NSF Funds Program to Recruit and Keep Diverse Faculty

By Jennifer Donovan | Published 8:00 a.m., September 20, 2018
ADVANCE Adaptation: AMP-UP Continuous Improvement Process to Transform Institutional Practices and Culture

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AMP-UP = Advanced Matrix Process for University Programs
Individual differences are not always visible...

...and differences enhance quality/richness of outcomes\textsuperscript{1-3}

\textsuperscript{1}Forbes, June 2018; \textsuperscript{2}Saxena Procedia Economics 2014; \textsuperscript{3}Harvard Business Review 2017
Diversity does not = Inclusion

No Diversity
(within organization)
No Inclusion

Diversity,
Poor Inclusion

Diversity
AND
Inclusion
Diversity and Inclusion - Defined

• Diversity – Individual differences
  • Race, ethnicity, gender, sexual orientation, socio-economic status, age, physical abilities, religious beliefs, political beliefs... etc.

• Inclusion – behaviors and mindset
  • Promoting respect, belonging, leveraging the value and harnessing the power of diversity to the benefit of the organization

N.B. You can increase diversity, but without inclusion, it is not sustainable.
## Top Reasons Faculty Respondents Seriously Considered Leaving Michigan Tech

<table>
<thead>
<tr>
<th>Reason</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low salary/pay rate</td>
<td>56</td>
<td>41.2</td>
</tr>
<tr>
<td>Interested in a position at another institution/organization</td>
<td>49</td>
<td>36.0</td>
</tr>
<tr>
<td>Institutional support</td>
<td>49</td>
<td>36.0</td>
</tr>
<tr>
<td>Limited opportunities for advancement</td>
<td>43</td>
<td>31.6</td>
</tr>
<tr>
<td>Lack of a sense of belonging</td>
<td>42</td>
<td>30.9</td>
</tr>
</tbody>
</table>
Request (Step #1)

• Ask that the University Senate revisit inclusion of existing policies
  • Diversity Council has been charged by the President to advise on these issues. Ask them to review policies with this lens.

• Ask that the University Senate form an Inclusion Committee to review new and revised policies with the inclusion lens.

• Example (if needed). When maternity/paternity leave is requested, tenure extension is automatic. People then have to opt out to reduce the stigma of exercising it.
Back up Slides
Initiatives at Michigan Tech Over Time

2008 – 2012
PAID grant
- PeopleAdmin
- Standardized ads, websites
- STRIDE workshops
- Mentoring plans
- Cluster hires
- Travel dependent care allowances

2014 – 2017
ADVANCE preparation
- 7 Kaizens on career paths
- 5 data task forces
- 3 campus report-outs
- Mini retention study
- AMP-UP set-up and training
- Early Career Management (ECM) program piloted

TIMELINE OF ACTIVITIES


2012 – 2014
Training
Family-friendly policies
- Diversity literacy workshops
- Maternity leave
- Tenure extension
- Dual-career hire fund pool
- Lactation rooms

2018 – 2021
Adaptation planned activities

2018 2019 2020 2021

Research & Scholarship: EC to LIFT Adaptation (2019)
Partner Engagement: Institutionalize dual career hire and community engagement pilots (2018)
AMP-UP: Inclusive and broad engagement in continuous improvement (ongoing)

National Science Foundation awarded our team $1,000,000 over 3 years to increase retention of women & intersectional individuals

11/8/2018
Previous ADVANCE Efforts

- Increase at Assistant Level
- Promotions not increasing Associate & Full representation
  → Retention

STEM Proportion in 2017

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Female Faculty</th>
<th>% Female Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>5</td>
<td>0%</td>
</tr>
<tr>
<td>2007</td>
<td>10</td>
<td>5%</td>
</tr>
<tr>
<td>2008</td>
<td>16</td>
<td>10%</td>
</tr>
<tr>
<td>2009</td>
<td>19</td>
<td>15%</td>
</tr>
<tr>
<td>2010</td>
<td>22</td>
<td>20%</td>
</tr>
<tr>
<td>2011</td>
<td>25</td>
<td>25%</td>
</tr>
<tr>
<td>2012</td>
<td>30</td>
<td>30%</td>
</tr>
<tr>
<td>2013</td>
<td>35</td>
<td>35%</td>
</tr>
<tr>
<td>2014</td>
<td>30</td>
<td>30%</td>
</tr>
<tr>
<td>2015</td>
<td>25</td>
<td>25%</td>
</tr>
<tr>
<td>2016</td>
<td>20</td>
<td>20%</td>
</tr>
</tbody>
</table>

219 Men 65 Women

23%
At present growth rates, our student population will be 50% women in 507 years and 14% Minority in 270 years.

\[
\begin{align*}
\text{Female} & = 24.3x + 812 \\
\text{Male} & = 17.8x + 4429 \\
\text{Minority} & = 8.7x + 25
\end{align*}
\]
Portrait 2045 sets a goal to attain 40% women by 2045 (students)

Total = 42.1x + 5241

Male = 17.8x + 4429

Female = 24.3x + 812

Minority = 8.7x + 25

Female Growth for Portrait 2045 = 66.5t

Minority Growth = 24.8t
At present growth rates, our faculty population will be 50% women in 108 years.
Portrait 2045 with 40% women and >14% minority faculty is do-able!

- Total Faculty: $3.76x + 256$
- Female Faculty: $2.6x + 43$
- Male Faculty: $1.16x + 213$
- Domestic Minority Faculty: $3.2t$

Female Growth for Portrait 2045 = $3.2t$

Minority Growth = $1.8t$
Retention
Retention

Women

Men

Duration and Academic Year of Exit (labels show totals per category)

09-10 10-11 11-12 12-13 13-14 14-15 15-16 16-17

09-10 10-11 11-12 12-13 13-14 14-15 15-16 16-17

Duration (years)

- 15+
- 7-15
- 6
- 5
- 4
- 3
- 2
- 1
- 0

11/8/2018
Retention - Men
Mini-Retention Study* (Qualitative)

**Primary Reasons for Leaving**
- Experiences of sexism in the workplace
- Dual career challenges
- Lack of research support
- Not feeling a sense of belonging
- Assistant Professor tenure-track pressures
- Lack of internal mobility

**Secondary Reasons for Leaving**
- Lack of clarity in the interview process
- Dissatisfaction with Houghton

*Conducted by Center for Workforce Development, University of Washington*
ADVANCE Adaptations (2018-21)

1) Advanced Matrix Process for University Programs (AMP-UP)

![Diagram showing processes and initiatives involving data collection, analysis, program adaptation, development, and continuous improvement. The diagram illustrates the relationship between scholarship dynamics, unit climate, and partner engagement. The equation Climate = ΣConversations + ΣActs + ΣPolicies is also included.]
ADVANCE Adaptations (2018-21)

2. STRIDE faculty development programs (University of Michigan)
   • LAUNCH, LIFT, ongoing workshops/skits for education, publication of guides/materials.
   • Our Early Career Management Committees

3. Allies and Advocates program (North Dakota State University)
   • Restorative justice and broad engagement to change university culture

4. Department Enhancement Program (Iowa State University)
   • Qualitative and quantitative professional development for chairs to respond to intersectional inequities and cultivate positive climates.
Example AMP-UP Success: Partner Engagement

Community engagement during interview pilot 2016-2017

• 5 searches participated

• 13 individuals (2 internals) were invited to bring a guest with them on the interview → 7 brought guests (64%)

• 11 (85%) met with community engagement team

• 5 individuals hired, 4 had partner/spouses (80%)
  • Our first choices accepted quickly!

• *Pilot indicated there is a need and the community engagement pilot serviced that need.*
  • Optional pilot continues—> some departments resist expense, logistics
## Early Career Management (ECM) Success

<table>
<thead>
<tr>
<th>9 month span</th>
<th>New Faculty/Teams</th>
<th>Advocates</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015-2016*</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>2016</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2016-2017</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>2017</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>2017-2018</td>
<td>15</td>
<td>31</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>48</strong></td>
<td><strong>97</strong></td>
</tr>
</tbody>
</table>
ECM Preliminary Results

• Indicators of new faculty success include
  • Proposal submissions
  • Funding
  • Publications
  • Student progress

0-2 years

1-3 years

<table>
<thead>
<tr>
<th>2015-2016 (Fall 2015 start-Jan 2017)</th>
<th>Time to submit first proposal (months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECM New Faculty</td>
<td>2.6</td>
</tr>
<tr>
<td>New Faculty</td>
<td>3.99</td>
</tr>
</tbody>
</table>

Awards to Date

ECM New Faculty

2.6

3.9

1.6

1.2

New Faculty

3.99

1.65

0.55

0.70
Present situation: Representation, Salary

Representation (see Figure 1A):

- At 23%, Michigan Tech’s representation of female STEM faculty in 2016 is just above the national research institution average (3.6% of these were domestic underrepresented minorities; 1.1% were international)
- Promising hiring initiatives: women were 13% of applicants but 29% of hires in 2016
- Across all colleges and schools, female Assistant Professor numbers increased 2.2 times over 10 years (from 11 to 24)
- All female T/TT STEM faculty increased from 17.0% to 22.7% over 10 years

Salaries & Resources (see Figure 1B and 1C)

- Salaries of female assistant professors in comparison with their male peers have risen by 5% since 2008 (from 89% to 94%)
- Start-up packages are comparable within colleges or schools.

3. Areas requiring improvements:

Representation:

- The slight growth in female Associate Professors (from 21 to 25 over 10 years) has not mirrored the growth in the Assistant Professor rank
- The number of female Full Professors has varied substantially (from 11 to 14, with a high of 17 in 2014)

Salaries

- Female Associate and Full Professors salaries have remained around 96% and 90% (respectively) of their male peers’ salaries.
Present: Promotion, Retention, Leadership

Promotion

- Women have higher promotion to Associate rates than men (95.1% vs. 91.7%)

Retention

- Female and male STEM faculty turnover rates are similar (~37% depart after ~4.7 years of service)

Leadership

- 4 of 7 deans are women, 2 of the 4 STEM deans are women

3. Areas requiring improvements:

Promotion

- Women earn early tenure at a lower rate than men (18.2% vs. 21.7%)
- Women have lower promotion to Full rates than men (85.7% vs. 88.1%)
- Women take ~2 years longer to attain Full Professor rank (8.6 vs. 6.7 yrs)
- Standard deviations for women in promotion to Full are greater than for men (5.0 vs. 3.8) indicating much greater variation in experiences

Retention

- More tenure track women than men leave in year two, especially in the Sciences
- Fully 60% (14 of 26) of the female faculty in Engineering and Technology who received early tenure subsequently left compared to only 18% of the male faculty

Leadership (Women are underrepresented in mid-level leadership)

- Women comprise 2 out of 16 STEM chairs (1 in Cognitive and Learning Science, 1 in Civil and Environmental Engineering)
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</tr>
</thead>
<tbody>
<tr>
<td>Low salary/pay rate</td>
<td>177</td>
<td>52.8</td>
</tr>
<tr>
<td>Limited opportunities for advancement</td>
<td>152</td>
<td>45.4</td>
</tr>
<tr>
<td>Tension with supervisor/manager</td>
<td>99</td>
<td>29.6</td>
</tr>
<tr>
<td>Lack of a sense of belonging</td>
<td>89</td>
<td>26.6</td>
</tr>
<tr>
<td>Increased workload</td>
<td>88</td>
<td>26.3</td>
</tr>
</tbody>
</table>
### Top Reasons Why Graduate Student Respondents Seriously Considered Leaving Michigan Tech

<table>
<thead>
<tr>
<th>Reason</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of a sense of belonging</td>
<td>25</td>
<td>29.1</td>
</tr>
<tr>
<td>Campus climate was not welcoming</td>
<td>22</td>
<td>25.6</td>
</tr>
<tr>
<td>Lack of social life at Michigan Tech</td>
<td>22</td>
<td>25.6</td>
</tr>
<tr>
<td>Personal reasons</td>
<td>17</td>
<td>19.8</td>
</tr>
<tr>
<td>Financial reasons</td>
<td>15</td>
<td>17.4</td>
</tr>
</tbody>
</table>


### Top Reasons Undergraduate Student Respondents Seriously Considered Leaving Michigan Tech

<table>
<thead>
<tr>
<th>Reason</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of a sense of belonging</td>
<td>134</td>
<td>39.1</td>
</tr>
<tr>
<td>Financial reasons</td>
<td>123</td>
<td>35.9</td>
</tr>
<tr>
<td>Personal reasons</td>
<td>110</td>
<td>32.1</td>
</tr>
<tr>
<td>Coursework was too difficult</td>
<td>109</td>
<td>31.8</td>
</tr>
<tr>
<td>Lack of social life at Michigan Tech</td>
<td>106</td>
<td>30.9</td>
</tr>
</tbody>
</table>
http://www.mtu.edu/advance/