. and M.A. Kessler. A plethora of proteins produced by the bovine placenta. In Cloned Animals and Placentation, R.M. Roberts, R. Yanagimachi, T. Kariya and K. Hashizume, eds. Yokendo Ltd, Tokyo, pp. 151-155, 2000.

Merkle, C.J., L.A. Schuler, R.C. Schaeffer, Jr., J.M. Gribbon and D.W. Montgomery. Structural and functional effects of high prolactin levels on injured endothelial cells identification of an endothelial prolactin receptor, Endocrine 13:37-46, 2000.

Stewart, M.D., G.A. Johnson, A.G. Stagg., R.C. Burghardt, L.A. Schuler, F.W. Bazer, and T.E. Spencer. Prolactin receptor expression in the ovine uterus. Biol. Reprod. 62: 1779-1789, 2000.

Chen, H-T., L.A. Schuler, and R.D. Schultz. Growth hormone receptor expression and effect on fetal lymphoid cells, Mol. Cell Endocrinol. 137:21-29, 1998.

Schroeder, M., J. Symowicz, and L.A. Schuler. Prolactin modulates cell cycle regulators in mammary epithelial cells, submitted.

## **Synergistic Activities**

Schuler has a long standing commitment to mentoring junior women interested in science at all levels: e.g.,corresponding scientist for <u>Science-by-Mail</u>, a national program for grade school children; mentoring through <u>WISE</u>, Women in Science and Engineering; Faculty Mentoring Program, at both the University and School of Veterinary Medicine; "Expanding your horizons", UW Extension program for grade and middle school girls; undergraduate advisor, UW Molecular Biology program. She is also involved in the UW Center of Excellence for Women's Health, promoting leadership skills in women across disciplines.

## **COLLABORATORS:**

P.J. Bertics, University of Wisconsin; E. P. Sandgren, University of Wisconsin; G. Strous, University of Utrecht, Netherlands; A. Walker, University of California, Riverside; R.D. Schultz, University of Wisconsin; D.W. Montgomery, University of Arizona; M.J. Soares, University of Kansas; T.E. Spencer, Texas A&M University; C.J. Czuprynski, University of Wisconsin.

## **Graduate and Postdoctoral Advisors:**

Ph.D.: Jerome F. Strauss, University of Pennsylvania; Postdoctoral: Jack Gorski, University of Wisconsin.

## **Graduate Students:**

David Ebbitt, Mira Milosavljevic, Claus Zieler, Pei-Wen Yu, Patricia Scott, Yu-Hua Tseng, Juu-Chin Lu, Jennifer Gutzman. Total: 8.

## **Postdoctoral Fellows:**

Mark Kessler, M.D., Armando Tovar, Ph.D., John Rejman, Ph.D., Khoosheh Gosink, Ph.D., Matthew Beckman, Ph.D., Jennifer Brockman, Ph.D., Matthew Schroeder. Total: 7.

## LINDA SIOBHAN SPARKE

#### **EDUCATION**

New Hall, Cambridge University, B.A. with First Class Honours in the Mathematical Tripos, June 1977.

University of California at Berkeley, M.A. in Astronomy, June 1979. Ph.D. in Astronomy, June 1981. Thesis topic: "Swirling Gas Flows in Elliptical Galaxies."

#### **APPOINTMENTS**

Professor of Astronomy, University of Wisconsin-Madison, August 1997-present. Chairperson-designate of the Department of Astronomy for 2001-2.

Associate Professor, University of Wisconsin-Madison, August 1992-August 1997. Assistant Professor, University of Wisconsin-Madison, January 1989-August 1992.

Postdoctoral researcher at the Scuola Normale Superiore, Pisa, Italy, September-December 1988.

Postdoctoral Fellow at the Kapteyn Laboratory, Groningen, Netherlands, October 1985-August 1988.

Member of the Institute for Advanced Study at Princeton, September 1982-December 1983.

Postdoctoral Fellow at the Institute of Astronomy, Cambridge, U.K., September 1981-September 1982, and January 1984-September 1985. Research Fellow in Astronomy at New Hall, Cambridge University, October 1981-October 1985.

#### **PUBLICATIONS**

E. Noordermeer, L.S. Sparke and S.E. Levine 2000 'The Kinematics of Lopsided Galaxies', submitted to Monthly Notices of the Royal Astronomical Society.

A.L. Cox, L.S. Sparke, A.M. Watson and G. van Moorsel (2001) 'Stars and Gas in the Galaxy Pair II Zw 70/71', Astronomical Journal, 121, 692.

W. Maciejewski and L.S. Sparke (2000) 'Orbits Supporting Bars Within Bars', Monthly Notices of the Royal Astronomical Society 313, 745.

P. Erwin and L.S. Sparke (1999) 'Triple Bars and Complex Central Structures in Disk Galaxies' Astrophysical Journal (Letters) 521, L37.

S.E. Levine and L.S. Sparke (1998) 'A Model for Lopsided Galactic Disks', Astrophysical Journal (Letters), 496, L13.

## **OTHER SIGNIFICANT PUBLICATIONS**

P. Erwin and L.S. Sparke (1999) 'Vertical Instabilities and Off-Plane Orbits in Circumbinary Disks' Astrophysical Journal 521, 798.

L.S. Sparke and A.L. Cox (2000) 'New Observations of Polar Ring Galaxies' in 'Dynamics of Galaxies', ASP Conference Series 197, p. 119.

L.S. Sparke (2000) 'Warps, Polar Rings and High-Velocity Clouds', to appear as a chapter in 'High Velocity Clouds', eds. H. van Woerden, U. Schwarz, & B. Wakker, Kluwer.

L.S. Sparke (1996) 'A Dynamical Model for the Warped and Twisted Gas Disk in Centaurus A', Astrophysical Journal', 473, 810.

W.N. Colley and L.S. Sparke (1996) 'The Evolution of Viscous Inclined Disks in Axisymmetric and Triaxial Galaxies', Astrophysical Journal, 471, 748.

#### **SYNERGISTIC ACTIVITIES**

Co-authored text for 3<sup>rd</sup> and 4<sup>th</sup> year undergraduate students: L.S. Sparke and J.S. Gallagher (2000) 'Galaxies in the Universe: An Introduction', Cambridge University Press. Printed August 2000.

Thesis advisor or de facto advisor to 3 women PhD students over the last decade; one of these now works in public outreach at JPL, another teaches at an undergraduate college. Of four MS students, one is now a high school physics teacher, another is Associate Editor of Astronomy magazine.

Public outreach through UW-Madison 'Space Place': see <u>www.sal.wisc.edu/SpacePlace</u>. LSS participated in New Year's Eve open house in 1998, and gave a public talk in February 1999.

Member of various NASA and NSF proposal review panels: most recently, NSF Extragalactic and Cosmology program, February 2000; NASA Astrophysics Theory Program, October 2000.

Member of WIYN Board (from April 2000); this consortium (UW, U. Indiana, Yale and the National Optical Astronomical Observatory) operates a 3.5 meter telescope on Kitt Peak mountain in Arizona.

Member of Scientific Organizing Committee and conference summarizer for VLA 20th Anniversary meeting on 'Gas and Galaxy Evolution', Socorro, New Mexico, May 2000.

Ph.D. Advisor: Prof. Frank H. Shu (UC Berkeley); no postdoctoral advisors

#### Ph.D. Students advised:

Stephen E. Levine (Ph.D. Dec. 1992; now staff astronomer at U.S. Naval Observatory, Flagstaff, AZ)

Magda Arnaboldi (Ph.D. Oct. 1992 from SISSA, Trieste; now on the staff at Naples Observatory, Italy)

Jo E. Pitesky (Ph.D. May 1993 from U.C. Los Angeles; now at Jet Propulsion Laboratory, Pasadena, CA)

Andrea L. Cox (Ph.D. August 1996; now on the faculty at Beloit College, WI)

Witold Maciejewski (Ph.D. 1998; now postdoc in Oxford, UK): thesis work discussed in proposal.

Peter Erwin (Ph.D. 2000; now postdoc at IAC Tenerife, Spain): thesis work discussed in proposal.

**Other collaborators** in North America, that are not currently at UW-Madison: A.L. Kinney (NASA HQ); L.D. Matthews (NRAO Charlottesville); G. van Moorsel (VLA); A. Watson (UNAM, Mexico)

#### AILI MARI TRIPP

Department of Political Science University of Wisconsin-Madison 401 North Hall, 1050 Bascom Mall Madison, WI USA 53706 
 Phone:
 608-263-1873

 Phone:
 608-263-2053

 Fax:
 608-274-2691

 Email:
 tripp@polisci.wisc.edu

#### Education

Northwestern University, Evanston, Illinois, Department of Political Science, Ph.D., 1990

University of Chicago, Chicago, Illinois, Program of Middle East Studies, M.A., 1985

University of Chicago, Chicago, Illinois, Department of Political Science, B.A., 1983

#### Current Positions at University of Wisconsin-Madison

Director, Women's Studies Research Center, 2000-

Associate Professor, Department of Political Science and Women's Studies Program, 1999 -

#### **Research and Publications**

#### Books

*Women & Politics in Uganda*. Madison: University of Wisconsin Press; Oxford: James Currey and Kampala: Fountain Press. 2000.

*Changing the Rules: The Politics of Liberalization and the Urban Informal Economy in Tanzania.* Berkeley and Los Angeles: University of California Press. 1997.

Coedited book with Marja-Liisa Swantz. What Went Right in Tanzania? People's Responses to Directed Development. Dar es Salaam: University of Dar es Salaam Press. 1996.

#### **Selected Articles**

"Women's Mobilization in Uganda (1945-1962): Non-racial Ideologies within Colonial-African Encounters." *International Journal of African Historical Studies.* Forthcoming.

"The Politics of Autonomy and Cooptation in Africa: The Case of the Ugandan Women's Movement." *Journal of Modern African Studies*.39 (1): March 2001. Forthcoming.

"Combining Intercontinental Parenting and Research: Dilemmas and Strategies." Signs. Forthcoming

"Women's Movements and Challenges to Neopatrimonial Rule: Preliminary Observations from Africa." *Development and Change.* 32 (1):33-54. 2001.

"Rethinking 'Difference': Comparative Perspectives from Africa." Signs. 25 (3). 2000, 649-675.

"Political Reform in Tanzania: The Struggle for Associational Autonomy." *Comparative Politics*. 32 (2) 2000: 191-214.

"Expanding 'Civil Society': Women and Political Space in Contemporary Uganda." *Journal of Commonwealth and Comparative Politics.* 36 (2): 84-107. 1998.

"Gender, Political Participation, and the Transformation of Associational Life in Uganda and Tanzania." *African Studies Review* 37 (1): 107-131. 1994.

"Women and the Changing Household Economy in Urban Tanzania." *The Journal of Modern African Studies.* 27 (4): 601-623. 1989.

"The Politics of Reciprocity: Urban Networks and the Informal Economy in Tanzania." *Suomen Antropologi* (Journal of the Finnish Anthropological Society). 13: 19-27. 1988.

Honors & Awards	2001 Choice Outstanding Academic Title Award (Current Reviews for Academic Libraries) for <i>Women &amp; Politics in Uganda</i> .	
	Women and Politics Research Section award for Best Paper in Politics, American Political Science Association meeting, 199	Comparative 2
	Breckenridge Award for Best Paper by a Woman, Midwest Political Science Association Annual Conference, 19	989
Research Grants	Rockefeller Foundation (for Research Team, Bellagio Conference Center) UW-Madison Graduate School Research Committee UW-Madison Graduate School Research Committee American Scandinavian Foundation UW-Madison Graduate School Research Committee UW-Madison Graduate School Research Committee Social Science Research Council UW-Madison Graduate School Research Committee American Association of University Women UW-Madison Graduate School Research Committee John D. and Catherine T. MacArthur Foundation UW-Madison Graduate School Research Committee Institute for the Study of World Politics Alumnae of Northwestern University United Nations World Institute for Development Economics Research	2001 2001-2002 2000-2001 1999-2000 1997-1998 1996-1997 1995 1995-1996 1993-1994 1993-1994 1993-1994 1992-1993 1991 1988-1989 1988-1989
Courses Taught	Women's Studies	
	<ul><li>WS320: Women and Politics in Global Context</li><li>WS320: Political Economy and Gender in Comparative Perspe</li><li>WS320: Women and Social Movements in International Conte</li><li>WS320: Women and Change in Contemporary Africa</li></ul>	ctive ext
	Political Science	
	<ul> <li>PS106: Introduction to Comparative Politics</li> <li>PS277: Africa: An Introductory Survey</li> <li>PS660: African Politics</li> <li>PS653: The Politics of Developing Areas</li> <li>PS684: Senior Thesis Seminar</li> <li>PS852: Comparative Politics of Developing Nations</li> <li>PS900: Gender &amp; Citizenship: Comparative and Political Theorem</li> <li>Perspectives</li> </ul>	ory



## UNIVERSITY OF WASHINGTON

OFFICE OF THE DEAN College of Engineering

.

May 3, 2001

Professor Molly Carnes National Center of Excellence in Women's Health Meriter Hospital 6 West 202 South Park Street Madison, WI 53715

Dear Professors Carnes and Handelsman,

Thank you for inviting me to be a member of the External Advisory Team for your proposed Institutional Transformation Award from NSF. I have been committed to improving the retention, recruitment, and advancement of women in science and engineering in academic settings for many years and look forward to working with you on these issues at UW-Madison. I believe my past experience on the faculty there as well as my recent experience as dean at University of Washington will enable me to provide additional insight and advice as you move ahead with this exciting initiative.

I understand that the External Advisory Team will convene at UW-Madison at the outset of the program and then annually. I am also happy to be available for informal consultation or dialogue at other times.

Good luck on your proposal.

Sincerely,

Vanie Dong

Denice Denton Dean

CAFILESWALL97RECOMMENCARes\_hundleman.doc

Box 352180 Seattle, Washington 98195-2180 206-543-0340 FAX: 206-685-0666

## **DENICE DEE DENTON**

Professor and Dean College of Engineering; University of Washington; Box 352180; Seattle, WA 98195 Office: (206) 543-1829 Fax: (206) 685-0666

## **EDUCATION**

Massachusetts Institute of Technology, Cambridge, MA

Ph.D. (Feb. 1987), Engineer Degree (Sept. 1983), M.S.E.E. (Jan. 1982), and B.S. in Electrical Engineering (Jan. 1982)

## APPOINTMENTS

1996-Present	Professor and Dean, College of Engineering, University of Washington
1995-1996	Professor, Departments of Electrical and Computer Engineering and
	Chemistry, University of Wisconsin - Madison
1992-1995	Associate Professor, Department of Electrical and Computer Engineering,
	University of Wisconsin - Madison
1987-1992	Assistant Professor, Department of Electrical and Computer Engineering,
	University of Wisconsin - Madison

## SELECTED AWARDS AND HONORS

- Chair: National Academy of Sciences/National Research Council Board on Engineering Education (1996-present, member 1991-95)
- George Westinghouse Award, ASEE (1995)
- Harriet B. Rigas Award, IEEE and Hewlett-Packard (1995)
- Member: National Academy of Sciences/National Research Council Committee on Undergraduate Science Education (1993-1997)
- Eta Kappa Nu C. Holmes MacDonald Distinguished Young Elec. Engr. National Teaching Award (1993)
- NRC Panel on Plasma Processing and Processing Science (1993)
- Digital Equipment Corporation Faculty Program Incentives for Excellence Award (1992, 1991, 1990)
- American Society of Engineering Education AT&T Foundation Teaching Award (Oct. 1991)
- University of Wisconsin Kiekhofer Distinguished Teaching Award (1990)
- NSF Presidential Young Investigator Award (1987-1992)

## **SELECTED PUBLICATIONS**

D.D. Denton, "Engineering Education for the 21st Century: Challenges and Opportunities," *Journal of Engineering Education*, **87**, 1, pp. 19-22, 1998.

D.D. Denton, "Tackling the Engineering Resource Shortage: The Challenge," Proc. Engineering Foundation Conference, Montreal, Canada, July 14, 1998.

D.D. Denton, "Developing Effective Long-Term Retention Policies: University Strategies," Proc. Engineering Foundation Conference, Montreal, Canada, July 17, 1998.

B.B. Alexander, D.L. Penberthy, I.B. McIntosh and D.D. Denton, "Effects of a Learning Community Program on the First-Year Experience of Engineering Majors," Proc. Frontiers in Education Conference, Salt Lake City, UT, November 1996.

D.D. Denton, "Directions in Engineering Education: The National Research Council Programs," Proc. Int'l. Symp. on Engineering Education and Evaluation, Osaka, Japan, pp. 7-11, Nov. 26-29, 1995.

D.D. Denton, "The Implications of Gender Bias for Women Engineering Graduate Students," Proc. 1988 Annual Conf. of American Soc. of Eng. Ed., Portland, OR, pp. 226-229, June 1988.

Y.V. Pan and D.D. Denton, "Plasma Polymerization Reaction Chemistry, Part I: Methyl Methacrylate," *Journal of Applied Polymer Science*, **73**, pp. 1-16,1999.

Y.V. Pan and D.D. Denton, "Plasma Polymerization Reaction Chemistry, Part II: Precursors Related to Methyl Methacrylate - Methyl Crotonate, Methyl Isobutyrate, Ethyl Methacrylate and Vinyl Acetate," *Journal of Applied Polymer Science*, **73**, pp. 17-27, 1999.

Y.V. Pan, E.Z. Barrios, and D.D. Denton, "*In Situ* FTIR Investigation of MMA Plasmas, Plasma Polymerized Films, and Reaction Mechanisms," *Journal of Polymer Science Part A: Polymer Chemistry*, **36**, 4, pp. 587-602, 1998.

D.J. Beebe, D.D. Denton, J.G. Webster and R.G. Radwin, "A Silicon-based Silicon Tactile Sensor for Finger-mounted Applications," *IEEE Transactions on Biomedical Engineering*, **45**, 2, pp. 151-159, 1998.

## **RECENT TRAINING ACTIVITIES**

- **1999** 1 post doc. and 2 undergraduates
- **1998** 1 post doc. and 2 undergraduates
- 1997 1 post doc., 2 graduate students and 1 undergraduate

Denton was PI of the NSF Integrating Teaching and Research: Engineering Scholars Program (ESP) at the University of Wisconisn (6/1/96-5/31/99). It consisted of a one-week summer workshop for graduate engineering students and new engineering faculty. Given the need for curricular and pedagogical reform in engineering and the high attrition rates of students in engineering, it focused nationally on engineering graduate students and new faculty, especially women and minorities, interested in pursuing an academic career. ESP collaborated with the engineering coalition schools to recruit and identify thirty participants each year for three years.

Denton has also been a plenary speaker at Stanford's NSF New Century Scholars program and served in that role again August 1999. New Century Scholars is funded through the same program at NSF as the ESP at the University of Wisconsin and has similar goals.

## **CURRENT AND PAST COLLABORATORS**

V. White, R. Ghodssi, G. Fish, C. Herdey, H. Liu, L. McCaughan, A.R.K. Ralston, P.E. Thoma, C.F. Klein, D.J. Beebe, A.S. Hsieh, R.G. Radwin, Y.V. Pan, E.Z. Barrios, A.D. Feinerman, R. Lajos, J. Garvey, M.A.S. Jaafar, J.G. Webster, M.C. Buncick, Ressano de Souza-Machado, S. Bisgaard, Stephen Senturia, Shien-Yang Wu, Hartono Pranjoto, Thomas Boltshauser, Jeff Tobin, Luai Tabbal, Ken Skrobis, Choon Ngiap Ho, Sateesh Bajikar, Andrew Ralston, Eric Keiter, James Steele, Dr. Guifang Li



## TUFTS UNIVERSITY

School of Medicine School of Dental Medicine School of Veterinary Medicine Sackler School of Graduate Biomedical Sciences

April 24, 2001

Professor Molly Carnes National Center of Excellence in Women's Health Meriter Hospital 6 West 202 South Park Street Madison, WI 53715

April 24, 2001

Dear Professors Carnes and Handelsman,

Thank you for inviting me to be a member of the External Advisory Team for your proposed Institutional Transformation Award from NSF. I have been committed to improving the retention, recruitment, and advancement of women in science and engineering in academic settings for many years.

As a woman chair of a basic science department at Tufts University School of Medicine, the Department of Anatomy and Cellular Biology, I dealt with issues that are primary to this proposal, i.e. "institutional and personal barriers facing women in science and engineering that incorporates rigorous and scholarly evaluation." This was my motivation to become chair and then after stepping down as chair, to develop a coaching service and workshop programs to support women in achieving excellence. In addition to chairing a basic science department that served three professional schools, medical, dental and veterinary, I created and directed a Center for Research in Reproduction that spanned all three campuses of Tufts University, Boston, Medford and Grafton. In these two capacities I became acutely aware of both the personal and the institutional barriers to advancement of women. Further, I have served in three NSF Committee of Visitors and an advisory committee to NICHD, which I chaired and for which I site visited many institutions. All of these experiences have elucidated the personal and professional issues that women face today as they unfold their professional careers.

Recently, I was elected President of Women in Neuroscience and also serve on the Society for Neuroscience's Committee for the Development of Women's Careers in Neuroscience. There is much that can be done to facilitate women achieving excellence in their careers. The program that you outline is well designed to advance women in their leadership roles. I solidly support this initiative and am delighted to participate as an external advisor.

Tufts University Health Science Schools Department of Anatomy and Cellular Biology 136 Harrison Avenue Boston, Massachusetts 02111 I understand that the External Advisory Team will convene at UW-Madison at the beginning of the program and then annually

Good luck on your proposal.

Sincerely yours,

Dear C. King

Joan C. King, Ph.D. Professor Emeritus, Tufts Univ. School of Medicine 42 Garrison Rd. #2 Brookline, MA 02445-4437

## JOAN CALUDA KING, PH.D.

Organization:	Beyond Success <sup>TM</sup> , Principal, esta	ablished in 1998
-	Professional/Personal Coaching &	& Consulting,
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Address:	42 Garrison Rd. Suite #2	
	Brookline, MA 02445-4437	
Telephones:	Work (617) 730-8336; Home (6	17) 232-6938
EDUCATION		
1961 B.S.	St. Mary's Dominican College C	hemistry*
1970 M.S.	University of New Orleans	Experimental Psychology
1972 Ph.D.	Tulane University	Neuroscience &
	-	Physiological Psychology

\*I entered the Dominican Order in 1955 after graduating from St. Mary's Dominican High School. While in the Dominican Order, I obtained a B.S. from St. Mary's Dominican College and, subsequently, joined the faculty of the College. I taught Inorganic Chemistry, Organic Chemistry, Quantitative Analyses Inorganic Chemistry, Qualitative Analyses Organic Chemistry. After leaving the convent in 1966, I worked in V.I.S.T.A., Volunteers in Service to America in West Virginia and then as a Research Chemist at the U.S.D.A. Dept. of Agriculture, prior to returning to graduate school in 1969.

## **POSTDOCTORAL TRAINING**

Research Fellowships	
1973 - 1974	Research Associate [Neuroanatomy], University of Iowa, College of
	Medicine, Iowa City, Iowa
1974 - 1976	National Institutes of Health Postdoctoral Fellow [Neurosciences] Tulane
	University, New Orieans, Louisiana

## ACADEMIC APPOINTMENTS

1999	Professor Emeritus, Tufts University Schools of Medicine
1992 - 1998	Professor of Anatomy and Cellular Biology, Tufts University Schools of
	Medicine
1992 - 1997	Chair of the Dept. of Anatomy and Cellular Biology, Tufts University
	Schools of Medicine, Veterinary Medicine and Dental Medicine
1992 - 1997	Director, Reproductive Center, Tufts University
1985 - 1992	Associate Professor of Anatomy and Cellular Biology, Tufts University
	School of Medicine
1979 - 1985	Assistant Professor of Anatomy, Tufts University School of Medicine
1976 - 1979	Research Associate and Visiting Assistant Professor, Neuroscience, Tulane
	University
1961 - 1966	Instructor in Chemistry and Mathematics, St. Mary's Dominican College

## Interactive Teaching Environment for Medical Neurosciences:

IBM Consortium for health care interactive videodiscs in education: developing units for medical neuroscience course units. Hardware, software and training received, 1987 - 1992.

#### Additional Research Experience:

National Institutes of Health, Bethesda, Maryland, Department of Physical
Biology. NSF Summer Fellowship Summer Fellowship Research Participation.
City College of City University, New York, N.Y., Department of Chemistry,
NSF Research Participation Program, Summer 1965 and NSF Academic Year
Extension 1965-1966.
NSF Academic Year Extension Grant - GY 504 (GE-7663). Reactions of 2-R-2
Halosubstituted Dimedones with Bases.
United States Department of Agriculture, Research and Development,
Microscopy Division, Chemist-Electron Microscopist, New Orleans, Louisiana.

## **RECENT RESEARCH PUBLICATIONS**

Rubin, B.S. and King, J.C. A relative depletion of Luteinizing Hormone-Releasing Hormone was observed in the median eminence of young but not middle-aged rats on the evening of proestrus. Neuroendocrinology 62:259-269, 1995.

Rubin, B.S., Mitchell, S., Lee, C.E. and King, J.C. Reconstructions of populations of Luteinizing Hormone Releasing Hormone (LHRH) neurons in young and middle-aged rats reveal progressive increases in subgroups expressing Fos protein on proestrus and age-related deficits. Endocrinology 136:3823-3830, 1995.

Tobet, S.A., Chickering, T.W., King, J.C., Stopa, E.G., Kim, K., Kuo-Leblank, V. and Schwarting, G.A. Expression of gamma-aminobutyric acid and gonadotropin-releasing hormone during neuronal migration through the olfactory system. Endocrinology 137: 5415-5420, 1996.

Jimenez-Linan M., Rubin B.S. and King J.C. Examination of the guinea pig LHRH gene reveals a unique decapeptide and the existence of two transcripts in the brain. Endocrinology 138:4123-4130, 1997.

Rubin B.S., Lee C.E. and King J.C. Lutenizing hormone-releasing hormone gene expression differs in young and middle-aged females on the day of a steroid-induced LH surge. Brain Res. 770:267-276, 1997.

Wu T.J., Pierotti A.R., Jakubowski M., Sheward W.J., Glucksman M.J., Smith A.I., King J.C., Fink G. and Roberts J.L. Endopeptidase EC 3.24.15 presence in the rat median eminence and hypophysial portal blood, and its modulation of the luteinizing hormone surge. J Neuroendocrinology 9:813-822, 1997.

King J.C., Liu E., Ronsheim P.M., Slonimski M., Rubin B.S. Expression of fos within LHRH neurons, in relation to the steroid-induced LH surge in guinea pigs. Biology of Reproduction 58:316-322, 1998.

King J.C., Ronsheim P.M., Liu E., Powers L., Slonimski M. and Rubin B.S. Fos expression in LHRH neurons of guinea pigs with knife cuts separating the preoptic area and the hypothalamus and demonstrating LH surges. Biology of Reproduction 58:323-329,1998.

Kim K.H., Patel L., Tobet S.A., King J.C., Rubin B.S., and Stopa E.G. Gonadotropin releasing hormone immunoreactivity in the adult and fetal human olfactory system. Brain Res., 826:220-229, 1999.

Donahue, J.E., Stopa, E.G., Chorsky, R.L., King, J.C., Schipper, H.M., Tobet, S.A., Blaustein, J.D., and Reichlin, S.: Anatomic distribution of estrogen receptors in the human basal forebrain. Brain Res., 856:142-151, 2000.

# University of Minnesota

Twin Cities Campus

**Program in History of Science and Technology** Institute of Technology

Tate Laboratory of Physics 116 Church Street S.E. Minneapolis, MN 55455

612-624-7069 Fax: 612-624-4578

April 9, 2001

Professor Molly Carnes National Center of Excellence in Women's Health Meriter Hospital 6 West 202 South Park Street Madison, WI 53715

Dear Professor Carnes and Handelsman:

This letter is to indicate my willingness to serve on the External Advisory Team for your proposed Institutional Transformation Award from the National Science Foundation. The opportunity to build an even stronger infrastructure and to work on creative new programs is very exciting and I would certainly like to be part of its planning and implementation.

As you know, I built the Program for Women in the Institute of Technology at the University of Minnesota in the early 1980s, working on a network of programs that included programs for school girls, retention programs for graduate and undergraduate students, and a number of activities that increased our women faculty by fifty percent (starting from a modest base, from 18 to 27 women). Working with women at every stage of their career was important. In addition, as a historian of science, I have published on women in science and issues of gender and science in a number of articles and edited books, learning from history how both the barriers have limited options and how, often collaboratively, women have achieved successes.

It is my understanding that my responsibility, if you are funded, will be to meet at the outset of the program and then on an annual basis. Certainly I will be available for informal consultation if that is useful at other points during the year.

Your project seems very ambitious and also feasible, given the experienced and committed group of colleagues that you have at the University of Wisconsin. I really look forward to working with all of you. Best wishes on this application.

Sincerely yours,

Sally Gregory Kohlstedt Professor of History of Science

# SALLY GREGORY KOHLSTEDT (abridged for NSF; also see www.umn.edu/scitech)

Present Position:	Professor, Program in History of Science and Technology Graduate Fields: History, American Studies, History of Medicine, and Feminist Studies University of Minnesota, 1989
Office Address:	123 Pillsbury Hall University of Minnesota Minneapolis, MN 55455 sgk@tc.umn.edu 612-624-9368 / FAX 612-625-3819
Education:	<ul> <li>B. A., Valparaiso University, 1965</li> <li>M. A., Michigan State University, 1966</li> <li>Ph. D., University of Illinois, Urbana, 1972</li> </ul>
Previous Position.	<ul> <li>Simmons College, Department of History, 1971-1975</li> <li>Syracuse University, Department of History, 1975-1988</li> <li>Fulbright Visiting Professor, University of Melbourne, Spring 1983</li> <li>Visiting Professor, Cornell University, Spring, 1989</li> <li>Associate Dean, Institute of Technology, UMN, 1989-1995</li> <li>Visiting Professor, Amerika-Institut, University of Munich, Spring 1997</li> <li>Director, Center for Advanced Feminist Studies, UMN, 1997-1999</li> </ul>
Honors and Grant	<ul> <li>National Science Foundation, Research Funding, Summer 1969, 1978-1979, 1993-94, 1995; Conference Funding, 1984, 1995</li> <li>Smithsonian Institution Pre-Doctoral Fellow, 1970-1971</li> <li>Syracuse University Faculty Research Grant, 1976, 1982</li> <li>American Philosophical Society Research Grant, 1977</li> <li>American Antiquarian Society, Haven Research Fellow, October, 1982; Member, 1984</li> <li>Woodrow Wilson Center Fellow, Fall, 1986</li> <li>Smithsonian Institution Senior Fellow, Spring, 1987</li> <li>History of Science Society Plenary Lecturer, 1988</li> <li>University of Minnesota Faculty Research Grant, 1990, 1997-1998</li> <li>UMN TEL Award: Outstanding Computer Aided Course Project, 1998</li> <li>George Taylor Distinguished Service Award, IT, 2000</li> </ul>
Professional: An An Hi	nerican Association for the Advancement of Science (Section L -Nominating Committee, 1981-1983; Chair cycle, 1985-87; Fellow, 1989; Nominating Committee, 1996-1998; Consortium for International Programs, 1992-1999, Executive Committee, 1997-1999; Board of Directors, 1998-2001 with liaison appointments to the Advisory Committees on the Dialogue of Science and Religion, International Programs, and Site Selection) nerican Historical Association (Professional Committee, 1974-1976; representative, U.S. National Archives Advisory Council, 1974-1976) story of Science Society (Secretary, 1978-1981; Council, 1982-1984, 1989-1991, and 1994-1995; Committee on Publications, 1982-1987; chair, Nominating

Committee, 1985; Visiting Lecturer, 1988-1989; chair, Education Committee, 1989; Vice-President, 1990 and 1991 and President, 1992 and 1993; Finance Committee, 1994-1997; Fund Raising Committee, 1999-2000; Nominating Committee, Chair, 2000)

#### Conference Planning:

Steering and Program Committee, "Writing The Past, Claiming The Future: Women And Gender In Science, Medicine, And Technology," October 12-15, 2000, Saint Louis University, St. Louis, Missouri

Program Committee Co-Chair, "The Women, Gender. and Science Question: What do search on the history of women and science, and research on science and gender have to do with each other?" University of Minnesota, May 1995

Books: Edited, with Barbara Laslett, Helen Longino, and Evelyn Hammonds, <u>Gender and Scientific</u> <u>Authority</u> (Chicago: University of Chicago Press, 1996).

Edited, with Helen Longino, <u>Women, Gender, and Science:</u> New Directions, <u>Osiris</u> 12 (Chicago: University of Chicago Press, 1997).

Edited, Women in Science: An Isis Reader (Chicago: University of Chicago Press, 1999).

#### Other Pubs.

"The Irrepressible Woman Question': Women's Responses to Darwinian Evolutionary Ideology," in <u>Disseminating Darwinism: The Role of Place</u>, <u>Race</u>, <u>Religion</u>, <u>and Gender</u> (Cambridge: Cambridge University Press, 1999)

"The Phenomenon of Professions" and "Gender and the Professions" in Peter Marsh, ed., <u>Contesting the Boundaries of Liberal and Professional Education</u> (Syracuse: Syracuse University Press, 1988): 44-53 and 140-148.

"Nature Study Movement" and "Maria Mitchell," <u>Women's History in the United States: A</u> <u>Handbook</u> (Garland Publishing Co., 1990).

"Historical Perspectives on Women in Science and Engineering," <u>Proceedings of the 1992 CIC</u> <u>Conference on Women in Science and Engineering</u> (Indiana University, 1992).

With Noel N. Schultz and Wendy C. C. Grebner, "A Proactive Approach to the Retention of Women Graduate Students," <u>ASEE Annual Conference Proceedings</u> (June 1994).

With Lynn Schmidke Lyng, "Recruiting and Retaining Women Graduate Students: Supporting Efforts on the Department Level," Women Engineering Program Advocates Network, <u>Conference Proceedings</u> (June, 1995).

"Ask the Expert" on-line consultant on "Women in Science and Technology" for <u>Encyclopedia</u> <u>Britannica</u> (March-May, 1998); short answer, documented essays to screened questions as part of experimental project.

# THE NATIONAL ACADEMIES Advisers to the Nation on Science, Engineering, and Medicine

National Academy of Sciences National Academy of Engineering Institute of Medicine National Research Council

> Policy and Global Affairs Executive Office

May 2, 2001

Professors Molly Carnes and Jo Handelsman National Center of Excellence in Women's Health University of Wisconsin Meriter Hospital 6 West 202 South Park Street Madison, WI 53715

Dear Professors Carnes and Handelsman,

Thank you for inviting me to be a member of the External Advisory Team for your proposed Institutional Transformation Award from NSF. I have been committed to improving the retention, recruitment, and advancement of women in science and engineering in academic settings for many years. The National Research Council's Committee on Women in Science and Engineering, which is one of my responsibilities, is currently undertaking a project to illuminate best practices among universities in this area. I will find service on your committee helpful both in this context and because of my commitment to the increasing the numbers of talented women who can successfully pursue careers in science.

I also hope that I can be useful to the committee through the use of my expertise in statistics, evaluation, and econometrics. It is important to learn not only what works, but what works most effectively.

I understand that the External Advisory Team will convene at UW-Madison at the beginning of the program and then annually.

Good luck on your proposal.

Yours sincerely,

Charlette V. Kut

Charlotte V. Kuh, Ph.D. Deputy Executive Director

Attachment: Biosketch

## CHARLOTTE V. KUH, PH.D.

## **EDUCATION**

Radcliffe College	Economics	B.A.mcl, 1967
Yale University	Economics	M.Phil, 1969
Yale University	Economics	Ph.D., 1976

#### **APPOINTMENTS**

1995 – Present: Executive Director, Office of Scientific and Engineering Personnel, National Research Council

1987-1995: Executive Program Director, Graduate Record Examinations, Educational Testing Service

1979-1987: District Manager, AT&T

1976-1979: Assistant Professor, Department of Administration Planning and Social Policy, Harvard University

1974-1976: Acting Assistant Professor, Department of Engineering-Economic Systems, Stanford University

1970-1975: Recording Secretary and Treasurer, Econometric Society

1969-1970: Supervisor in Economics and Member of the Senior Common Room, New Hall, Cambridge University

1964-1965: High School Teacher in Tanzania, Harvard Volunteer Teachers for Africa

## PUBLICATIONS

Kuh, C. "It's 2001: Why are we still worrying about recruiting and retaining minorities in science, mathematics and engineering?" Invited paper AAAS Annual Meeting, February, 2001

Kuh, C. "Reassessing the Assessment of Doctoral Programs" Reenvisioning the Ph.D. Conference, April 2000, http://depts.washington.edu/envision/panel.html.

Kuh, C. "Doctoral Education in Research Universities: A Look Ahead," Symposium on honoring Dale Corson, Cornell University, 1999 (conference volume forthcoming).

Kuh, C. "You've Come a Long Way: Women Ph.D.s in Science and Engineering in Research Universities," Conference on Women in Research Universities, 1998 (forthcoming).

Kuh, C. "Part-time and Non-Tenure Track Ph.D.s: A Statistical Look," National Bureau of Economic Research, Workshop on Higher Education, 1997.

Kuh, C. "Changes in Ph.D. Careers: Economic Transformation and Gender Equity in Science," CPST Conference on Science Careers, Gender Equity and the Changing Economy, 1996.

Kuh, C. "Is There a Ph.D. Glut? Is that the Right Question?" CGS Communicator, May, 1996.

Kuh, C. "Reinventing Graduate Education for the 21st Century," Colloquium on Graduate Education at North Carolina State University-Raleigh, 1995.

Kuh, C. "Minorities in Graduate Education: Pipeline, Policy and Practice" (conference volume edited with M. Goertz and J. Jones), Educational Testing Service, 1992.

Kuh, C. and R Radner. "Mathematicians in Academia: 1975-2000." Conference Board of the Mathematical Sciences, Washington, 1980.

Kuh, C. "Indicators of Scientific Manpower," Scientometrics, Vol. 2, No.5-6, pp. 395-403. 1980.



Professor Molly Carnes National Center of Excellence in Women's Health Meriter Hospital 6 West 202 South Park Street Madison, WI 53715

April 18, 2001

Dear Professors Carnes and Handelsman,

Thank you for inviting me to be a member of the External Advisory Team for your proposed Institutional Transformation Award from NSF. I have been committed to improving the retention, recruitment, and advancement of women in science and engineering in academic settings for many years and look forward to working with you on these issues at UW-Madison. I believe my past experience with the faculty there, especially serving as Visiting Distinguished Professor for the University of Wisconsin System Women and Science Program in 1993, will enable me to provide additional insight and advice as you move ahead with this exciting initiative.

I understand that the External Advisory Team will convene at UW-Madison at the outset of the program and then annually. I am also happy to be available for informal consultation or dialogue at other times.

Good luck on your proposal.

Sincerely yours, loval

Sue V. Rosser, Dean Professor of History, Technology, and Society

**Ivan Allen College** Atlanta, Georgia 30332-0525 U.S.A. PHONE 404•894•2601 FAX 404•894•8573

A Unit of the University System of Georgia

## **SUE V. ROSSER**

## **EDUCATION**

- 1969 B.A. in French and Zoology, University of Wisconsin-Madison
- 1971 M.S. in Zoology, University of Wisconsin-Madison
- 1973 Ph.D. in Zoology, University of Wisconsin-Madison

## **APPOINTMENTS**

- Dean, Ivan Allen College, and Professor of History, Technology and Society, Georgia Institute of Technology (7/99 - present)
- Director, Center for Women's Studies and Gender Research and Professor of Anthropology, University of Florida-Gainesville (7/95 - 6/99)
- Senior Program Officer of Women's Programs, National Science Foundation (7/94-12/95)
- Director, Women's Studies and Professor of Family and Preventive Medicine, University of South Carolina-Columbia (1986-1995)
- Associate Professor of Family and Preventive Medicine, University of South Carolina-Columbia (1986-1990)

Visiting Distinguished Professor, University of Wisconsin System (Fall 1993)

Associate Professor, Mary Baldwin College (1983-1986)

Visiting Lecturer, Towson State University (Fall 1984)

Assistant Professor, Mary Baldwin College (1976-1983)

Visiting Professor, University of Wisconsin–Madison (Summers, 1976-1986)

Post\_doctoral Fellow, University of Wisconsin, (1973-1976)

## MOST RELEVANT PUBLICATIONS

- Rosser, Sue V., <u>Women, Science and Society: The Crucial Union</u>; New York: Teachers College Press, Columbia University, 2000
- Rosser, Sue V., <u>Re-Engineering Female Friendly Science</u>; New York: Teachers College Press, Columbia University, 1997.
- Rosser, Sue V., ed., <u>Teaching the Majority: Science, Mathematics, and Engineering Teaching that</u> <u>Attracts Women.</u>; New York: Teachers College Press, Columbia University, 1995
- Rosser, Sue V., ed., <u>Women's Studies Quarterly, Building Inclusive Science in Women's Studies and</u> <u>Women in Science and Engineering:</u> Spring/Summer, 2000.
- Rosser, Sue V., and Mireille Zieseniss. <u>Final Report on Professional Oppoirtunities for Women in</u> <u>Research and Education (POWRE) Workshop</u>, March 30-April 1, 1998, Gainesville, FL: UF, CWSGR.

## **OTHER SIGNIFICANT PUBLICATIONS**

 Rosser, Sue V., and Mireille Zieseniss, "Career Issues and Laboratory Climates: Different Challenges and Opportunities for Women Engineers and Scientists. Survey of FY 1997 POWRE Awardees", Journal of Women and Minorities in Science and Engineering, 2000, <u>6</u>,(2). In press.

- Rosser, Sue V., and Bonnie Kelly. "From Hostile Exclusion to Friendly Inclusion: USC System Model Project for the Transformation of Science and Math Teaching to Reach Women in Varied Campus Settings." Journal of Women and Minorities in Science and Engineering 1, no. 1 (1994): 29-44.
- Rosser, Sue V., and Mireille Zieseniss, "Different challenges and opportunities: Women engineers and scientist." Tackling the Engineering Resources Shortage: Creating New Paradigms for Developing and Creating Women Engineers; (eds. Barbara Bogue, Priscilla Guthrie, Barbra Lozarus, Steve Hadden) 1999, Bellingham, WA: The International Society for Optical Engineers, pp 64-72.
- Rosser, Sue V., "Different Laboratory/Work Climates: Impacts Upon Women in the Workplace." <u>Women in Science and Engineering: Choices for Success</u> (Ed). Cecily Selby. <u>Annals of the</u> <u>New York Academy of Sciences</u>, Vol. 869, April 15, 1999, pp 95-101.
- Rosser, Sue V., "Group Work in the Science, Engineering and Mathematics Classroom: Consequences of Ignoring Race and Gender." <u>College Teaching</u>, 1998, <u>46</u>(3): 82-88.

## SYNERGISTIC ACTIVITIES

- Rosser, Sue V., and Bonnie Kelly, <u>Educating Women for Success in Science and Mathematics</u>. National Science Foundation Project HRD 9053892. West Columbia, SC: University of South Carolina Publications, 1994.
- Urban Institute, Washington D.C.: Consultant to evaluate the Program for Women and Girls of the National Science Foundation, March-April, 1999.
- Virginia Tech, Blacksburg, VA: Consultant and interviewee for PBS documentary on girls and science for NSF grant, Virginia Space Grant Consortium, August 1998.
- Member, Committee for Science and Engineering (CWSE), National Academy of Sciences, 2000-2003.
- Member, National Advisory Board, Washington State Gender Equity Project, 1999-2003.

## **COLLABORATORS & OTHER AFFILIATIONS**

Collaborations: (within last 48 months): Patricia H. Miller, University of Florida

Graduate Advisor: Dr. J. T. Robinson, University of Wisconsin-Madison

- Post Doctoral Advisors: Dr. Robert M. Auerbach, University of Wisconsin-Madison
  - Dr. William H. Stone, University of Wisconsin-Madison

Dr. David Clark, University of Wisconsin-Madison

**Thesis Advisor:** Patricia Balar, Kearsley Stewart, Marcia Good-Maust, Heather McIlvaine-Newsad, Leslie Henson, Audrey Steiner, Bonnie Kelly, Amy Hudock, Donna Hudson, Tony Herbert, Sheila Jeffers, Laura Sullivan, Julie Montgomery, Mireille Zieseniss.

Postgraduate-Scholar Sponsor: Marianne Barnes, Donna Hughes

As Director of Women's Studies, I served as undergraduate advisor both at the University of South Carolina and the University of Florida. At those institutions and at Mary Baldwin College, I have advised more than 100 undergraduate students, although not in the capacity of thesis advisory I have been on the graduate committee of 32 students and served as post-doctoral advisor to two.