

Changing the Face of Michigan Tech ADVANCE Final Report Michigan Technological University

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Principal Investigator:	Gale, Margaret R.
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Title:	ADVANCE Partnerships for Adaptation, Implementation, and Dissemination (PAID) Award: Changing the Face of Michigan Tech
Submitted By:	Gale, Margaret – Dean, School of Forest Resources & Environmental Science

1. Project Participants (work summary for project participants are for the annual contributions during the time period 9/2011-6/2012)

Anderson, Chris (Co-PI), Special Assistant to the President for Institutional Diversity

Worked for more than 160 Hours: Yes (50% salary from NSF)

Contribution to Project: Ms. Anderson attended (Project Administration) Steering Committee meetings; chaired the Accountability in the Hiring Process Sub-committee; co-chaired Best Practices for Promoting Faculty Opportunities Sub-committee. As Special Assistant to the President for Institutional Diversity Chris Anderson's portfolio has significant emphasis in areas critical to the ADVANCE grant.

Bagley, Susan (Co-PI), Professor, Biological Sciences

Worked for more than 160 Hours: Yes (0.85 months salary from NSF)

Contribution to Project: Dr. Bagley attended (Project Administration) Steering Committee meetings; chaired Cluster Hires (Strategic Growth Positions) Sub-committee; co-chaired Online Screening Tools Sub-committee.

Gale, Margaret (PI), Dean and Professor, Forest Resources & Environmental Science

Worked for more than 160 Hours: Yes (no salary from NSF)

Contribution to Project: Dr. Gale is the Principal Investigator. In addition to the coordination of the overall project, she attended (Project Administration) Steering Committee meetings; chaired Best Practices for Promoting Faculty Opportunities Sub-committee; Co-chaired Accountability in the Hiring Process Sub-committee.

Predebon, William (Co-PI), Chair and Professor, Mechanical Engineering- Engineering Mechanics

Worked for more than 160 Hours: Yes (no salary from NSF)

Contribution to Project: Dr. Predebon attended (Project Administration) Steering Committee meetings; chaired Campus-Wide Training Programs Sub-committee (prepared agenda and minutes, co-organized training workshops); co-chaired University-Wide Faculty Mentoring Sub-committee.

Seel, Maximillian (Co-PI) and Provost/Vice-President for Academic Affairs

Worked for more than 160 Hours: No (no salary from NSF)

Contribution to Project: Dr. Seel attended (Project Administration) Steering Committee meetings and provided the necessary support for the successful efforts of this project.

Additional Project Participants

Buche, Mari, Associate Professor of Management Information Systems

Worked for more than 160 Hours: No (no salary from NSF)

Contribution to Project: Dr. Buche co-chaired the Cluster Hire sub-committee and contributed to the analysis of the data from this effort of our project

Goltz, Sonia, Professor of Organizational Behavior

Worked for more than 160 Hours: Yes (\$5,000 salary from NSF)

Contribution to Project: Dr. Goltz attended April/May (Project Administration) Steering Committee meetings, the Mentoring sub-committee, and worked on Training sub-committee goals. She and Patty Sotirin co-developed and are coordinating Tech's *Best Practices in Diversity and Bias Literacy* training for the coming years. This effort was implemented through our Training sub-committee's work.

Harrison, Randy, PhD student in Rhetoric and Technical Communication

Worked for more than 160 Hours: Yes (\$18,104 Scholarship support from NSF award)

Contribution to Project: Mr. Harrison attended (Project Administration) Steering Committee, and Training Programs Committee meetings; developed the website for Michigan Tech's ADVANCE project; developed the website for the ADVANCE Diversity Literacy Online Workshop, in consultation with directors Patty Sotorin and Sonia Goltz. Mr. Harrison organized training sessions in collaboration with the Training sub-committee. He also developed an automated searchable database for displaying diversity literacy certification status for Michigan Tech faculty.

Hodges, Jill, Director of Affirmative Programs (June, 2011-Present)

Worked for more than 160 Hours: Yes (no salary from NSF)

Contribution to Project: Ms. Hodges has been overseeing the Legal Aspects of Hiring part of the training.

Kauppi, Sherry, Director of Affirmative Programs (August 2008-June, 2011)

Worked for more than 160 Hours: Yes (no salary from NSF)

Contribution to Project: Ms. Kauppi oversaw the Legal Aspects of Hiring part of the training until June, 2011.

Michalek, Donna (Senior Personnel)

Worked for more than 160 Hours: Yes (no salary from NSF)

Contribution to Project: Since she has left Michigan Tech, Dr. Michalek has been serving in an advisory role working with the graduate students and the PI to have a smooth transition from one PI to the next. She will also be involved in reports and publications that will be produced from this project.

Milligan, Walt, Chief Information Officer

Worked for more than 160 Hours: Yes (no salary from NSF)

Contribution to Project: Dr. Milligan oversaw the development of the PeopleAdmin software and the framework for application evaluation process.

Quinn, Anita, Director of Human Resources

Worked for more than 160 Hours: Yes (no salary from NSF)

Contribution to Project: Ms. Quinn oversaw the individuals in Tech's Human Resources who are developing the evaluation and hiring forms.

Sotirin, Patty, Professor of Communication

Worked for more than 160 Hours: Yes (\$5,000 salary from NSF)

Contribution to Project: Dr. Sotirin is the academic advisor to both Ms. Watrous and Mr. Harrison. She attended (Project Administration) Steering Committee meetings and worked on Training Sub-committee goals. She and Sonia Gholtz co-developed and are co-coordinating Tech's new *Best Practices in Diversity and Bias Literacy* training for the coming years. This effort was implemented through our Training sub-committee's work.

Vanden Avond, Laura, External Evaluator.

Worked for more than 160 Hours: Yes (\$10,000 salary from NSF)

Contribution to Project: Dr. Vanden Avond reviewed all data as they became available. She contributed to the development of the logic model and the survey instruments used for evaluation purposes and the larger databases on faculty hiring, and promotion and retention.

Watrous, Lisa, PhD student in Rhetoric and Technical Communication

Worked for more than 160 Hours: No (\$3,248 from NSF)

Contribution to Project: Ms. Watrous developed the online Survey Monkey® questionnaires for (Hiring Practices and for Promotion Sub-committees) and also helped with data collection and analyses for the Cluster Hire and Accountability sub-committees.

ADVANCE Steering Committee

Members were Margaret Gale (Chair, and PI), William Predebon (Co-PI), Christine Anderson (Co-PI), Susan Bagley (Co-PI), Walter Milligan (CIO), David Reed (Vice President for Research), Max Seel (Co-PI and Provost), Jackie Huntoon (Dean of the Graduate School), Shea McGrew (Vice President for Advancement), Lisa Watrous (PhD Student), and Randy Harrison (PhD Student).

A. What other organizations have been involved as partners?

Grand Valley State University - Several of the Michigan Tech ADVANCE PIs participated in a conference call with members of the GVSU ADVANCE project. Both programs discussed their project goals and GVSU discussed the challenges they faced during the first two years of their three year project.

The University of Michigan, STRIDE group visited campus three times: 1-day event that included a working breakfast with senior administrators, an informal discussion with the steering committee, which included the PIs and collaborators and the PhD students, and a two hour workshop with the faculty members involved in: the senior level "President's Commission on Procedures and Equity", the "Colleagues for Equity in Procedures", who serve as members from cognate disciplines on search committees, and the current deans, chairs, search committee chairs and search committee members; 1-day event that included a meeting with PIs on how to facilitate a STRIDE-Like workshop for Michigan Tech. They also met with potential faculty who could be trainers in the future for a program like STRIDE and provided recommendations for the development of Tech's own 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

B. External Collaborators

Dr Daryl E. Chubin, Director of AAAS Center for Advancing Science & Engineering Capacity. He presented along with Dr. Sevo 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 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. Jones was the presenter for all three of the University of Michigan STRIDE workshops given at Michigan Tech during the 3-year grant.

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 advice 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.

2. Activities and Findings

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

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.
 - ∇ Investigating additional retention issues specific to Michigan Tech, using a more focused faculty climate survey, increased use of faculty focus groups and additional best practices obtained from other Institutions.
 - ∇ 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.

The *New* activities were:

1. Develop consistent University-level interdisciplinary cluster hiring processes in parallel with “normal” 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.

The following Logic Model (Table 1) was used as a template for the *adapted* and *new* activities.

Table 1: Logic Model for *Adapted* and *New* Activities

Adapted Activities	Accountability in the Hiring Process	University-Wide Faculty Mentoring Program	Campus-Wide Training Programs
Adapted From	Revision of Internal Process; Revision of Internal Faculty Hiring Form; Univ of Windsor; Univ of Michigan	Michigan Tech ME-EM Dept; Univ of Washington; Univ of Colorado	Univ of Washington; Univ of Michigan
Key Committee / Department	Accountability Sub-committee	Mentoring Sub-committee; Vice President for Research	Training Sub-committee; EOffice and HR
Goals	Build collegial framework and support for hiring diverse faculty	Assign mentors for newly-hired, untenured faculty	Build awareness and knowledge of gender bias, climate issues, and solutions
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	Mentor – mentee relationship in scholarly activities and classroom instruction	Train faculty on equitable procedures for hiring
Metrics / Measurements of Effectiveness	Number of new women faculty	Faculty retention rates; Institutional metrics for faculty productivity	Number of persons trained; Number & Percent of female faculty hired; Faculty turnover rates
Institutional Change	Fair and equitable hiring process	Establish a culture of effective mentoring for all faculty	Improved campus climate; Awareness of gender specific issues
New Activities	Cluster Hires	Online Screening Tools	Best Practices for Promoting Faculty Opportunities
New activities and software	New effort developed at Michigan Tech	Use of new software- <i>PeopleAdmin</i>	New effort developed at Michigan Tech
Key Committee / Department	Cluster Hiring Sub-committee	Search Committees; Online Screening Sub-committee	Provost's Office; ADVANCE PI; Marketing and Communications; Opportunities Promotion Sub-committee
Goals	Assess impact of cluster hiring on faculty diversity	Online database to support rapid and "bias literate" evaluation of candidates	Promotion of faculty opportunities at Michigan Tech to potential faculty
Key Activities	Develop on-line Affirmative Program/Applicant Attitude and Post-Interview Surveys	Create PDF file of application materials; evaluation grid for application; evaluation grid for interview	Create written and web-based guidance about Michigan Tech; advertising strategies to a diverse pool of applicants
Metrics / Measurements of Effectiveness	Diversity of applicant and finalist pools; applicant attitudes, interview feedback	Evaluation by search committees. Assessment of search outcomes.	Design assessment tool to determine effectiveness of materials and strategies;
Institutional Change	New University-wide procedure for hiring diverse faculty	Equitable and efficient search processes	Specific guidance/rubric to attract a diverse pool of faculty applicants

It was also used as a framework for sub-committees, their activities, metrics and measurements of effectiveness; and the proposed Institutional change. This report summarizes our activities using the information in the Logic Model and the additional accomplishments and findings that occurred on this project.

• **Research and Educational Activities**

The research and educational activities from this project were:

Accountability in the Hiring Process

Members of the Accountability sub-committee were Chris Anderson (Chair and Special Assistant to the President for Institutional Diversity), Jim Frendeway (Dean, School of Technology), Margaret Gale (co-chair and Dean, School of Forest Resources and Environmental Sciences), Sherry Kauppi (previous Director, Affirmative Programs), Jill Hodges (New Director of Affirmative Programs), Anita Quinn (Director, Human Resources), Darrell Radson (Dean, School of Business & Economics), Tim Schulz (Dean, College of Engineering), Bruce Seely (Dean, College of Sciences and Arts). Anita Quinn was added in year 3 and Jill Hodges replaced Sherry Kauppi in September, 2011.

The goal of this sub-committee was to build a collegial, fair and equitable framework for hiring faculty. During the ADVANCE grant a process was established to help ensure that our faculty's hiring efforts would result in a more diverse candidate pool and essentially a more diverse faculty. To accomplish this, the sub-committee initiated an intensive review of the hiring procedures, outlined on the Human Resources website, and completed a comprehensive review of departmental search committee and hiring

approaches. The Accountability sub-committee then evaluated the hiring statistics (number and percent of female and male applicants, interviewees, declines, and hires in concert with the procedures in each department and school to identify significant patterns in process or procedures that indicate positive gender hiring outcomes.

It was originally thought that one person, a 'CEP' (Colleagues for Equity and Procedures) who was trained in Bias Literacy and Best Practices for Hiring, would serve on each search committee with University oversight by senior faculty called the Presidential Council for Procedures and Equity (PCPEs). Two years into the project, Steering Committee with full support from the Provost and Accountability sub-committee decided that all search committee members will be trained in Bias Literacy and Best Practices in Hiring. Therefore, the CEP and PCPE concept was re-evaluated and dropped.

This sub-committee continued to discuss strategies for the institutionalization of consistency and transparency in the search and hiring process to more clearly define the deans' role of accountability in this process. In addition, Michigan Tech's 2010, five year climate survey results were distributed, including comparisons to the 2005 climate survey, and discussed with the President, Provost, Vice-presidents, and Deans, Chairs and Directors. As a result of this sub-committee's discussions and the survey responses, additional training and workshops are being organized for future related professional development for faculty.

University-Wide Faculty Mentoring Program

Members of University-Wide Mentoring Sub-committee were: Donna Michalek (Chair 2008-2010-Mechanical Engineering-Engineering Mechanics), Mark Gockenbach (Chair 2010-2012-Mathematical Sciences), William Predebon (Co-Chair- Mechanical Engineering-Engineering Mechanics), Tricia Chigan (Electrical and Computer Engineering), Sonia Goltz (School of Business and Economics), Pushpa Murthy (Chemistry), and Judith Perlinger (Civil and Environmental Engineering).

The goal of this activity was to assign mentors for newly-hired, untenured faculty and to create a mentor – mentee relationship in scholarly activities and classroom instruction. The tasks identified by the mentoring sub-committee included disseminating the results of benchmarking and research on mentoring programs, developing a framework for the university-wide mentoring program for untenured faculty, training of mentors, and placing all untenured faculty in a mentoring relationship by August 2010.

Having established the importance of regularly informing the deans and chairs of the progress being made by the mentoring committee, a significant effort focused on developing an interactive session to kick off implementation of the mentoring program. The mentoring committee provided the provost, deans, chairs and the director of teaching, learning and faculty development with the following materials: benchmarking results of Michigan Tech mentoring efforts, a summary of the research on effective mentoring programs, a framework for the Michigan Tech mentoring program that included the responsibilities for and contributions to the mentoring program by the provost's office and each academic unit, a timeline for implementation of the program, and a schedule of upcoming related events. A two-hour, highly interactive deans and chairs meeting was held in December 2009 to discuss the materials and the implementation plan and obtain a commitment to proceed.

Upon receiving a commitment from the provost, deans, and chairs to implement a mentoring process for untenured faculty, the mentoring committee worked with Dr JoAnn Moody to offer education/training sessions to start the program. Dr Moody had several discussions with mentoring committee members and reviewed and commented on the mentoring plans for each school, college, and department in preparation for the sessions to be offered during her visit. She also spoke with the Provost to provide her recommendations for mentoring processes.

At the beginning of the 2010-11 academic year, Mark Gockenbach from Mathematical Sciences became chair of the sub-committee due to Donna Michalek leaving the University for another position. The following goals were set for the FY11 and FY12 academic year:

1. Produce a regular schedule of events, put on by the Research Office, the Provost's office and possibly the Center for Teaching, Learning, and Faculty Development that will help departments mentor all faculty and train faculty mentors; and,
2. Develop recommendations for mentoring Associate Professors to the rank of Professor.

Campus-Wide Training Programs

The Campus-Wide Training sub-committee members were: William W. Predebon (Chair), Mary Carol Friedrich (Co-Chair), Brad Baltensperger (Cognitive and Learning Sciences), Sherry Kauppi (Affirmative Action), Jill Hodges (Affirmative Action), Anita Quinn (Human Resources), and Randal Harrison (Graduate student in Humanities). Past members included Lesley Lovett-Doust (former Provost), William Kennedy (Center for Teaching, Learning, and Development), Patty Lins (Educational Technology), and Christa Walck (Assistant Provost).

The goal of this activity was to build awareness and knowledge of gender bias, climate issues, and direct solutions to the equitable hiring of faculty. The sub-committee worked on the planning, selection, content, and execution of the all training workshops. The targeted faculty groups for the workshops were all tenure-track faculty, faculty search committee members, department chairs, and deans. During the first year of the grant it also included the University President, the VPs and other upper administration officials.

For each workshop the Provost sent a letter to the targeted groups to attend the workshops. In the third year of this project, staff were also targeted for the Legal Aspects workshop. The workshops were also advertised in Michigan Tech's daily news publication "Tech Today". The Provost also sent a message to the College and School Deans and Department Chairs requesting them to encourage their faculty to attend.

The following is the list of training workshops and presentations during the grant period:

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". The workshop was on the results of his analytical approach and model simulations that demonstrate why diverse groups outperform a homogeneous group when solving complex problems.

The University of Michigan STRIDE (Strategies and Tactics for Recruiting to Improve Diversity and Excellence) workshops focused on how the efforts on faculty recruitment for diversity and excellence positively impacted the academic community of the University of Michigan and how these practices can be implemented at Michigan Tech. 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. Jones was the presenter for all three of the University of Michigan workshops given at Michigan Tech during the 3-year grant). Dr. John Vandermeer, Margaret Davis Collegiate Professor, Department of Ecology, University of Michigan participated in the STRIDE training the first year of the grant.

Dr. Daryl E. Chubin, Director of AAAS Center for Advancing Science & Engineering Capacity, and Dr. Ruta Sevo, Independent Consultant and former NSF Program Director on Gender in Science and Engineering, presented a workshop on the basic concepts from social and behavioral sciences research on bias and discrimination, and what higher education campuses can do to create a welcoming climate and to diversify the faculty. Attendees were invited to join one of two breakout sessions, each of which probed interactively and in more depth a core topic: *Getting Savvy about Climate* and *Diversifying the Faculty*.

"Legal Aspects of Faculty Hiring" workshops were held during each semester of each academic year to increase the opportunities for faculty to attend. In all the workshops CEPs, PCPEs, Department Chairs, Deans, and search committee members and chairs were invited. All of the Legal Aspects workshops included a presentation and an interactive session. The interactive session included several real-world scenarios to stimulate discussion and exchange of responses. Each table of 4-6 attendees was given one scenario to study and present their conclusion to the group. After which each table was given the opportunity join in the discussion. The presentation included a review of the university faculty hiring procedure and forms, Federal and State laws, university policies relevant to the faculty hiring process and affirmative action requirements. During the third year of the grant it was opened to staff who worked on faculty hiring at Michigan Tech.

In the third year, the sub-committee developed Michigan Tech version of the University of Michigan STRIDE workshop called “Best Practices for Bias Literacy and Diversity (BPBLD)”, which also included the “Legal Aspects of Faculty Hiring ” workshops. This plan was presented to and approved by the rest of the PIs on the project and the ADVANCE Steering Committee. During the FY11 and FY12 academic years, the workshop on Diversity Literacy was developed by Sonia Goltz and Patty Sotirin and became part of Michigan Tech's ongoing commitment to faculty diversity and gender equity to build a supportive campus climate.

Cluster Hires

The Cluster Hires sub-committee members were: Susan Bagley (Chair- Biological Sciences), Mari Buche (Business and Economics), Jason Keith, and Lisa Watrous (Graduate student in Humanities), and Donna Michalek (ex officio). (Donna Michalek and Jason Keith left the University in 2010 and 2011, respectively.)

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. As the ADVANCE project got underway, Michigan Tech began recruiting for faculty positions hired in clusters by various topical areas in order to promote collaborative research endeavors across disciplines. This hiring agenda is called the Strategic Faculty Hiring Initiative (SFHI) with 7-10 faculty lines available for each initiative. The 2008-2009 SFHI search had the theme of “Computational Discovery and Innovation”. Two themes, “Health” and “Energy”, were selected for the both the 2009-2010 and 2010-2011 SFHI searches, with 5 faculty lines available per year for each theme (for a total of 7-10 faculty lines/year).

In order to assess the gendered faculty climate at Michigan Tech and to determine areas for improvement, an “Applicant Survey” was developed. Due to the overlap in requested information, it was decided to combine Michigan Tech's Affirmative Programs Office (APO) survey (previously sent by mail to all applicants) with the ADVANCE Project Survey. Following specific IRB approval, the survey was converted to SurveyMonkey® format and transferred to the APO's account. This meant that only APO personnel could directly access the survey results. ADVANCE researchers could access the results only upon a request to APO; this did not occur until after all faculty searches (replacement hire and SFHI) had closed for any given year. The Applicant Survey was voluntary and the survey link was sent to all faculty applicants prior to initial screening.

By the time the Applicant Survey was developed and approved by the IRB, the deans, APO, and the provost for implementation in 2009, most replacement hire searches had been completed, although a SFHI search was still ongoing. Survey information was sent to all SFHI applicants and applicants for replacement hires in Social Sciences and the School of Forest Resources and Environmental Sciences. Based on observations and feedback from the original responses, several changes were made to the Applicant Survey before it was used for the next round of SFHI hires (2009-2010). The changes included modifications for 1) the APO portion and 2) clarifications for the ADVANCE portion (<http://advance.mtu.edu/cluster.html>). After review and approval by the IRB, this revised survey was converted to SurveyMonkey® and the survey link was sent to all SFHI and replacement hire applicants during 2009-2010. After review of these results, no changes were made to the survey in 2010-2011.

A Post-Interview Survey was also developed starting in 2009-2010. The first section of the survey (“Personal Data”) was the same as for the Applicant Survey. The second portion (“Interview Analysis”) was modified from a survey developed by the Michigan Tech Climate Study Steering Committee. After development of this survey instrument, review by university personnel, and IRB approval, the survey was converted to SurveyMonkey® format (http://advance.mtu.edu/resources/docs/PostInterviewSurvey_WebsiteVersion.pdf). This survey was designed for distribution directly from the hiring units to the interviewees immediately following their on-campus interviews. The results from this survey were available to this sub-committee without any delay. After examination of the 2009-2010 responses from the Post-Interview survey, it was decided that no changes were necessary and the same survey (after approvals) was used in 2010-2011. With both surveys, respondents were provided the opportunity to include open-ended, written comments.

Online Screening Tools

The Online Screening Tools sub-committee members: Walter Milligan (Chair, Chief Information Officer), Susan Bagley (Co-Chair, Biological Sciences), John Gierke (Geological and Mining Engineering and Sciences), and Kathleen Halvorsen (Social Sciences).

The goal of this sub-committee was to develop robust and unbiased procedures and tools for faculty search committees to evaluate candidates. These tools were aimed at promoting equitable and transparent evaluations of candidates. Michigan Tech purchased and implemented 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. During the hiring process, evaluations are based on a standard form developed by the ADVANCE and STRIDE groups at the University of Michigan. This form was specifically designed to minimize bias. Michigan Tech modified this form for our environment, and have integrated it into PeopleAdmin and the hiring processes. All materials, including hiring decisions and the reasons for the decisions, are stored in the database and available for auditing and data analysis purposes in the future.

Due to personnel changes/considerations in Tech's Human Resource Department the PeopleAdmin software was not used until early 2011. It was initially used in early 2011 for staff searches and evaluations, as a beta test group. Beginning in Fall 2011, PeopleAdmin was used for faculty and chair/dean searches and will continue into the future.

Best Practices for Promoting Faculty Opportunities

The Best Practices sub-committee members were: Peg Gale (Chair), Chris Anderson (Co-chair), Carl Anderson (Associate Dean, College of Engineering), Ann Brady (Humanities), Bonnie Gorman (Marketing and Communications), Faith Morrison (Chemical Engineering), Aurenice Oliveira (Technology), and Carrie Richards (Marketing Assistant in Forest Resources and Environmental Science).

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.

In the past, various media had been used to advertise open faculty positions at Michigan Tech. We initially polled all women faculty at Michigan Tech for their suggestions as to Universities that successfully "attract" their interest via the web. We also polled faculty who applied for both the cluster hire and replacement hire positions. Most found job positions online. We also reviewed the rankings of the top ten universities who succeed in recruiting women faculty, and used this list to direct the sub-committee's choices of who to benchmark. Websites from ten benchmark universities (California Polytechnic University, Lehigh University, Rensselaer Polytechnic Institute, Virginia Tech, Oregon State University, Texas Tech, Missouri S & T, Georgia Tech, University of Georgia, Clarkson) plus websites from six other universities (University of Michigan, Berkeley, Drexel, Colorado State, Michigan State University, Mount Holyoke, Michigan State) were chosen for assessment. Michigan Tech's website was also assessed in this process to provide us a point of reference.

To assess the delivery of the information on these websites, Montelone et al's (2006) article on *Designing a Welcoming and Inclusive STEM Department Websites* was reviewed and a summary table was developed as a guide for evaluation criteria.

Burack and Franks (2006) article on *Evaluating STEM Department Websites for Diversity* was also reviewed to help us with developing a "rubric" for assessing Universities' websites. When reviewing the above-mentioned benchmark Universities' websites, data were collected on best practices that were observed on these websites.

The sub-committee then examined unconscious bias in job advertisements at Michigan Tech and other benchmark schools. The sub-committee identified several areas for improvement in our practices at Michigan Tech and made recommendations to the marketing and communications director on how

websites and print materials advertising faculty positions might increase gender diversity especially with regard to STEM faculty at Michigan Tech.

References

- Burack, C. and S.E. Franks. 2006. *Evaluating STEM Department Websites for Diversity*. Proceedings of the 2006 WEPAN Conference.
- Montelone, B.A., R.A. Dyer, C. Burack, and S.E. Franks. 2006. *Designing Welcoming and Inclusive STEM Department Websites*. Proceedings of the 2006 WEPAN Conference.

• Major Findings Resulting from these Activities

The major findings resulting from the above-mentioned activities were (**Bolded** indicates one of the six activities for this grant):

A set of recommended best practices were outlined to encompass the **accountability** of administrators for hiring STEM and non-STEM female faculty (*Appendix A-1*). The recommendations include internal best practices for hiring; additional strategies from *Diversifying the Faculty*, Turner, and *Faculty Diversity*, Moody; and approaches discussed at a workshop facilitated by Dr. Stephanie Adams entitled *Recruiting and Retaining Diverse Faculty and Graduate Students*. These strategies were shared with all faculty and administrators, and Faculty Hiring Recommendations will be included on the Human Resources and Institutional Diversity webpages.

Faculty disposition data: number and percent of female and male applicants, interviewees, and hires, were matched to each University department or school (*Appendices A-2 and A-3*). To assess Tech's progress in attracting women faculty, twelve years of data were analyzed describing the history of the number of tenured-tenure track female faculty (Figure 1), the percent of tenured-tenure track faculty (Figure 2), the number of tenured-tenure track female STEM faculty (Figure 3), and the percent of tenured-tenure track female STEM faculty (Figure 4). The total number of female faculty were collected by college and school (*Appendix A-4*). The University Climate Survey results were shared with Chairs and Deans to help describe the current perceptions of the Climate in 2010-11. In addition, a process for developing an historical review of retention by female and male faculty was also collected (*Appendix A-5*). Data were not available on the promotion of female faculty and needs to be assessed more closely to better track an individual faculty member and her progress through tenure and promotion compared to her male colleagues.

Figure1: Total number of female tenured-tenure-track faculty from FY00-FY11.

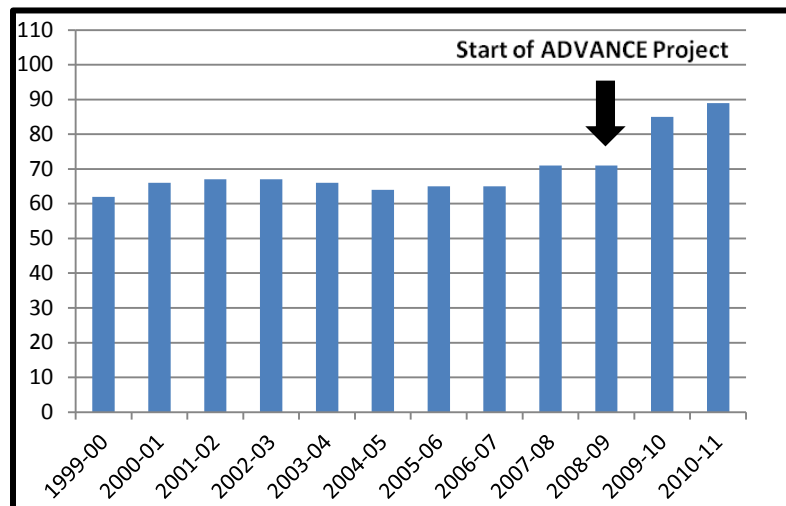


Figure 2: Percent female tenured-tenure-track faculty from FY00-FY11.

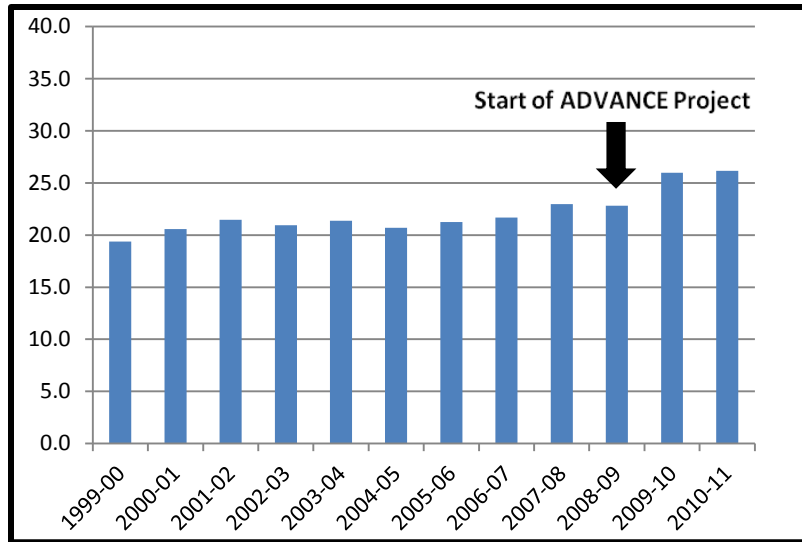


Figure 3: Total Number of female STEM tenured-tenure-track faculty from FY00-FY11.

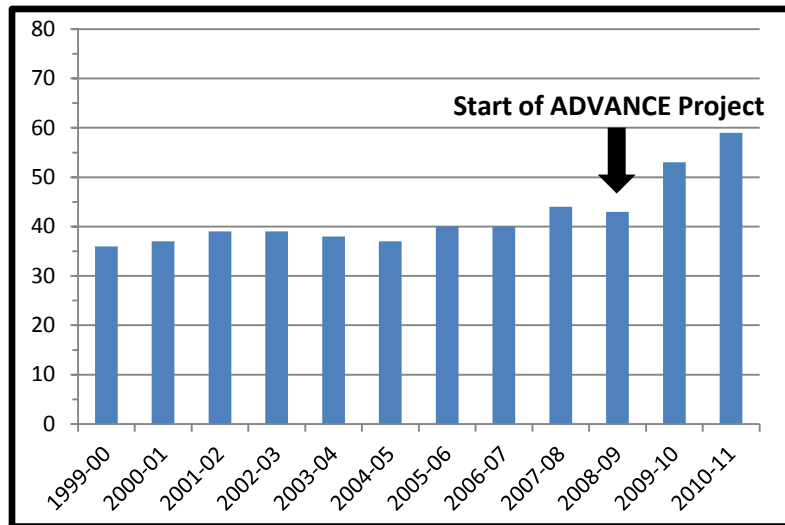
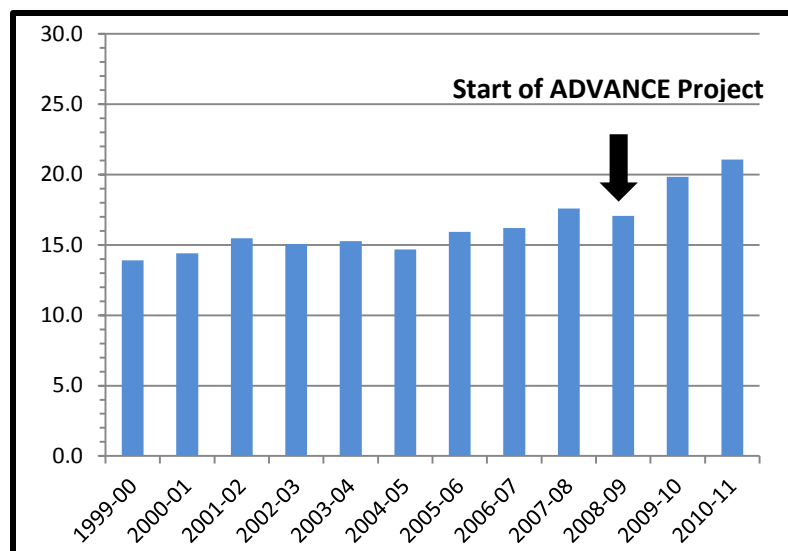


Figure 4: Percent female STEM tenured-tenure-track faculty from FY00-FY11.



Data indicates that we have improved the number and percent female tenured-untentured STEM and total faculty. Yet, new deans were placed in their positions in FY06 and FY07 fiscal year which may be confounding the data. At present three deans positions will be filled in the FY13 fiscal year. Ongoing oversight will tell if increased training and the people and process put into place will continue the positive trend of increasing female STEM faculty presence at Michigan Tech.

The **Accountability** sub-committee supported the Provost in approving the ADVANCE recommendation that all the search committee members go through *Bias Literacy and the Legal Aspects* training at least once every four years. As all faculty must take the *Bias Literacy and the Legal Aspects* training before serving on a search committee, the term 'CEP' (Colleagues for Equity and Procedures) will not be continued. All search committee members will effectively be "CEPs". A website listing all faculty who have already been trained is active and chairs will receive an updated list each semester of trained faculty. (Refer to the Training summary for details on the training process and ongoing renewal of the training.)

In addition, our original proposal did not include requiring a CEP for Dean and Chair searches. The sub-committee has now recommended that in the future these searches also be composed of trained faculty. The requirement that Promotion & Tenure committee members also be trained was initially discussed by this sub-committee and then recommended by the ADVANCE PIs to be another component incorporated into our trainings. The Provost concurred with this recommendation, as well.

The **Accountability** sub-committee and the ADVANCE Steering Committee determined that the original proposal to establish a Presidential Council for Procedures and Equity (PCPEs) was not necessary. Each dean is committed to working with their departments or schools, Human Resources, and Institutional Diversity to ensure a collegial framework and support for an equitable and fair hiring process.

Future discussions will include how the deans will continue to create and sustain a culture that ensures that dean/chair and faculty search committees are **accountable** for recruiting a diverse pool, building a diverse faculty, and are maintaining a supportive environment for all faculty? Annual data will need to be collected to continue to "change the face of our faculty". Change in position descriptions for deans and chairs need to clarify their leadership role in the on-going initiative to advance women at Michigan Tech.

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- Turner, C. 2002. *Diversifying the Faculty*. Washington, DC: Association of American Colleges and Universities.

A plan for **mentoring** pre-tenure faculty across campus was developed. This plan focused mainly on intra-departmental activities, mandating that each department or school have a mentoring plan and that there be a chain of accountability (department chairs accountable to their deans for the implementation and evaluation of the mentoring plans, deans, including school deans, accountable to the Provost). The sub-committee recommended this model of accountability in hopes that the plans would be sustainable after the ADVANCE grant ends). The Provost accepted the sub-committee's proposal, which was presented to the department chairs and school deans at an Academic Forum meeting in the middle of the 2010-11 academic year. In the succeeding six months, all departments and schools completed their mentoring plans. The Assistant Provost will annually follow up with Department Chairs and with Deans to update their plans and to assure that pre-tenure faculty are establishing strong mentor-mentee relationships.

A second goal of the **Mentoring** sub-committee for effective mentoring of midcareer faculty was met by soliciting comments and suggestions from Deans and Department Chairs at a meeting September 24, 2010. A lively discussion was held, and the sub-committee received much useful feedback. At several meetings held during the Spring 2011 semester, the committee formulated a list of recommendations to the Provost concerning the mentoring of midcareer faculty. These recommendations have not yet been finalized but this was above what we had originally proposed and will most likely be implemented.

The **Campus-Wide Training** sub-committee developed Michigan Tech's version of the University of Michigan STRIDE workshop, called "Best Practices for Bias Literacy and Diversity (BPBLD)", which includes the "Legal Aspects of Faculty Hiring workshops. Two faculty whose research is in bias literacy have agreed to lead this effort to train the trainers. They are Dr. Patty Sotirin, Professor, Humanities Department and Dr. Sonia Goltz, professor, School of Business and Economics. The BPBLD workshop is now required for those serving on faculty search committees and on promotion and tenure committees. The workshop is organized as a three-week online course building literacy in recognizing unconscious gender bias, and culminates with a 1½ hour seminar on the legal aspects of diversity-centered hiring practices at Michigan Tech. The three-week online component of the workshop focuses on understanding, recognizing, and responding to unconscious gender bias which can hinder the successful recruitment, retention, and promotion of a diverse faculty at Michigan Tech. The final component of the workshop is a 1½ hour interactive session given by the Jill Hodges (Director of Affirmative Programs) on topics including university policies, and state and federal laws (e.g., affirmative action requirements) relevant to search committee work and the faculty hiring processes. Participants respond to a series of scenarios which challenge faculty to adopt these best practices in hiring for diversity. Four other faculty have been identified with a list of backups if needed to do the training. There will be 2 workshops per semester per year. The Provost has established that all faculty on search committees and promotion and tenure committees must be trained starting Fall, 2012 and receive this training every four years. Total attendances at the workshops during our project have been the following:

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**

The **Cluster Hire** sub-committee compiled and analyzed responses from both the Applicant Survey and the Post Interview survey. STEM-related applicant survey responses were collected over three academic years, i.e., 2008–2009, 2009-2010, and 2010-2011. For purposes of this study, replacement hire respondents from non-STEM units were not considered, i.e., from the Departments of Humanities, Visual and Performing Arts, and Cognitive and Learning Sciences and School of Business and Economics. Responses were evaluated only for applicants who indicated both gender and type of position (SFHI or STEM Replacement Hire) for which the application was made. As shown in Table 2, the information from 1,364 applicant survey responses was evaluated. About 8% of the returned surveys did not specify gender (Table 2); these responses were therefore not included in further analyses. It is important to note that the survey for the 2008-09 academic year was sent to the full complement of SFHI applicants but only three of the replacement searches (from two academic units) due to being administered relatively late in the year. A few responses were also obtained from other STEM units with ongoing replacement hire searches.

The numbers of applicants (total and by gender) obtained from the AO applicant logs for the three years of this study (Table B-1, Appendix B-1). Proportionally greater numbers of applicant survey respondents self-reported gender than for the entire applicant pool. The response percentages (Table 2) are considerably greater for the SFHI applicant pool (up to 88% in 2009-2010) as compared to the STEM Replacement Hire applicants. The very low applicant survey participation percentage noted for 2008-2009 (total STEM and STEM Replacement Hires) reflects that the applicant survey was not sent to all STEM Replacement Hire applicants. It is difficult to determine whether or not the Cluster Hire concept was more attractive to females due to the substantial numbers of applicants who did not specify a gender (Appendix B-1).

Table 2: Distribution of Returned Applicant Response Surveys.

Applicant Type	2008-2009	2009-2010	2010-2011
Total STEM Hire	279	640	445
Female	51 (18%)	96 (18%)	81 (18%)
Male	220 (79%)	488 (76%)	314 (71%)
Gender Not Indicated ^a	8 (3)	56 (9%)	51 (11%)
Total SFHI Hire	153	299	210
Female	24 (16%)	36 (12%)	39 (19%)
Male	129 (84%)	261 (87%)	170 (81%)
Gender Not Indicated ^a	0	2 (1%)	1 (<1%)
Total STEM Replacement Hire	126	341	235
Female	27 (21%)	60 (18%)	42 (18%)
Male	91 (72%)	227 (67%)	144 (61%)
Gender Not Indicated ^a	8 (7%)	54 (16%)	49 (21%)
SFHI Applicants by Topic			
Computational Discovery-Female	24	NA	NA
Computational Discovery-Male	129	NA	NA
Health-Female	NA ^b	19	25
Energy- Female	NA	17	14
Health-Male	NA	128	79
Energy-Male	NA	133	91

^a Survey response not included in further analyses.

^b Not Applicable.

Table 3: Percentage of Total Applicants Responding to the Applicant Survey^a

Applicant Type	2008-2009	2009-2010	2010-2011
Total STEM Hire	14	51	26
Total SFHI Hire	47	88	49
Total STEM Replacement Hire	7.5	37	18

^aComparing Applicant Survey response to AO Applicant Log Data.

The SFHI results are most informative if the specific interdisciplinary focus of the hiring initiative is considered in combination with the applicant data. The SFHI for 2008-09 focused on Computational Discovery and Innovation. The percentage of female applicants was roughly 18%, not surprising given the low representation of females in computing fields nationally, particularly in higher education fields.¹⁻⁵ The SFHI initiatives for the two subsequent years were divided between disciplines related to Energy and Health. It was anticipated that more females would apply to the Health SFHI since the initiative includes a number of disciplines considered more traditionally occupied by females⁶. When the data from the two years were combined, the numbers of SFHI Health-related female applicants was slightly higher than for the Energy-related fields (Table 2).

As the 2008-2009 STEM department replacement hire data contain far fewer responses from a limited number of searches, detailed comparisons between the SFHI and replacement hire responses were not conducted for this first year. Several of the open-rank questions for the 2009-2010/2010-2011 surveys were also slightly modified based on the responses to the first survey. As shown in Appendix B-2, the first three questions under “motivation for applying for positions” are the same in all applicant surveys. A second series of questions ranking the importance of various elements, was added after the first year. As the same SFHI themes and Applicant Surveys were used in 2009 -2010 and 2010-2011, the data from the two years for each type of hire were combined for analysis as STEM Replacement Hire (male and female) and SFHI (male and female) (Figure 5). The responses (presented as mean ± S.D.) in Tables 4 and 5 are listed in order of the scores, i.e., the elements considered to be more important by the majority of the groups are at the top of the tables.

Based on the data in Table 4, the female and male respondents provided about the same order of importance for elements that motivated them to apply for the positions at Michigan Tech. All elements were considered to be quite important (scores ~4.0) except for “spousal/partner accommodations & opportunities.” Similar responses were found with the 2008-2009 surveys, as presented in Table B-2 (Appendix B-1), when comparing the same elements. While the responses from the males were very similar, some differences in responses were noticed for most of the elements between the female SFHI and STEM Replacement Hire groups. The SFHI females were somewhat 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.

In contrast, all groups provided similar responses when asked to rank elements “in order of importance to you in applying for this position.” There was little difference in ranking between the first three elements listed in Table 5. However, “location” was clearly ranked the lowest for each group. Interestingly, the female SFHI respondents considered “working in a culturally diverse environment” to be slightly less important when applying for these positions than did the female STEM Replacement Hire respondents. This is in contrast to the results reported in Table 4 where “working in a culturally diverse environment” was considered to be of more interest.

Figure 5: Combined 2009-2010/2010-2011 SFHI vs. STEM Replacement Hire Applicant Survey Responses (n = 979; returned surveys not specifying gender are not included)

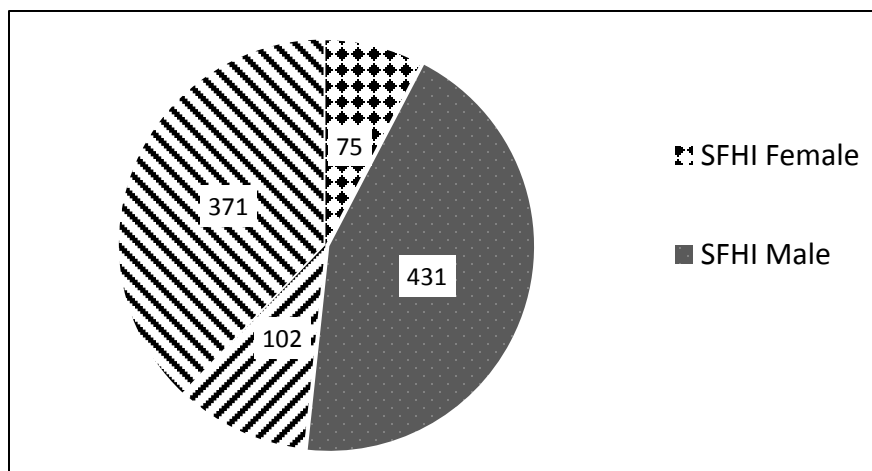


Table 4: Summary Data for Applicant Survey Open Rate Questions Dealing with Motivation for Applying for Positions (1 – 5 Scale^a).^b (Survey responses from 2009/2010 and 2010/2011 combined.)

Motivation Open Rate Questions	Female ^c	Male ^c
Evaluate the following elements that motivated you to apply for this position. I am interested in...		
Opportunities for working with graduate students.		
STEM Replacement	4.2 (1.1)	4.5 (0.8)
SFHI (Energy +Health)	4.6 (0.6)	4.6 (0.8)
The high level of relevance and timeliness of this academic position.		
STEM Replacement	4.3 (1.0)	4.4 (0.8)
SFHI (Energy +Health)	4.5 (0.6)	4.6 (0.8)
The applied research focus associated with this academic position.		
STEM Replacement	4.1 (1.1)	4.4 (0.8)
SFHI (Energy +Health)	4.6 (0.5)	4.6 (0.8)
Opportunities for collaboration.		
Stem Replacement	4.1 (1.0)	4.3 (0.8)
SFHI (Energy +Health)	4.5 (0.8)	4.4 (0.9)
The opportunity for teaching undergraduate students.		
STEM Replacement	4.2 (1.0)	4.3 (0.9)
SFHI (Energy +Health)	4.4 (0.9)	4.2 (1.0)
Working in a culturally diverse environment.		
STEM Replacement	3.7 (1.1)	4.0 (0.9)
SFHI (Energy +Health)	4.2 (0.9)	4.2 (1.0)
Spousal/partner accommodations & opportunities.		
STEM Replacement	3.0 (1.1)	3.1 (1.2)
SFHI (Energy +Health)	3.5 (1.4)	3.3 (1.1)

^a 1 = Strongly Disagree; 5 = Strongly Agree.

^b Presented as mean (± S.D).

^c n = 102 and 75 for Female STEM Replacement and SFHI hires, respectively; n = 373 and 431 for Male STEM Replacement and SFHI Hires, respectively.

Table 5: Summary Data for Applicant Survey Open Rank Questions Dealing with Elements of Importance When Applying for Positions (1 – 6 Scale^a).^b (Survey responses from 2009/2010 and 2010/2011 combined.)

Elements of Importance Open Rank Questions	Female^c	Male^c
Please rank the following in order of importance to you in applying for this position:		
Job description matches research & teaching interests.		
STEM Replacement	4.4 (1.6)	4.3 (1.4)
SFHI (Energy +Health)	4.4 (1.4)	4.2 (1.3)
Multidisciplinary research opportunities		
STEM Replacement	3.9 (1.4)	4.0 (1.4)
SFHI (Energy +Health)	4.2 (1.4)	4.2 (1.3)
Opportunities for collaboration.		
STEM Replacement	3.7 (1.3)	3.8 (1.2)
SFHI (Energy +Health)	3.8 (1.1)	3.7 (1.3)
MTU reputation.		
STEM Replacement	3.1 (1.4)	3.2 (1.3)
SFHI (Energy +Health)	3.0 (1.2)	2.9 (1.1)
Working in a culturally diverse environment.		
STEM Replacement	3.1 (1.0)	2.7 (1.7)
SFHI (Energy +Health)	2.5 (1.3)	2.2 (1.3)
Location.		
STEM Replacement	2.3 (1.6)	2.4 (1.7)
SFHI (Energy +Health)	2.1 (1.7)	2.0 (1.5)

^a 1 = Least Important; 6 = Most Important.

^b Presented as mean (\pm S.D.).

^c n = 102 and 75 for Female STEM Replacement and SFHI hires, respectively; n = 373 and 431 for Male STEM Replacement and SFHI Hires, respectively.

Very few of the applicants ($\leq 6\%$) provided responses to the applicant survey's one open-ended question: "Do you have any concerns/reservations about this position?" (Table B-3, Appendix B-1). The general areas of stated concern roughly fell into these areas: location of Michigan Tech; spousal/partner accommodation; position-related factors such as finances (e.g., salary and start-up), how good a fit the applicant's area would be for the program/position; and other factors such as too much or too little focus on research; strength of collaborative environments within and between academic units. Several respondents also took the opportunity to ask additional questions or state why they would fit with the advertised position. Percentage-wise there were no differences in numbers of response or areas between females applying for SFHI or STEM Replacement Hires. Although the numbers are low, it is interesting to note that no females expressed concerns about financial matters or described why they should be hired.

The numbers of respondents to the Post-Interview Survey are presented in Table 6 (as mean \pm S.D.). Unlike the Applicant Survey, the Post-Interview survey was sent directly from the hiring units for the STEM replacement hires. It was suspected that, being a new process in 2009-2010, some of the units may not have distributed the survey to interviewees. In 2010 - 2011, this same survey was made available in time for both the SFHI and replacement hire interviewees. This time additional reminders were sent-out about the distribution of the survey. Over 85% of the SFHI interviewees who reported a gender completed the survey during the two years of the survey; this higher return rate may have been due to all SFHI-related activities being conducted through the Provost's office. The responses from the STEM Replacement hire searches were less (approximately 70%). It has been recommended that the use of the Post-Interview survey be added to the "Faculty Employment Process Checklist" to ensure that individual academic units distribute it to all interviewees.

Table 6. Summary of STEM Respondents to the Post-Interview Survey (2009-2010 and 2010-2011 data combined).

Respondents	Female	Male
Total (SFHI + Stem Replacement Hire)	11	26
SFHI - Energy	2	3
SFHI - Health	2	4
STEM Replacement Hire	7	19

For the questions focusing on the candidate’s experience “during the interview”, the overall goal was to have mean values ≥ 4.0 (on a five point Likert scale) with an increase in each year and greater than 60% of the respondents providing mean values of ≥ 4.0 . A summary of the responses to the eight questions focusing on the candidate’s experience during the on-campus interview process is provided in Table 7. Summary data for the remaining seven open rank questions are provided in Table B-4, Appendix B-2.

Table 7. Summary Data from Post-Interview Survey of STEM Respondents (SFHI and STEM Replacement Hires) to Open Rate Questions Dealing with the On-campus Interview Process (1 – 5 Scale^a) (2009-2010 and 2010-2011 data combined).^b

Interview Open Rate Questions	Female^c	Male^c
During the interview process I was:		
Asked only appropriate questions.		
STEM Replacement	4.7 (0.5)	4.6 (0.5)
SFHI (Energy + Health)	4.8 (0.5)	4.6 (0.8)
Treated with respect throughout my visit.		
STEM Replacement	4.6 (0.5)	4.9 (0.4)
SFHI (Energy + Health)	5.0 (0.0)	5.0 (0.0)
Given straight forward and consistent answers to my questions.		
STEM Replacement	4.6 (0.5)	4.8 (0.4)
SFHI (Energy + Health)	5.0 (0.0)	5.0 (0.0)
Given the opportunity to discuss the needs of an individual influential to my employment decision.		
STEM Replacement	4.7 (0.8)	4.8 (0.5)
SFHI (Energy + Health)	5.0 (0.0)	4.6 (0.8)
During the interview process I was provided with:		
The opportunity to bring up professional issues of special concern to me.		
STEM Replacement	4.7 (0.5)	4.7 (0.5)
SFHI (Energy + Health)	4.8 (0.5)	4.7 (0.5)
The opportunity to bring up personal issues of special concern to me.		
STEM Replacement	4.3 (1.1)	4.6 (0.5)
SFHI (Energy + Health)	4.5 (0.6)	4.4 (0.5)
Expectations regarding teaching, research, service, and promotion and tenure.		
STEM Replacement	4.6 (0.5)	4.8 (0.54)
SFHI (Energy + Health)	4.8 (0.5)	4.9 (0.4)
Adequate information on reimbursement for my interview expenses.		
STEM Replacement	3.5 (1.6)^c	4.8 (0.4)
SFHI (Energy + Health)	4.6 (0.6)	4.7 (0.5)

^a 1 = Strongly Disagree; 5 = Strongly Agree.

^b Presented as mean (\pm S.D.).

^c n = 7 and 4 for Female STEM Replacement and SFHI hires, respectively; n = 19 and 7 for Male STEM Replacement and SFHI Hires, respectively.
^d Mean less than 4.

It is clear that the on-campus interview process (Table 7) was generally well-conducted based on the responses from both the SFHI and STEM Replacement hire candidates. Only one of the groups (Female STEM Replacement Hire) had an average value of less than 4 for any of the on-campus survey items; over 90% of the respondents reported values of 4 or 5 for these same elements. All of the values from the first survey year (2009-2010) were ≥ 4.0 ; the one mean value <4.0 was due to two STEM Replacement hire female interviewees who, in effect, had no positive or negative opinion on whether or not sufficient information on reimbursements had been provided. With this one exception, there do not appear to be differences in interview experiences between the STEM Replacement hire and SFHI groups or between males and females.

Mean scores less than 4 were found for three of the other questions on the post-applicant survey (Table B-4), primarily dealing with whether or not sufficient information was provided in advance concerning "living in the Houghton area." Three of the four groups had mean responses (3.0 – 3.7) in the "neutral" area for this item. As with the responses shown in Table 7, these <4.0 responses were largely obtained in the second survey year (2010-2011). It is not clear why there would be differences in responses for the two years as the provided information, particularly for the SFHI candidates, would have been approximately the same. (General information on the area is provided on the SFHI website: <http://www.mtu.edu/sfhi/information/localarea.html>). For the STEM Replacement hire interviewees, there may have been differences on provided information due to differences in academic units recruiting in each year. However, over 80% of the respondents from both years evaluated the items in Appendix B-4 with a 4 or 5.

Another question dealt with how the interview experience at Michigan Tech compared to interviews at other campuses. All survey respondents replied to this question, using choices of "not applicable; no previous interviews on other campuses" (0), "less welcome" (1), "about the same" (2) or more welcome" (3). The majority of the respondents had interviewed elsewhere and indicated the experience at Michigan Tech was about the same or made them feel more welcome compared to interviews elsewhere (mean scores of 2.0 to 2.6). A few of the respondents who indicated that the experience was "about the same" pointed out that they felt very welcome at both Michigan Tech and elsewhere.

The interviewees were also asked to describe the "most positive" and "most negative" aspects of the on-campus interview. These results are compiled in Table B-5, Appendix B-2. There was no clear distinction between type of hire (STEM Replacement or SFHI) and gender in the open-ended comments. Overall, most respondents in all groups had very positive impressions of their interviews. They felt welcomed, they like the people they met, and they had positive experiences. Only one respondent, a female STEM Replacement Hire candidate, indicated a negative experience with Michigan Tech faculty members; she felt that some people seemed to doubt her capabilities in satisfying the requirements for the position. The most common negative comments had to do with travel, location, and weather – all items beyond the control of Michigan Tech. Approximately the same number of negative comments and recommendations dealt with the actual interview schedules; these can be modified to create interview schedules that are logical and provide opportunities for candidates to recuperate between sessions.

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Michigan Tech is now using the online-screening tool, *PeopleAdmin*, with their in-house database application for electronic evaluations in all faculty hiring processes. The tool accomplishes several key goals for faculty searches:

- Files are stored and reviewed electronically, improving efficiency and security.
- Candidates are rated based on standard questions and criteria.
- Data is retained for review and archived in case of an audit. The process is transparent and equitable.
- Administrators and Equal Opportunity staff can review the entire process for compliance.

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.

Michigan Tech's marketing and communication department will be evaluating the **best practices for the development of Tech's website and the marketing materials** when posting employees opportunities. A rubric was developed (Appendix C). Our review of the advertisements from Michigan Tech in the last several years indicates a wide variety of textual structures, likely due to the following factors:

1. In the creation of job advertisements, many departments borrow from their own well of textual examples leading to both a great deal of inconsistency and redundancy.
2. Many ads include language which identifies their support for diversity (such as identifying themselves as an ADVANCE institution), but placing the language at the very end of the ad may lead to its being viewed as perfunctory.
3. Many ads have an inordinate amount of information on the distinctive nature of living and working in the Upper Peninsula, including amenities such as sports and local attractions. This detracts significantly from the amount of space which might be better dedicated to describing the position and the university, including, of course, its commitment to diversity.

While some variation in job descriptions is expected between departments/disciplines, inconsistencies and redundancies in job ads pose the danger of unconsciously gender-biased language. Because existing language structures emerge from within an institution and reinforce institutional structures and practices, standardizing ads through the establishment of a number of particular rhetorical phrases and recommended principles for structuring job ads (Appendix C-2) will lead to a more powerful expression of the quality and richness of the cultural life at Michigan Tech. It may also bring more visibility to Michigan Tech ads if they have an overall consistent look that provides individualized information.

In addition to the following recommendations for posting position descriptions, evaluation of processes will continue to be assessed to continue to attract female and diverse faculty.

We have thus recommended the creation of two webpage text/image repositories:

- A central repository (webpage) of textual/rhetorical moves typical for the majority of faculty print/online job advertisements with language samples carefully chosen to stress gender equity/parity. This webpage should offer:
 - a. A range of consistent examples of particular textual moves useful in structuring job ads.
 - b. A set of principles offering advice for creating job advertisements, for example:
 - i. The need to unpack terms such as 'leadership' and to examine the way such terms may inadvertently serve gender bias.
 - ii. The need for balance in position descriptors ('leadership' vs. 'collaboration')
 - iii. Avoiding language that refers *only* to males' experience (one recent ad cited a university's standing in a particular men's magazine).
 - iv. The importance of foregrounding Michigan Tech's commitment to diversity, e.g., as an ADVANCE institution (see: <http://advance.mtu.edu/>)

- v. Avoid limiting the applicant pool with too many “required.” Describing those qualifications not absolutely crucial to the position as “desired” may open the pool to individuals with unique skills and perspectives on the position.
 - vi. Make diversity an integral part of the qualifications, e.g., “The successful candidate will be a proven leader with excellent communication skills, *with a demonstrated knowledge of and commitment to diversity*” or the present statement in the Cluster Hire ads “*Experience with issues of diversity or working in a multicultural environment*”
 - vii. This page might also offer a repository of images for those departments who wish to create web pages or other print materials requiring photographs which demonstrate diversity at Michigan Tech.
- A central repository (webpage) of images and links which describe (especially for potential and new faculty) the quality and richness of the cultural and social life at Michigan Tech and in the Keweenaw. This webpage should offer:
 - a. An interactive marquee showing images, both on campus and off, of what makes living and working in the Upper Peninsula a unique and rich experience.
 - i. These images should take care to employ a visual rhetoric which demonstrates diversity of gender, race/ethnicity, age, class, culture, etc.
 - ii. Each marquee image could provide more information by serving as a link to the webpage (if possible) for the service/amenity.
 - b. Links broken out by category for local amenities, services, and university and community events.
 - i. Care should be taken that links not represent only typically male activities, e.g., avoid listing only (or always first) male sports.
 - ii. Mention events on campus, especially those which promote a diverse campus community.

- **Opportunities for Training**

An outcome of the NSF ADVANCE grant is that starting in Fall 2012 all faculty on search committees must be trained in "Best Practices for Bias Literacy and Diversity" and in "Legal Aspects of Faculty Hiring". In addition the Provost established that also starting in Fall 2012 all faculty on promotion and tenure committees must receive the same training.

- **Development & Mentoring**

An outcome of the NSF ADVANCE grant is that all academic departments now have a mentoring plan for pre-tenure faculty. In addition a plan has been developed and proposed to the Provost for mentoring of midcareer faculty.

- **Outreach Activities**

3. Publications & Products

4. Contributions

5. Conference Proceedings

Results from the Applicant Surveys were presented at the ASEE North Midwest Section Meeting in Duluth, MN, on October 13 – 15, 2011: Watrous, L., M. Buche, S. Bagley, and J. Keith. “ADVANCE: Investigating representations of female faculty candidates at Michigan Technological University.

- ***Principle Disciplines of the Project***
The principle disciplines of this project were STEM faculty. In addition, other disciplines were included in the trainings and the mentoring part of this project.
- ***Other Disciplines of Science & Engineering***
- ***Development of Human Resources***
- ***Physical, Institutional, or Informational Resources that Form the Infrastructure for Research and Education***
- ***Other Aspects of Public Welfare***

APPENDICES

Appendices are broken up by Activity from our Logic Model.

Appendix A - Accountability in the Hiring Process

Appendix A-1 – Best Practices for hiring

Source: Interviews with Chairs, Search Committee Chairs and/or Deans from all Departments or Schools

The purpose of the interviews was to collect information about the various, unique or historical Department or School search and hiring processes and to determine if there might be some best practices that can be shared with the academic community. These approaches are all guided by the University's Hiring Procedures <http://www.admin.mtu.edu/hro/employ/index.shtml>

General best practices include:

- Write position descriptions that are as broad as possible
- Include language in the position description that is encouraging to underrepresented minorities
- The Chair/Dean meets with both the Search Committee Chair and then the Committee members to “set the stage” for a successful search and hire
- Actively recruit all the time using professional meetings and conferences to identify and talk with potential candidates; use colleague networks
- When possible, conduct preliminary interviews at professional meetings or conferences
- Provide a campus and community tour that responds to the interests of the potential faculty member and her/his family (ask the candidate what they would like to see or who they might want to talk with)
- Use a more formal review of candidates (similar to the STRIDE form) that provides some quantifiable data for comparison; have a deliberative and consistent process of review

The campus visit by the final candidates provides an excellent opportunity to individualize the recruitment process. Some strategies used by Departments and Schools were assigning a main contact person (not necessarily the Search Committee chair) to answer questions and determine candidate interests about the community; extending the visit so that there is time to explore the area; asking if there is someone else that the candidate would like to come with and what his/her interests would be; and if the candidate is a member of a minority group, ensuring that he/she has the opportunity to interact with others from that group (include them in various parts of the visit).

Some Department Chairs do not require a ranking of the final candidates but ask for an acceptable/not acceptable designation. This may allow for more creative hiring and for Chair discretion in meeting unit and University goals that are broader than filling the one faculty position at that specific point in time.

For those who are actively recruiting for a more diverse pool of candidates, it was the consensus that the most effective strategy for achieving a more diverse pool is by continuous networking and interactions with colleagues and then, when you have the diverse pool, evaluating each candidate's entire application (don't focus on only a few of the application elements).

Other practices that seem to work well for the Department or School that uses them include: candidate's application material is available for all unit faculty to review and comment; balance the search committee with others from outside the department when necessary; first work to sell the unit, the University and the community to the candidate, and then clearly outline expectations for the position and responses to the candidates position related questions; promote open positions widely and in a variety of venues; and identify a standing hiring committee.

In conclusion, the interviews resulted in a clearer understanding of the unit hiring approaches. In terms of ensuring a more diverse pool of candidate, Department and Schools should consider deliberate and active recruiting on an ongoing basis and enhance and maintain a consistent process that is lead by the Chair/Dean and applies the training on Bias Literacy and Legal Aspects of hiring. All areas are working to improve and build on their successes and should be encouraged to share their successes with each other. It should also be recommended that when advertising broadly, the search committees or the unit should regularly ask, where the position was posted, how many applications resulted from the advertisement, and how many applications resulted from individual solicitation-what is working?

Finally, three challenges to hiring from a diverse pool of exceptional candidates were competitive start-up packages, dual career issues and the timing or rapacity of responding with a winning offer. The first two items are not Michigan Tech specific and can be somewhat mitigated by implementing a hiring process that emphasizes the positive aspects and opportunities that Michigan Tech can offer.

**Appendix A-2 – Summary of past percent females who applied, interviewed, and were hired by Schools and Departments FY07-FY11
(Green shaded cells were steps that increased the percent female from applicant to interview to hired).^a**

Academic Units	2010-11			2009-10			2008-09			2007-08			2006-07		
	Percent			Percent			Percent			Percent			Percent		
	Apps	Interview	Hire	Apps	Interview	Hire	Apps	Interview	Hire	Apps	Interview	Hire	Apps	Interview	Hire
School of Business & Economics	13	0	25	14	29	67	7	0	0	NA	NA	NA	29	45	60
School of Forest Resources & Environmental Science	NA	NA	NA	NA	NA	NA	13	13	29	20	0	0	4	0	0
College of Engineering															
Biomedical Engineering	12	19	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	13	0	100
Chemical Engineering	NA	NA	NA	11	17	67	NA	NA	NA	0	0	0	NA	NA	NA
Civil & Environmental Engineering	NA	NA	NA	7	25	50	NA	NA	NA	14	45	0	14	45	0
Electrical & Computer Engineering	NA	NA	NA	8	0	0	10	0	100	7	18	33	8	17	0
Geological/ Mining Engg& Sciences	NA	NA	NA	10	15	50	NA	NA	NA	10	14	0	9	9	0
Materials Science & Engineering	NA	NA	NA	NA	NA	NA	10	29	100	11	33	0	11	20	0
Mechanical Eng- Eng Mechanics	9	33	50	4	0	0	4	8	0	3	0	0	8	10	20
College of Sciences & Arts															
Biological Sciences	50	NA	50	6	17	50	19	0	50	NA	NA	NA	NA	NA	NA
Chemistry	NA	NA	NA	NA	NA	NA	15	13	50	NA	NA	NA	13	17	100
Computer Science	NA	NA	NA	NA	NA	NA	11	4	0	NA	NA	NA	NA	NA	NA
Cognitive and Learning Sciences	34	25	0	28	0	0	NA	NA	NA	NA	NA	NA	35	33	0

Kinesiology and Integrative Physiology	NA	NA	NA	NA	NA	NA	NA	NA	NA	14	0	100	0	0	0
Humanities	22	21	50	44	57	0	39	45	100	42	62	100	38	0	0
Mathematical Sciences	8	11	25	21	21	0	6	12	20	11	17	33	13	20	0
Physics	NA	NA	NA	NA	NA	NA	9	0	100	10	0	0	NA	NA	NA
Social Sciences	17	0	50	20	40	0	26	25	50	NA	NA	NA	NA	NA	NA
Visual and Performing Arts	NA	NA	NA	0	0	0	11	0	0	0	0	0	32	50	100
School of Technology	6	0	0	NA	NA	NA	NA	NA	NA	0	0	0	9	38	40
Totals-Faculty All^b	14	14	35	15	21	33	12	14	42	15	27	27	14	30	34
Totals-Faculty Known^c	25	25	35	25	32	33	21	25	42	24	37	27	23	39	34
Totals-SFHI All^b	13	13	40	4	17	25	9	8	14	12	13	22	NA	NA	NA
Totals-SFHI Known^c	21	17	40	9	43	25	17	14	14	22	24	22	NA	NA	NA

^a The available data are not entirely clear on the numbers of candidates interviewed, in part as different academic units view this stage differently.

^b Includes only applicants for whom gender is known.

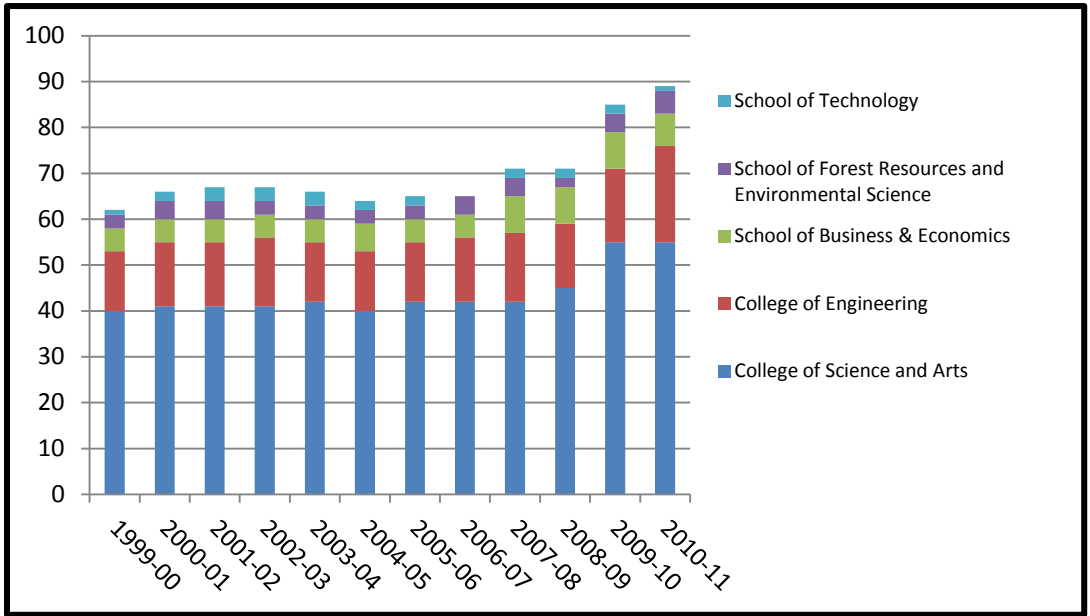
^c Includes all applicants.

Appendix A-3 – Summary of past total, female total, percent females hired by School and Department FY07-FY11 (Blue-shaded cells were those units who were above the national average of 50% female population).

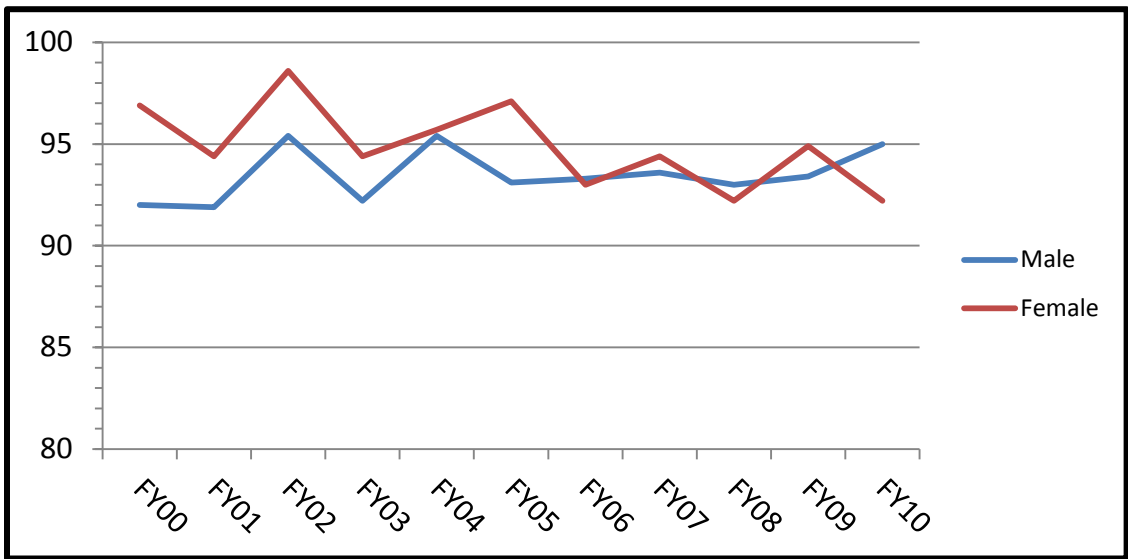
Academic Units	2010-11			2009-10			2008-09			2007-08			2006-07		
	Hires			Hires			Hires			Hires			Hires		
	Total	Female	Percent	Total	Female	Percent	Total	Female	Percent	Total	Female	Percent	Total	Female	Percent
School of Business & Economics	4	1	25	3	2	67	1	0	0	NA	NA	NA	5	3	60
School of Forest Resources & Environmental Science	NA	NA	NA	NA	NA	NA	7	2	29	2	0	0	1	0	0
College of Engineering															
Biomedical Engineering	2	1	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	1	1	100
Chemical Engineering	NA	NA	NA	3	2	67	NA	NA	NA	1	0	0	NA	NA	NA
Civil & Environmental Engineering	NA	NA	NA	4	2	50	NA	NA	NA	1	0	0	1	0	0
Electrical & Computer Engineering	NA	NA	NA	2	0	0	1	1	100	3	1	33	1	0	0
Geological/ Mining Eng & Sciences	NA	NA	NA	2	1	50	NA	NA	NA	1	0	0	2	0	0
Materials Science & Engineering	NA	NA	NA	NA	NA	NA	1	1	100	1	0	0	1	0	0
Mechanical Eng - Eng Mechanics	2	1	50	1	0	0	2	0	0	2	0	0	5	1	20
College of Sciences & Arts															
Biological Sciences	2	1	50	2	1	50	2	1	50	NA	NA	NA	NA	NA	NA
Chemistry	NA	NA	NA	NA	NA	NA	4	2	50	NA	NA	NA	2	2	100
Computer	NA	NA	NA	NA	NA	NA	1	0	0	NA	NA	NA	NA	NA	NA

Science																
Cognitive and Learning Sciences	1	NA	0													
				2	0	0	NA	NA	NA	NA	NA	1	0	0	NA	
Kinesiology and Integrative Physiology	NA	NA	NA													
				NA	NA	NA	NA	NA	NA	1	1	100	1	0	0	
Humanities	4	2	50													
				1	0	0	3	3	100	3	3	100	1	0	0	
Mathematical Sciences	4	1	25													
				2	0	0	5	1	20	3	1	33	1	0	0	
Physics	NA	NA	NA													
				NA	NA	NA	1	1	100	1	0	0	NA	NA	NA	
Social Sciences	2	1	50													
				1	0	0	2	1	50	NA	NA	NA	NA	NA	NA	
Visual and Performing Arts	NA	NA	NA													
				1	0	0	1	0	0	1	0	0	1	1	100	
School of Technology	2	NA	0													
				NA	NA	NA	NA	NA	NA	2	0	0	5	0	0	
Totals	19	7	275													
				23	8	35	31	13	42	22	6	27	29	8	28	

Appendix A-4 – Total number of female faculty by College and School FY00-FY12.



Appendix A-5 – Percent retention of female and male tenured-tenure-track faculty by College and School FY00-FY12.



Appendix B – Cluster Hire

Appendix B-1 – Applicant Survey

Table B-1: Distribution of Applicants Based on AO Applicant Log Data.

Applicant Type	2008-2009	2009-2010	2010-2011
Total STEM Hire	2016	1258	1712
Female	212 (11%)	114 (9%)	204 (12%)
Male	929 (46%)	543 (43%)	765 (45%)
Gender Not Indicated	875 (43%)	601 (48%)	743 (43)
Total SFHI Hire	325	339	431
Female	30 (9%)	15 (4%)	57 (13%)
Male	150 (46%)	154 (46%)	209 (49%)
Gender Not Indicated	145 (45%)	170 (50%)	165 (38%)
Total STEM Replacement Hire	1691	919	1281
Female	182 (11%)	99 (11%)	147 (11%)
Male	779 (46%)	389 (42%)	556 (43%)
Gender Not Indicated	730 (43%)	431 (47%)	578 (45%)

Table B-2: Summary Data for 2008-2009 Applicant Survey Open Rate Questions Dealing with Motivation for Applying for Positions (1 – 5 Scale^a).^b

Motivation Open Rate Questions	Female ^c	Male ^c
Evaluate the following elements that motivated you to apply for this position. I am interested in...		
The high level of relevance and timeliness of this academic position.		
STEM Replacement	4.6 (0.6)	4.4 (1.0)
SFHI	4.8 (0.8)	4.6 (0.9)
Inter or multidisciplinary academic opportunities.		
STEM Replacement	4.7 (0.6)	4.3 (1.1)
SFHI	4.6 (0.9)	4.6 (0.9)
The applied research focus associated with this academic position.		
STEM Replacement	4.5 (0.6)	4.2 (1.1)
SFHI	4.7 (0.9)	4.5 (0.9)
Opportunities for collaboration.		
Stem Replacement	4.6 (0.6)	4.2 (1.1)
SFHI	4.5 (0.9)	4.5 (0.9)
A diverse workplace		
STEM Replacement	3.6 (1.0)	3.5 (1.2)
SFHI	4.2 (1.2)	3.9 (1.0)
Spousal/partner accommodations.		

STEM Replacement	3.4 (1.5)	3.0 (1.1)
SFHI	3.6 (1.5)	3.3 (1.3)

^a 1 = Strongly Disagree; 5 = Strongly Agree.

^b Presented as mean (± S.D).

^c n = 27 and 24 for Female STEM Replacement Hire and SFHI –Computational Discovery and Innovation, respectively; n = 91 and 129 for Male STEM Replacement Hire and SFHI Computational Discovery and Innovation, respectively.

Table B-3 Summary of Applicant Survey Responses to Open-ended Question on: “Do you have any concerns/reservations about this position?” (Survey responses from 2009/2010 and 2010/2011 combined.)

	Female ^a	Male ^a
Respondents with “concerns/reservations”		
STEM Replacement	5.0%	5.9%
SFHI (Energy +Health)	5.3%	4.9%
General category of “concerns/reservations”		
Location of Michigan Tech		
STEM Replacement	2	3
SFHI (Energy +Health)	1	3
Spousal/partner accommodation		
STEM Replacement	1	7
SFHI (Energy +Health)	1	3
Position-related .		
Finances (e.g., salaries and start-up)		
STEM Replacement	0	4
SFHI (Energy +Health)	0	6
Research area may not fit		
STEM Replacement	1	2
SFHI (Energy +Health)	1	3
Other^b		
STEM Replacement	1	6
SFHI (Energy +Health)	1	4
Self-Promotion		
STEM Replacement	0	3
SFHI (Energy +Health)	0	4

^a n = 102 and 75 for total Female STEM Replacement and SFHI hires, respectively; n = 373 and 431 for total Male STEM Replacement and SFHI Hires, respectively.

^b Example “Other” concerns included: too much or too little focus on research; strength of collaborative environment within and between academic units; and requests for additional information.

Appendix B-2 – Post-Interview Survey

Table B-4. Summary Data for STEM Respondents (SFHI and STEM Replacement Hires) to Open Rate Questions not Presented in Table 6 from Post-Interview Survey (1 – 5 Scale^a) (2009-2010 and 2010-2011 data combined).^b

Open Rate Questions	Female ^c	Male ^c
Prior to my visit, the department/school(s) with which I interviewed provided me with sufficient information concerning::		
The interview process (e.g., a detailed itinerary/schedule).		

STEM Replacement	4.6 (0.80)	4.7 (0.5)
SFHI (Energy + Health)	5.0 (0.0)	4.6 (0.8)
Living in the Houghton area..		
STEM Replacement	3.0 (1.3)^d	4.5 (0.8)
SFHI (Energy + Health)	3.7 (0.6)^d	3.4 (1.1)^d
Prior to my visit, the department/school(s) with which I interviewed contacted me to see if I...		
Wished to speak with any particular individuals or groups on campus or in the community		
Stem Replacement	4.3 (1.5)	4.2 (1.1)
SFHI (Energy + Health)	4.0 (0.8)	3.9 (1.2)^d
Had any particular questions that I wanted to have answered during the interview.		
STEM Replacement	4.0 (1.5)	4.1 (1.1)
SFHI (Energy + Health)	3.8 (1.0)^c	4.3 (0.8)
Based on the information I learned during my interview, I think that position description accurately described...		
The available position.		
STEM Replacement	4.4 (0.5)	4.7 (0.5)
SFHI (Energy + Health)	4.8 (0.5)	4.6 (0.8)
The department/school.		
STEM Replacement	4.4 (0.5)	4.7 (0.5)
SFHI (Energy + Health)	4.8 (0.5)	4.9 (0.7)
Michigan Tech		
STEM Replacement	4.5 (0.5)	4.7 (0.5)
SFHI (Energy + Health)	4.8 (0.5)	4.7 (0.5)

^a 1 = Strongly Disagree; 5 = Strongly Agree.

^b Presented as mean (± S.D).

^c n = 7 and 4 for Female STEM Replacement and SFHI hires, respectively; n = 19 and 7 for Male STEM Replacement and SFHI Hires, respectively.

^d Mean less than 4

Table B-5 Summary of Post-Interview Applicant Survey Responses to Open-ended Questions on the “Most Positive” and “Most Negative” aspects of the interview experience. (Survey responses from 2009/2010 and 2010/2011 combined.)

General Response	Female^a	Male^a
Positive Aspects		
Interview Schedule		
STEM Replacement	2	3
SFHI (Energy +Health)	0	3
People with whom met		
STEM Replacement	3	12
SFHI (Energy +Health)	3	3
Negative Aspects.		
Location/Travel		
STEM Replacement	1	5
SFHI (Energy +Health)	1	2
Interview Schedule		
STEM Replacement	2	3
SFHI (Energy +Health)	0	3
People with whom met		

STEM Replacement	2	1
SFHI (Energy +Health)	0	1
Other^b		
STEM Replacement	0	2
SFHI (Energy +Health)	0	1

^a n = 7 and 4 for Female STEM Replacement and SFHI hires, respectively; n = 19 and 7 for Male STEM Replacement and SFHI Hires, respectively.

Appendix C – Best Practices for Promoting Faculty Opportunities

Appendix C-1 – Rubric for creating and evaluating websites both on Main University websites and Departmental (DEPT) websites. (Answers to questions are either Yes or No).

Criteria/Questions	Which website?
Are the pictures of high quality? E.g., not blurry, etc.	MAIN
Are the pictures of high impact? E.g., shows a societal issue? Or comment	MAIN
Is it easy to find specific websites announcing new hires?	MAIN
Can you find a list of their degree programs (undergrad/grad)?	MAIN
Is the website easily viewed on a mobile phone?/blackberry?	MAIN
Are there links to diversity efforts?	MAIN
Do they have women depicted with their stories?	MAIN
Is their website consistent/uniform in its appearance?	MAIN
Is there a sense of flow from one webpage to another?	MAIN
Is there a cultural/arts-focused website?	MAIN
Does the University report women faculty who have been promoted?	MAIN
Is the language descriptive and creatively written?	MAIN
Is there a specific women's resource website?	MAIN
Is there a faculty resource, networking, mentoring website?	MAIN
Is there a childcare website?	MAIN
Are there descriptions of faculty research?	MAIN
Is the Benefits website easily accessible?	MAIN
Can you find information on basic University processes to support faculty?	MAIN
Does the website show women in prominent roles?	MAIN/DEPT
Does the website show minorities in prominent roles?	MAIN/DEPT
Are there active pictures of people doing things?	MAIN/DEPT
Is the information up-to-date, every day, every week, or every month?	MAIN/DEPT
Is there a list of faculty with their expertise?	DEPT
Is their list of faculty easily accessible?	DEPT
Is there a CV for each faculty member?	DEPT
Is it easy to find a Department Chair's email address?	DEPT
Can you find the unit's strategic plan?	DEPT
Can you find a list of faculty recently promoted at the unit level?	DEPT
Can you find a list of faculty recently hired at the unit level?	DEPT

Appendix C-2: Suggested checklist for print ads for short and long ads

- Do not mention things that emphasize males when describing Tech's rankings – ex. ranking by Men's journal.

- Balance words that are more female-dominated language (“support”) than male-dominated language (“Leader” or “Leadership”)
- Mention working with people collaboratively and whether there are collaborative centers and institutes in which to establish these relationships.
- State Tech’s commitment to diversity & an ADVANCE Institution (linking to the Tech’s ADVANCE website)
- Better define what terms mean – such as what does it mean to be a “leader” in a statement where “Leadership experience is required”
- Develop a consistent link for local area as a University website – when listing community activities do not apologize for things like our snow amounts
- When listing community activities, balance the interests of individuals to outside and inside events – also put female sports first
- List realtors, schools, day care
- Try not to limit the applicant pool by too many “required” versus “desired” qualifications – maybe limit it to three required – need as broad a perspective as possible
- Avoid statements that build on one another- “such as “ the successful candidate will be a proven leader with excellent communication and interpersonal skills with a commitment to diversity”
- Contact Marketing & Communications about general information and a look to the ad that might better attract female faculty – this information could also be put on-line.
- Mention early on in the ad about Tech being an NSF ADVANCE institution and that we support gender and racial equity
- Mention new things happening on campus or a link to the new things happening on campus