“ADVANCEing the Face of Michigan Tech”

2008-2012

(advance.mtu.edu)

MICHIGAN TECHNOLOGICAL UNIVERSITY
Houghton, MI

CO-PIS
CHRIS ANDERSON, SUSAN BAGLEY, PEG GALE, LESLEY LOVETT-DOUST, DONNA MICHALEK, BILL PREDEBON, MAX SEEL

WITH MAJOR HELP FROM
MARI BUCHE, MARK GOCKENBACH, SONIA GOLTZ, RANDY HARRISON, WALT MILLIGAN, ANITA QUINN, PATTY SOTIRIN, LISA WATROUS

AND

OTHER SUB-COMMITTEE MEMBERS
NSF’s ADVANCE Program

ADVANCE: Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers (ADVANCE)

The goal of the ADVANCE program is to develop systemic approaches to increase the representation and advancement of women in academic science, technology, engineering and mathematics (STEM) careers, thereby contributing to the development of a more diverse science and engineering workforce. ADVANCE focuses on ensuring that women faculty with earned STEM degrees consider academia as a viable and attractive career option.
Three Types of ADVANCE Programs

(1)

Institutional Transformation (IT) – Five year project
Institutional Transformation awards are expected to include innovative systemic organizational approaches to transform institutions of higher education in ways that will increase the participation and advancement of women in STEM academic careers. These awards support comprehensive programs for institution-wide change. IT projects must include a 5-page research component designed to study the effectiveness of the proposed innovations in order to contribute to the knowledge base informing academic institutional transformation.
Three Types of ADVANCE Programs

(2)

Institutional Transformation Catalyst (IT-Catalyst) – Two year project
IT-Catalyst awards are designed to support historically resource-challenged institutions in efforts to conduct institutional self-assessment activities, such as data collection and analysis and policy review, in order to identify specific issues in the recruitment, retention and promotion of women faculty in STEM academics within an institution of higher education. This type of work is fundamental for institutions that plan to undertake institutional transformation.
Three Types of ADVANCE Programs

(3)

Partnerships for Adaptation, Implementation, and Dissemination (PAID) – One to five year project

Partnerships for Adaptation, Implementation, and Dissemination awards may focus on one institution or organization, or they may be a partnership between several institutions and/or organizations.

ADVANCE Programs across the Nation
http://www.portal.advance.vt.edu/index.php/awards/map
The Adapted activities were:
1. Implement processes to help Deans and Chairs with the hiring of tenured-tenure-track female faculty by:
   - Having more transparent and consistent search and hiring procedures.
   - Integrating Human Resources staff, search committees and administrators in seamless, effective and rapid hiring procedures.
   - Creating our own best practices guidelines.

2. Implement a University-wide mentoring program based in part on a current departmental model (Mechanical Engineering-Engineering Mechanics) that is viewed as successful at Michigan Tech.

3. Expand campus-wide training for all those involved in the recruitment, retention, and advancement of a diverse faculty
General Objectives of Tech’s PAID Project

Our project was divided into two activity types: *Adapted* and *New* activities.

The *New* activities were:
1. Assess University-level interdisciplinary cluster hiring processes relative to the departmental replacement hiring process.

2. Use a restricted access online database screening tool to assemble applicants’ materials, evaluations by committee members, and other information about the applicant pool.

3. Develop “best institutional practices” for appropriate framing of hiring opportunities for faculty, particularly female faculty, in the form of promotional and marketing (branding) materials.
Sub-committees and Goals

Adapted

Accountability in the Hiring Process - Univ of Windsor; Univ of Michigan
• Develop more transparent and consistent search and hiring procedures, education/training of champions of equity who will guide colleagues toward better practices, increased accountability of deans, chairs, committees and administrators, and integration of Human Resources staff, search committees and administrators in seamless effective hiring procedures.

University-Wide Mentoring Program - Michigan Tech ME-EM Dept; Univ of Washington; Univ of Colorado
• Implementation of a University-wide mentoring program based in part on current departmental model that is viewed as a success at Michigan Tech.

Campus-Wide Training Program - Univ of Michigan; Univ of Washington;
• Expansion and development of campus-wide training for all those involved in the recruitment, retention, and advancement of faculty.

https://facultyaffairs.colorado.edu/leap
http://sitemaker.umich.edu/advance/home
Sub-committees and Goals

New

Cluster Hire; Strategic Faculty Hiring Initiative
• Assess the effect of cluster versus replacement hiring.

Online Screening Tools
• Use of a restricted access online database screening tool to assemble applicant materials, evaluations, and other information about the applicant pool.

Best Practices for Promoting Faculty Opportunities
• Development of recommendations for institutional practices to frame hiring opportunities for faculty, particularly female faculty, in the form of promotional and marketing materials.
**Thanks!**

**Sub-committees**

<table>
<thead>
<tr>
<th>Steering Committee</th>
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<tbody>
<tr>
<td>Chris Anderson, Sue Bagley, Peg Gale (Chair), Sonia Goltz, Jackie Huntoon, Lesley Lovett-Doust, Shea McGrew, Donna Michalek, Walt Milligan, Bill Predebon, Anita Quinn, Dave Reed, Max Seel, Patty Sotirin, Laura Vanden Avond*, Lisa Watrous**, Randy Harrison**</td>
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<thead>
<tr>
<th>Accountability in the Hiring Process</th>
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<tbody>
<tr>
<td>Chris Anderson (Chair), Jim Frendewey, Peg Gale (Co-chair), Jill Hodges, Sherry Kauppi, Darrell Radson, Tim Schulz, Bruce Seely</td>
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<tr>
<th>Cluster Hires</th>
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<tbody>
<tr>
<td>Sue Bagley (Chair), Mari Buche, Randy Harrison**, Donna Michalek (Co-chair), Lisa Watrous**, Jason Keith</td>
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<tr>
<th>Faculty Mentoring</th>
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<tbody>
<tr>
<td>Chunxiao(Tricia) Chigan, Mark Gockenbach (Chair), Sonia Goltz, Donna Michalek (Chair), Pushpa Murthy, Judith Perlinger, Bill Predebon (Co-chair), Lisa Watrous**</td>
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<tr>
<th>Online Screen Tools</th>
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<tbody>
<tr>
<td>Sue Bagley (Co-Chair), John Gierke, Kathy Halvorsen, Walt Milligan (Chair), Anita Quinn</td>
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<th>Training Programs</th>
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<tbody>
<tr>
<td>Brad Baltensperger, Patty Lins, Mary Carol Friedrich (Co-chair), Sonia Goltz, Randy Harrison**, Jill Hodges, Sherri Kauppi, Bill Kennedy, Bill Predebon (Chair), Anita Quinn, Patty Sotirin</td>
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<tr>
<th>Promoting Faculty Opportunities</th>
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<tr>
<td>Carl Anderson, Chris Anderson (Co-chair), Ann Brady, Peg Gale (Chair), Bonnie Gorman, Randy Harrison**, Dana Johnson, Faith Morrison, Aurenice Oliveira, Carrie Richards</td>
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</table>

*External Evaluator
** Graduate Student
Thanks!

Other Participants

President’s Commission on Procedures Equity (PCPE) – Oversee University hiring procedures

Colleague for Equity in Procedures (CEP) – Serve on Search Committees

Within the first two years – dropped responsibilities

Diversity Literacy Workshop – Sonia Goltz, Patty Sotirin, Randy Harrison, Jill Hodges, Mark Plichta, Bob Johnson, Michele Miller, Chuck Wallace

Ongoing – and committed to continue by Provost
Partners & Collaborators

Organizations involved
Grand Valley State University - GVSU ADVANCE project

The University of Michigan, STRIDE group visited campus three times and helped with developing our training process. On behalf of the Steering Committee, Anderson also regularly consulted with Dr. Abigail Stewart, the former director of the University of Michigan’s ADVANCE Program during the first year of our grant.

External Collaborators
Dr Daryl E. Chubin, Director of AAAS Center for Advancing Science & Engineering Capacity.

Dr J. Wayne Jones, Arthur F. Thurnau Professor of Materials Science & Engineering, Associate Director, University of Michigan’s ADVANCE Program and Director of the College of Engineering’s ADVANCE Program.

Dr JoAnn Moody, national specialist in faculty development and diversity visited the Michigan Tech campus for two days in April, 2010. After this visit, she followed up with specific comments on the Departmental and School mentoring plans during the Fall, 2010.

Dr Scott E. Page, Professor of complex systems, political science, and economics, University of Michigan. He is the author of the book “The Difference: How the Power of Diversity Creates Better Groups, Firms, Schools, and Societies”. He presented his analytical approach and model simulations that demonstrate why diverse groups outperform a homogeneous group when solving complex problems.

Dr Ruta Sevo, Independent Consultant and former NSF Program Director on Gender in Science and Engineering. Along with Dr. Chubin she presented the basic concepts from social and behavioural sciences research on bias and discrimination, and what higher education campuses can do to create a welcoming climate and to diversify the faculty.

Dr. Abigail Stewart, former director of the University of Michigan ADVANCE Program, Transforming Science and Engineering: Advancing Academic Women. She provided insight and advise from lessons learned and also assisted in scheduling the STRIDE workshop presenters.

Dr John Vandermeer, Margaret Davis Collegiate Professor, Department of Ecology, University of Michigan. He presented at the first STRIDE training, along with Dr. Jones.
## Adapted Activities

<table>
<thead>
<tr>
<th>Adapted From</th>
<th>Accountability in the Hiring Process</th>
<th>University-Wide Faculty Mentoring Program</th>
<th>Campus-Wide Training Programs</th>
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<tbody>
<tr>
<td>Adapted From</td>
<td>Revision of Internal Process; Revision of Internal Faculty Hiring Form; Univ of Windsor; Univ of Michigan</td>
<td>Michigan Tech ME-EM Dept; Univ of Washington; Univ of Colorado</td>
<td>Univ of Washington; Univ of Michigan</td>
</tr>
<tr>
<td>Key Committee / Department</td>
<td>Accountability Sub-committee</td>
<td>Mentoring Sub-committee; Vice President for Research</td>
<td>Training Sub-committee; EO Office and HR</td>
</tr>
<tr>
<td>Goals</td>
<td>Build collegial framework and support for hiring diverse faculty</td>
<td>Assign mentors for newly-hired, untenured faculty</td>
<td>Build awareness and knowledge of gender bias, climate issues, and solutions</td>
</tr>
<tr>
<td>Key Activities</td>
<td>Review of faculty hiring practices and process faculty hiring form; Assessment of present processes in all departments/schools; Conversations on hiring practices among faculty, chairs, and deans</td>
<td>Mentor – mentee relationship in scholarly activities and classroom instruction</td>
<td>Train faculty on equitable procedures for hiring</td>
</tr>
<tr>
<td>Metrics / Measurements of Effectiveness</td>
<td>Number of new women faculty</td>
<td>Faculty retention rates; Institutional metrics for faculty productivity</td>
<td>Number of persons trained; Number &amp; Percent of female faculty hired; Faculty turnover rates</td>
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## Institutional Change

- **Goals**: Build collegial framework and support for hiring diverse faculty.
- **Key Activities**: Review of faculty hiring practices and process faculty hiring form; Assessment of present processes in all departments/schools; Conversations on hiring practices among faculty, chairs, and deans.
- **Metrics / Measurements of Effectiveness**: Number of new women faculty; Faculty retention rates; Institutional metrics for faculty productivity.
- **Institutional Change**: Improved campus climate; Awareness of gender specific issues.

## New Activities

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<tr>
<th>New Activities</th>
<th>Cluster Hires</th>
<th>Online Screening Tools</th>
<th>Best Practices for Promoting Faculty Opportunities</th>
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</thead>
<tbody>
<tr>
<td>New activities and software</td>
<td>New effort developed at Michigan Tech</td>
<td>Use of new software - PeopleAdmin</td>
<td>New effort developed at Michigan Tech</td>
</tr>
<tr>
<td>Key Committee / Department</td>
<td>Cluster Hiring Sub-committee</td>
<td>Search Committees; Online Screening Sub-committee</td>
<td>Provost's Office; ADVANCE PI; Marketing and Communications; Opportunities Promotion Sub-committee</td>
</tr>
<tr>
<td>Goals</td>
<td>Assess impact of cluster hiring on faculty diversity</td>
<td>Online database to support rapid and “bias literate” evaluation of candidates</td>
<td>Promotion of faculty opportunities at Michigan Tech to potential faculty</td>
</tr>
<tr>
<td>Key Activities</td>
<td>Develop on-line Affirmative Program/Applicant Attitude and Post-Interview Surveys</td>
<td>Create PDF file of application materials; evaluation grid for application; evaluation grid for interview</td>
<td>Create written and web-based guidance about Michigan Tech; advertising strategies to a diverse pool of applicants</td>
</tr>
<tr>
<td>Metrics / Measurements of Effectiveness</td>
<td>Diversity of applicant and finalist pools; applicant attitudes, interview feedback</td>
<td>Evaluation by search committees. Assessment of search outcomes.</td>
<td>Design assessment tool to determine effectiveness of materials and strategies;</td>
</tr>
<tr>
<td>Institutional Change</td>
<td>New University-wide procedure for hiring diverse faculty</td>
<td>Equitable and efficient search processes</td>
<td>Specific guidance/rubric to attract a diverse pool of faculty applicants</td>
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</table>
Highlights & Accomplishments

Accountability in the Hiring Process

Key Activities

- Reviewed faculty hiring practices and process faculty hiring form;
- Assessment of present hiring processes in all departments/schools;
- Conversations on hiring practices among faculty, chairs, and deans

Total Number of STEM Female Tenure-Track

- Start of ADVANCE Project
Highlights & Accomplishments

Accountability in the Hiring Process

Percent STEM Female TTenure-Track

![Graph showing the percent of STEM female tenure-track faculty over years with an arrow indicating the start of the ADVANCE Project.](image-url)
Highlights & Accomplishments

University-Wide Faculty Mentoring Program

Key Activities

- Developed processes for Assistant Professor Mentoring program
- During the 2009-2010 academic year Dr. JoAnn Moody led a three-day intensive mentoring workshop with all academic units implementing new mentoring programs.
- Developed recommendations for mentoring of Associate and Full Professors

Percent Tenure-Track Faculty Retained

![Graph showing percent tenure-track faculty retained from FY00 to FY10 for both male and female faculty.]
Highlights & Accomplishments

University-Wide Training Program

**Key Activities**

- Scott Page, Wayne Jones (3 times), John Vendermeer, Daryl Chubin, and Ruta Sevo, JoAnn Moody, Legal Aspects (3 times - Sherry Kauppi). Each of the training sessions were followed by a survey sent to attendees to determine the effects of the workshop for future university diversity training efforts.

- Developed and submitted a recommended career development plan for mid-career faculty to the provost for implementation.

- Patty Sotrin and Sonia Goltz worked with the training sub-committee and Affirmative programs (Sherry Kauppi and Jill Hodges) to develop Diversity Literacy Workshop with a component of Legal Aspects

- Starting Fall, 2012 all faculty search committee members and TPR committee members will be required to be certified in the Diversity Literacy

Total men trained in STRIDE and TECH's Certification workshops -135

- Total men in Legal Aspects - 111
- Total men in all trainings to date - 246

Total women in STRIDE and TECH's Certification workshops - 103

- Total women in Legal Aspects - 92
- Total women in all training to date - 195
Highlights & Accomplishments

Cluster Hires

The goal of this sub-committee was to explore the hypothesis that women and minorities are more strongly attracted to opportunities for collaborative, interdisciplinary scholarship (cluster-based) than to traditional departmental (replacement hire) positions.

Key Activities

- Development of electronic surveys for applicants and for post-interview candidates.

- Compiled and analyzed responses from both the Applicant Survey and the Post Interview survey. STEM-related applicant survey responses collected over three academic years, i.e., 2008–2009, 2009-2010, and 2010-2011. 1,364 applicant survey responses was evaluated.

- For the post-Interview survey, 37 interviewees responded with no differences in response rankings.

Findings

- Continue to survey applicants and interviewees.

- The SFHI females were somewhat (not statistically different) more motivated by the “applied research focus” of the position and “opportunities to work with graduate students”, along with “opportunities for collaboration” than were the STEM Replacement Hire females. In addition, “working in a culturally diverse environment” and “spousal/partner accommodations & opportunities” had higher scores for the SFHI group.
Highlights & Accomplishments

On-Line Screening Tools

Key Activities

➢ Implemented in 2011 the commercial product PeopleAdmin (www.peopleadmin.com) to conduct faculty searches and evaluations. PeopleAdmin is a complete hiring tool that implements web advertisements, collects applications and other materials electronically, and manages the evaluation process by collecting evaluation materials and decision-making processes electronically.

Recommendations

➢ Tech’s Central IT group as well as the ADVANCE group and the Provost’s office will continue to work with Human Resources to ensure that PeopleAdmin meets our goals of equitable, transparent, accountable search procedures. During hiring processes, evaluations will be based on a standard form developed by the ADVANCE and STRIDE groups at the University of Michigan. Michigan Tech modified the form slightly for our environment, and integrated it into PeopleAdmin and the hiring processes. All materials, including hiring decisions and the reasons for the decisions, will be stored in the database and will be available for auditing and data analysis purposes in the future.
Highlights & Accomplishments

Best Practices for Promoting Faculty Opportunities (Web- and print-based)

The goal of this sub-committee was to develop a set of promotional materials and advertisement strategies to assist in the recruitment of a diverse pool of faculty applicants to Michigan Tech. The sub-committee developed assessment tools that are to be used to determine the effectiveness of the web-based and print advertising materials and strategies and a mechanism for continuous improvement.

Key Activities

- Best practices for the development of Tech’s website and the marketing materials when posting employees opportunities.
- A rubric was developed for evaluating websites both the main website and departmental/school websites.

Recommendations

- Working with Marketing and Communications on how to provide these recommendations to search committees to help them in developing descriptions that will continue to enhance our ability to attract female and diverse faculty.
Continuing Work…

- Working with Marketing and Communications on how to provide these recommendations to search committees to help them in developing descriptions that will continue to enhance our ability to attract female and diverse faculty.

- Getting Commitments to *Who will be responsible?* for various tasks in the future - Provost, Affirmative Programs, Human Resources, Marketing & Communications, Institutional Diversity, and Institutional Analysis
Questions?