Report of the College of Science Millennium Project Oversight Committee

Departmental Representatives
Kathryn Bayles, Speech and Hearing Science
Susan Beck, Geoscience
Susan Butler, community representative (formerly of Accenture Corp.)
Marta Civil, Millennium Project Committee
Caitlin Griffith, Planetary Sciences
Richard Hallick, Biochemstry
Katherine Hirschboeck, Tree Ring Laboratory
William McCallum, Mathematics (chair)
Therese Markow, Ecology and Evolutionary Biology
Michael Shupe, Physics
Peter Strittmatter, Astronomy
Debra Tomanek, Molecular and Cellular Biology
Suzanne Westbrook, Computer Science
Vicki Wysocki, Chemistry

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Committee web site

`www.math.arizona.edu/~wmc/millennium`

Formation of the committee

The committee chair and the Dean met with the Provost in Fall 2002, and obtained a clear statement of support from the higher administration. The Provost reiterated the administration's commitment to attaining diversity, and stated that progress on this would be a factor in restructuring decisions within the University. With this basis of support, the committee chair proceeded to form a high-level committee with representation from each department in the College of Science.

First Meeting

College of Science staff member Nancy Corn provided preliminary data on salary, rank, and progression through rank, broken down by gender, ethnicity, and department. The

data for the entire college is summarized in the attached charts. Similar charts for each department were provided to department representatives. The most glaring result was the small percentage of women and minority faculty members in most departments of the college (Hispanic faculty form about 4% of College Faculty, women about 16%). A discussion of the possible causes ensued, and it was decided that further data collection was needed. Committee members were asked to go back to their departments and hold email discussions or department meetings in which the following questions were presented:

1. What hypotheses would they like us to test? (For example, "women have a higher service load than men" or "we can't hire enough minorities because the size of the pool is too small".)

2. For a given hypothesis, what data should be collected to test it? (For example, committee service loads, national comparison data.)

3. Which pieces of that data can the department provide us with?

Several departments had faculty meetings or email discussions resulting in answers to these questions, which are incorporated into the next section. Some departments did not respond; reports from some committee members suggested that the committee needs to formulate its goals precisely in order to avoid misunderstanding of its mission. In addition to answers provided by the departmental representatives, there was a notable response to this first round of discussion: a statement on diversity produced by the Department of Computer Science, which is appended to this report.

Another issue that came up in a number of discussions, more a matter for the University than the College, was the provision of on-campus child care (important to male and female faculty). There was also a question of whether the campus culture accepts faculty who also need or want family time.

Phase I: Data Collection

As a result of departmental discussions, and with important input from Susan Butler, who provided an analysis of the obstacles to increasing diversity with a particular emphasis on pipeline issues, and from Jennifer Rivera, a Justice Department lawyer contacted by Deborah Hughes Hallett of the Mathematics Department, the committee has arrived at the following outline for data to be collected.

1. **Salary and Conditions**

   Salary, teaching loads, and service loads, broken down by gender, rank, ethnicity, and department.

2. **Promotion and Tenure**

   (a) *Tenure.* National and university rates of tenure and promotion, including both numbers promoted, time to promotion, and choices about delaying the tenure clock (within particular fields if possible). Include promotions after full professor, such as department head or distinguished professorships.

(b) *Tenure criteria.* For each tenure and promotion decision, gather data on number of published articles, student evaluations, professional development activities, conference invitations, number and quality of committee assignments.

(c) *Retention rates.* Where do people fall out of the process—after a year, after several years, just before a tenure decision, or after tenure? If possible, look also at where they go—to see if more women than men, or more minorities than whites) are lured away to other top schools, if they leave academia altogether, or if they head to industry.

3. **Hiring**

   (a) *Relevant labor pool.* Number of men/women who graduate with PhDs in relevant fields during a relevant time period. If possible, look at typical patterns within that pool—how many go into academia, how many to industry, how many to non-traditional fields, etc. And are there data on whether those numbers break down along gender lines? (For example, if the PhD population is young, do more women try non-traditional careers during child-bearing years?)

   (b) *Relevant applicant pool.* Of the available pool, who applies? Is there a gender disparity in the initial pool?

   (c) *Progression of pool through hiring process.* Do initial proportions remain the same throughout the process? Try to track the subjective components of the hiring process—are interviews or assessments of future "potential" affected by stereotypical notions?

   (d) *Who is ultimately hired?.*

Data on item 1 has already been collected, and partial data exists for item 2a. We hope that other data for item 2 can be collected from College of Science and OIR files, or from national studies.

Data on item 3 will require extensive departmental input. We plan to have all under items 2 and 1 in place by the end of Spring semester, and to proceed with data collection on item 3 in Fall 2003, in conjunction with an action plan described in the next section.

Next Steps

A subgroup of the committee who attended a recent diversity conference (Kathryn Bayles, William McCallum, and Suzanne Westbrook) has been developing a proposal which would address diversity in a spirit compatible with the intellectual culture of scientific research. The committee chair met with the Dean to discuss this proposal, and received encouragement to proceed to the next stage of formulating a detailed plan to present to the higher administration.

The core of the proposal would be a grant program providing funds for departments to propose diversity initiatives. Participants in this program would

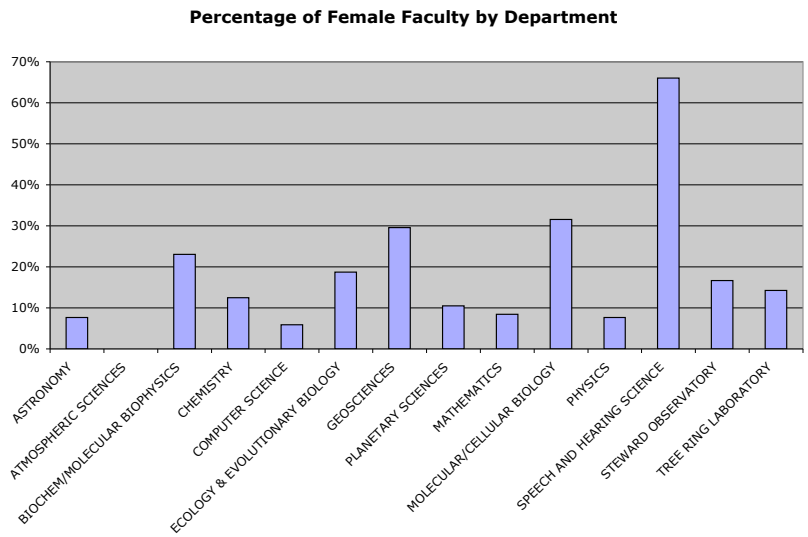
- Look at the data collected under Phase I, and, if appropriate, at any relevant research on diversity issues. A necessary condition for this step would be that the department make a good faith effort to collect hiring data as described in item 3 in the previous section.

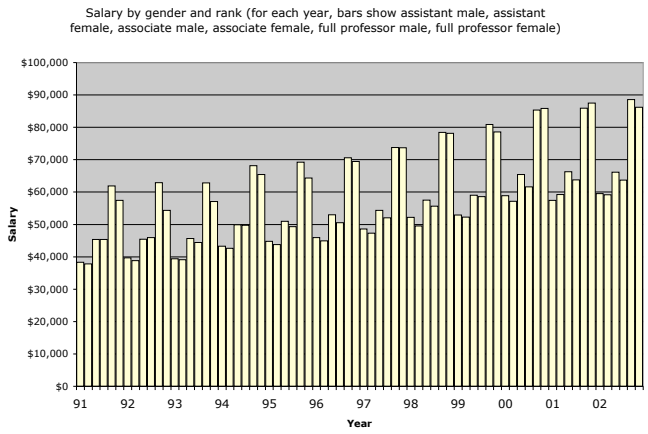
- Identify from the data an area in need of attention (for example, size of the Ph.D. pool, attractiveness of the department to women or minority candidates, mentoring of junior faculty, hiring procedures, attitudes of promotion and tenure committee).

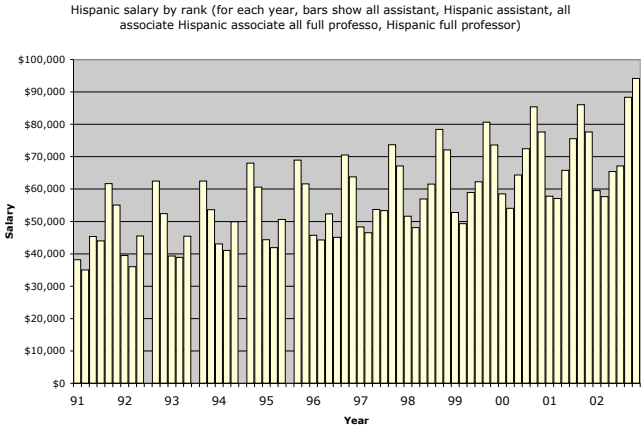
- Develop a proposal for addressing the problem area, and submit it for funding.

Thus, departments would choose for themselves what to work on, but would have to justify the choice on the basis of facts. Successful proposals would be realistically tied to the current research and teaching objectives of the department, and should show potential for lasting effects beyond the period of funding. Possible auxiliary components of the program include the provision of outside consultants who can help departments learn about diversity issues, and assistance with data collection and assessment.

Appendix A: Summary Charts







Appendix B: Statement on Faculty Diversity in the Department of Computer Science, Spring 2003

- The Computer Science faculty values diversity in its makeup and in that of the departmental staff and students.
- The faculty has attempted to take diversity into account, as one of many factors in recruiting and retention. We have informally examined the recent history. Some faculty feel that our recruiting and retention processes are appropriate; others feel that diversity has not been adequately taken into account. However, we agree that we should be proactive in the future in recruiting and retaining a diverse faculty.
- We are also divided as to whether our department has been sufficiently supportive of minorities (including women). However, our common goal is to ensure that minorities feel supported by our department. We welcome suggestions of additional things we can do to maintain and enhance our environment for minorities.
- We don't know whether we are allowed legally to state in recruiting advertisements that we are looking for minority applicants. We would appreciate legal guidance on this question.
- Our department size makes it difficult to assemble a critical mass of minorities; similarly, the small number of open positions (often but one) makes it difficult to attract couples. However, we are hindered in both recruiting and retention primarily by the lack of resources, generally as well as specifically allocated for

diversity. Our competition often has greater general resources as well as specific diversity programs that they can utilize.

- In both recruiting and retention, our overarching concern is quality. A candidate must be above threshold concerning quality for further consideration. Only then do other factors, including diversity, come into play.

- It is important that we as a quite small department in relation to other CS departments be especially careful to maintain focus on a few important areas of computer science. Therefore we are not willing to consider other areas of CS even if they may have a higher proportion of minorities.

- There are, however, other ways in which we are willing to take special measures to further diversification, both in our department and at the University.

  - We strongly support, even in the current fiscal climate, the creation of a Provost-level pool of funds to be used specifically to attract and retain a diverse faculty.
  - We are willing to entertain salary inversions, when those inversions are not too great and when we as a faculty approve such inversions in each special case. We understand and are comfortable with the reality that in the current fiscal climate and indeed in the medium term such inversions may continue for several years.
  - We are willing to entertain hiring spouses of faculty members desired by other departments in order to expand that department's diversity, if that spouse is above threshold in terms of quality and does not reduce our focus to too great a degree.

- We feel that it is important to continue to monitor the workload and salary and environment of our minority faculty to ensure that they can be productive and content members of our community.