Overview of Cornell University
- Our women science & engineering faculty
- Cornell ADVANCE grant structure
  - Institutional Transformation Goals
  - PI Team
- Specific initiatives
- Evaluation
- Progress towards goals
- Institutionalization

Cornell University: Students
- ~3,500 BA/BS, ~500 PhDs annually
  - 65% of bachelors, 80% of doctoral degrees conferred in S&E
  - Women received 48% of BS, 30% of PhDs in S&E
- #2 in female (and male) BA/BS recipients who later received PhDs in S&E (1997-2001)
- #3 in female undergraduate students who later became engineering faculty

Cornell University: Institution
- 10 Colleges
  - 6 Endowed: Arts & Sciences; Engineering; Art, Architecture & Planning; Hotel; Law; Management
  - 4 NY State: Agriculture & Life Sciences; Human Ecology; Veterinary Medicine; Industrial & Labor Relations
  - 5 Colleges with S&E faculty
  - 53 S&E departments (+4 in AAP and ILR)
- Total of 1,598 faculty
  - 1,112 STEM and SBS faculty

Overview: Statistics on Women S&E Faculty in 2008/09
- Women faculty by rank
- Women faculty by discipline
- Women faculty by college
The Cornell S&E faculty in 2008/09, by rank

<table>
<thead>
<tr>
<th>Rank</th>
<th>Number of Faculty</th>
<th>% of All Faculty in Rank</th>
<th>% of Faculty Who Are Women</th>
<th>% of Women Faculty in Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full</td>
<td>617</td>
<td>57.7</td>
<td>16.0</td>
<td>40.8</td>
</tr>
<tr>
<td>Assoc</td>
<td>266</td>
<td>24.9</td>
<td>31.6</td>
<td>35.0</td>
</tr>
<tr>
<td>Assist</td>
<td>187</td>
<td>17.5</td>
<td>32.1</td>
<td>25.0</td>
</tr>
<tr>
<td>All</td>
<td>1070</td>
<td>100.0</td>
<td>22.5</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Note: Faculty who leave mid-year are counted as fractions. Numbers in columns 1-3 may not sum to column 4 because of rounding.

Percentage of women faculty by discipline and rank: 2008/09

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Full</th>
<th>Assoc</th>
<th>Assist</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering</td>
<td>6.0</td>
<td>20.0</td>
<td>25.0</td>
<td>11.6</td>
</tr>
<tr>
<td>Life Sciences</td>
<td>19.1</td>
<td>31.0</td>
<td>43.0</td>
<td>25.6</td>
</tr>
<tr>
<td>Physical Sciences</td>
<td>7.5</td>
<td>11.5</td>
<td>16.1</td>
<td>9.8</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>26.4</td>
<td>49.3</td>
<td>35.4</td>
<td>34.2</td>
</tr>
<tr>
<td>All</td>
<td>15.9</td>
<td>31.6</td>
<td>32.1</td>
<td>22.4</td>
</tr>
</tbody>
</table>

Note: Disciplines are spread across colleges (e.g., engineering includes a CALS department).

Percentage of women faculty by college, STEM/SBS, and rank: 2008/09

<table>
<thead>
<tr>
<th>College</th>
<th>Full</th>
<th>Associate</th>
<th>Assistant</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Sciences</td>
<td>27.4</td>
<td>39.1</td>
<td>38.0</td>
<td>32.3</td>
</tr>
<tr>
<td>STEM</td>
<td>7.6</td>
<td>28.0</td>
<td>25.0</td>
<td>13.6</td>
</tr>
<tr>
<td>Ag &amp; Life Sciences</td>
<td>12.5</td>
<td>33.3</td>
<td>26.3</td>
<td>22.2</td>
</tr>
<tr>
<td>SBS</td>
<td>16.8</td>
<td>25.8</td>
<td>32.1</td>
<td>20.9</td>
</tr>
<tr>
<td>STEM</td>
<td>6.7</td>
<td>17.0</td>
<td>25.0</td>
<td>11.7</td>
</tr>
<tr>
<td>Human Ecology</td>
<td>42.6</td>
<td>73.3</td>
<td>37.5</td>
<td>52.6</td>
</tr>
<tr>
<td>Vet Medicine</td>
<td>17.4</td>
<td>28.0</td>
<td>57.1</td>
<td>27.1</td>
</tr>
</tbody>
</table>

CU-ADVANCE Goals

- **Motivation:**
  Number of women faculty in S&E at Cornell below Ph.D. production levels nationally

- **Goal 1:** “Critical mass” of women in each department
  - 20% women faculty in each S&E department
  - 31/53 S&E departments below 20% in Year 1

- **Goal 2:** Increase the number of women on campus
  - 60 women S&E hires + 15 senior by 2011

Progress Toward Goals

- **Goal 1:** Reach “critical mass” of 20% women in every department
  - Baseline: 31 departments (of 53) below 20%
  - 2008/09: 26 departments

- **Goal 2:** Hire 60 women + 15 senior women
  - Hired 41 women faculty, net gain +21
  - Hired 11 senior women faculty, net gain +25

Cornell’s ADVANCE PIs

- Kent Fuchs, PI
  Provost
- Sheila Hemami, Co-PI
  Professor, Electrical & Computer Engineering
- Marjolein van der Meulen, Co-PI
  Professor, Mechanical & Aerospace Engineering
- Kim Weeden, Co-PI
  Associate Professor and Chair, Sociology
Center Structure & Personnel

- Organizationally within Vice Provost’s office
  - Liaison to Provost’s Office
  - John Siliciano, Sr. Vice Provost for Academic Affairs
- Executive Director: Yael Levitte, PhD
- Faculty Directors
  - Programming: Hemami and van der Meulen
  - Evaluation: Weeden
- Administrative Assistant: Amy Neish
- Liaisons to 5 ADVANCE Colleges

ACCEL Initiatives

- Climate
- Recruiting
- Women’s Power Tools
- Monitoring and Evaluation

Climate Initiative

- Chair training and faculty training
  - Best practice sharing across colleges
  - Search committee training using interactive theater
    - "It Depends on the Lens"
    - "Effective Interviewing"
- ADVANCEments in Science lecture
  - Campus-wide lecture by prominent gender scientist
- Policy change
  - Labor Day

Recruitment Initiative

- Recruitment development
  - Search committee training
  - "Coffee with the Candidate" program
  - College-specific accountability requirements
  - Institutional data reporting on gender & searches
- Faculty Development grants
- Lecture Series as recruiting tools
  - Carolyn Baldwin Morrison Distinguished Lecture Series (early career women)
  - Barbara McClintock Lecture (faculty with Cornell undergraduate degrees)

Search Committee Training

- Cornell Interactive Theater Ensemble productions
- "It Depends on the Lens"
  - Debut Fall 2007
  - 300 Cornell faculty participants to date
  - 400 National participants
  - 99% positive evaluations
- Interviewing
  - Debut Fall 2009

Women’s Power Tools Initiative

- Career-stage specific tools
  - Early-career: Professional Development Grants
  - Mid-career: Research Initiation Awards
  - Leadership training
- Mentoring and networking opportunities
  - Professional development lunches
  - "Tools" workshops, e.g. NSF CAREER planning, time management, voice coaching
- Grant review program for new investigators
Leadership Events

- 3-day workshop by the Center for Creative Leadership (CCL)
- Dinners with prominent academic women leaders
- Events with women leaders on the Cornell campus

Center for Creative Leadership

- Executive leadership education based in Greensboro, NC
- 3-day workshop on campus
- Participants identified by ADVANCE deans
  - 23 tenured women faculty
- Funded by deans and President’s Council for Cornell Women (PCCW), an alumnae organization
- Follow-up individual coaching
  - 15 of 23 faculty continued

College-specific Mentoring

- A&S: working with ADVANCE liaison to develop formal mentoring program
- CALS, HE: formal mentoring program with 3 member mentoring team
- Eng: mentoring policy since 2007; peer mentoring lunch; women’s mentoring [Hemami et al. 2007]
- Vet: mentoring policy since 2007, currently under evaluation

Total Awards

Financial and Awardees Data Deleted

Participation in Programs

- Number of faculty who attended at least one event
  - lunch, workshop or career stage retreat
  - does not include leadership dinners, lectures
- Percentage of faculty in each college
- Participation in leadership events

Participation by Rank

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Assistant</td>
<td>40</td>
<td>51</td>
<td>61</td>
<td>61 (3 events)</td>
</tr>
<tr>
<td>Associate</td>
<td>41</td>
<td>42</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>Full</td>
<td>46</td>
<td>59</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>All ranks</td>
<td>127</td>
<td>152</td>
<td>151</td>
<td>≈100</td>
</tr>
</tbody>
</table>

(Faculty who attend multiple events are only counted once.)
## Participation Rates, by College

<table>
<thead>
<tr>
<th>College</th>
<th>2006-7</th>
<th>2007-8</th>
<th>2008-9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture &amp; Life Sciences</td>
<td>63%</td>
<td>53%</td>
<td>55%</td>
</tr>
<tr>
<td>Arts &amp; Sciences</td>
<td>45%</td>
<td>41%</td>
<td>41%</td>
</tr>
<tr>
<td>Engineering</td>
<td>64%</td>
<td>67%</td>
<td>67%</td>
</tr>
<tr>
<td>Human Ecology</td>
<td>38%</td>
<td>45%</td>
<td>42%</td>
</tr>
<tr>
<td>Veterinary Medicine</td>
<td>78%</td>
<td>56%</td>
<td>83%</td>
</tr>
</tbody>
</table>

## Evaluation

- **External:**
  - NSF Program Officer visit, Fall 2007
  - External Advisory Board, Spring 2008
  - External Evaluation: Jennifer Greene (UIUC), Spring 2009
- **Internal evaluation**
  - Institutional metrics
    - NSF indicators
    - Climate assessment
  - Constituent feedback
    - Program assessment

## Feedback from Constituents

- **Evaluation forms**
  - Usefulness of program
    - Overall rating
    - Most useful
    - Least useful
  - Usefulness of networking opportunity
  - Suggestions for future events
- **Event ratings:** 4+ / 5 average on Likert Scale

- **Feedback from Constituents**

  - “It is really wonderful that the Provost took time to visit and candidly discuss the situation with the participants. I was extremely impressed by the open manner of the Provost and it was a huge help to understand the perspective of how the University administration sees the challenges and possibilities for the future.”
    - Assistant Professors, Career Stage Retreat

  - “Very useful. We don’t get much communication time with leadership. Knowing what is going on and being informed and asked for input are half the battle in making informed decisions.”
    - Assistant Professors, Career Stage Retreat

  - “This group today was very enjoyable to interact with and learn from. Many of us don’t have a ‘support group’ outside department (or even within). Could this group get together on a more frequent basis so we get more feedback on how to handle difficult situations?”
    - Associate Professor, Career Stage Retreat

  - “The was extraordinarily useful and interesting. The main benefits was raising awareness about the voice and understanding that a few simple exercises can really help with pitch, tone, etc. Kathleen was an outstanding workshop/discussion leader.”
    - Full Professor, Voice Coaching, Career Stage Retreat

  - “I went to meet other women at Cornell, and to learn something! I did! I also wanted to bring along junior faculty within my college and intro[duce] them to other women—that was great.”
    - Full Professor, Lunch event
Feedback from Constituents

- "I have to say it was really very well done and informative. It’s probably the only time I went to some university-sponsored [event] and felt that it was time very well spent. :) Normally I think about how ‘compressible’ the content is, but in this case I had the opposite reaction."
- "This was an excellent awareness building session backed up by excellent research."
- "Excellent workshop. Fun, thought-provoking, interactive scenario, plus data to back it up."

Participants, Search Committee Training

How is Feedback Used?

- Shifted lunches from discipline-specific to broad cross-discipline issues
- Ideas for lunch topics
- Additional opportunities for women full professors to serve as resources for CU-ADVANCE
- Interview training (DVD) based on success of first search committee workshop
- Added co-ed events in response to chairs’ requests

Progress Toward Goals

- CU-ADVANCE goals
- Other indicators
  - Leadership
  - Recruitment
  - Retention
  - Promotion
  - Compensation: start-up packages, salary

Department Demographics at Baseline (2003-2006 Average)

<table>
<thead>
<tr>
<th>% Women in Department</th>
<th># of Departments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>●●●●●●●●●●●●●●●●●</td>
</tr>
<tr>
<td>1-10%</td>
<td>●●●●●●●●●●●●●●●●●</td>
</tr>
<tr>
<td>11-20%</td>
<td>●●●●●●●●●●●●●●●●●</td>
</tr>
<tr>
<td>21-30%</td>
<td>●●●●●●●●●●●●●●●●●</td>
</tr>
<tr>
<td>31-40%</td>
<td>●●●●●●●●●●●●●●●●●</td>
</tr>
<tr>
<td>41-50%</td>
<td>●●●●●●●●●●●●●●●●●</td>
</tr>
<tr>
<td>51+%</td>
<td>●●●●●●●●●●●●●●●●●</td>
</tr>
</tbody>
</table>

n=53  n_<20%=31  \( \bar{x}_{depts} = 22\% \)

Department Demographics in 2009

<table>
<thead>
<tr>
<th>% Women in Department</th>
<th># of Departments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>●●●●●●●●●●●●●●●●●</td>
</tr>
<tr>
<td>1-10%</td>
<td>●●●●●●●●●●●●●●●●●</td>
</tr>
<tr>
<td>11-20%</td>
<td>●●●●●●●●●●●●●●●●●</td>
</tr>
<tr>
<td>21-30%</td>
<td>●●●●●●●●●●●●●●●●●</td>
</tr>
<tr>
<td>31-40%</td>
<td>●●●●●●●●●●●●●●●●●</td>
</tr>
<tr>
<td>41-50%</td>
<td>●●●●●●●●●●●●●●●●●</td>
</tr>
<tr>
<td>51+%</td>
<td>●●●●●●●●●●●●●●●●●</td>
</tr>
</tbody>
</table>

n=53  n_<20%=26  \( \bar{x}_{depts} = 24\% \)
Progress Toward Goals

• Goal 1: Reach “critical mass” of 20% women in every department
  – Baseline: 31 departments (of 53) below 20%
  – 2008/09: 26 departments

• Goal 2: Hire 60 women + 15 senior women
  – Hired 41 women faculty, net gain of 21
  – Hired 11 senior women faculty, net gain of 25

Percentage of Faculty who are Women, by Year and Discipline

Percentage of Assistant Professors who are Women, by Year and Discipline

Percentage of Associate Professors who are Women, by Year and Discipline

Percentage of Full Professors who are Women, by Year and Discipline

Other Indicators of Progress

• Number of women in leadership positions
• Demographics of new hires
• Tenure promotion rates, pace
• Promotion to Full rates, pace
• Retention rates
• Start-up packages
• Salaries
**Number of Women in Leadership Positions, Baseline to 2009**

<table>
<thead>
<tr>
<th>Year</th>
<th>Endowed Chairs</th>
<th>Department Heads and Center Directors</th>
<th>University and College T&amp;P committees</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006/07</td>
<td>22</td>
<td>23</td>
<td>30*</td>
</tr>
<tr>
<td>2007/08</td>
<td>24</td>
<td>25</td>
<td>52</td>
</tr>
<tr>
<td>2008/09</td>
<td>26</td>
<td>21</td>
<td>41</td>
</tr>
</tbody>
</table>

* Average of 2004-7

**Cohort Study: Data**

- 4 cohorts, based on year of hire
  - 1993-1996
  - 1997-2000
  - 2001-2004
  - 2005-2008
- Track career transitions through 2008
  (No info on pre-, post-Cornell careers)

**Cohort Study: New Hires**

- Assistant level
  - Is the proportion of women among newly hired assistant professors increasing?
  - Are we keeping up with “the pipeline”?
- Associate and full levels

**Cohort Study: Promotion**

- Assistant to Associate with tenure
  - Are women as likely as men to leave Cornell pre-tenure?
  - Are women promoted to tenure at the same rate as men?
  - Do women take longer to get tenure?
  (1993-2004 cohorts only)

**Cohort Study: Promotion**

- Associate to Full
  - Does Cornell promote women to Full at the same rate as men?
  - Are women more likely to be “stalled associates”?
  (1993-2004 cohorts)

**Start-up Study**

- Do gender differences exist in the size and content of start-up packages?
  - conditional on discipline/department, rank
- Accepted offer letters from F2003-F2008
  - obtained from Deans
  - coded & analyzed by IRP
Salary Study
- Conducted annually since 2001
  - Results, outliers’ names shared with deans
- For each college, estimate net gender effect controlling for …
  - department
  - years since degree (and square)
  - years in rank (and square)
  - rank
  - external hire at full or associate level
  - administrator / named professorship
  - “stalled associate”

Summary of Progress
Details Here

Academic Research
- Department demographics and perceptions of climate
- Assistant professors’ integration
- Gender differences in academic mobility

Department Demographics & Climate
- Data
  - Faculty Work Life Survey (2006)
  - Dependent variables: dept. climate, own integration
  - Predictors: dept. size, growth, & gender composition; individual-level controls
- Results
  - Women rate climate, own integration lower than men
  - Men more affected by department demography
    - Men in departments where the # of women has increased hold more negative views of climate, integration
    - No significant effect for women

Assistant Professors’ Integration
- Wave 1 (2007/08)
  - 1-hour interviews, 32 (of 40) 2nd-year assistants
  - Asked about:
    - Instrumental, expressive, & mentoring networks
    - Department structure and climate
    - Level of integration
- Wave 2 (2010/11)
  - Track same faculty
  - Does integration predict outcomes (departure, promotion)?
  - Does isolation / integration change? Why?

Assistant Professors’ Integration:
Wave 1 Results
- Variation in faculty styles, departments
  - Active / reluctant networkers
  - Enhancing / dampening departments
- Integration higher where …
  - Formal mentors, accessible informal mentors
  - Proactive, supportive chairs
  - Favorable physical location of office
  - Involvement in service
  - Research collaboration
  - Junior faculty peer network
  - Kids
  - Women in network
Gender and Academic Mobility

- Research questions:
  - Do department demographics affect later hiring?
  - Are faculty increasingly mobile across institutions? Is there a gender gap in mobility, and how has it changed?
  - Does the % of women among new hires decline when jobs are scarce?
- Data (still collecting)
  - All sociology PhD programs, 1965-2009
  - Faculty: PhD year and institution, gender, rank, subfield
  - Department: Size (faculty, grad, undergrad), gender and rank composition, leadership, subfields

Institutionalization: Completed

- Elimination of Teaching on Labor Day
- Effective Search Practices Workshops
- College-specific accountability for searches
  - A&S: Deans’ Office
  - CALS: Senior Associate Dean
  - Eng: Faculty committee
  - HE: Dean
  - Vet: Associate Dean

Institutionalization: Data

- NSF Indicators
  - Faculty statistics
  - Space data
  - Start-up letters
- Additional Data Collection
  - Work-life survey
  - Hiring pools

Institutionalization: Ongoing

- College-specific programs
  - Tailored to ‘local’ culture
- Finding “homes” for Initiatives
  - Programming: Office of Provost
  - Chair Training: Office of Provost/Human Resources
  - Data Collection: Institutional Research & Planning
  - Data Monitoring: Office of Human Resources
- Exploring institutionalization of other programs

Unexpected Positive Outcomes

- Best practice presentations by Deans
  - Dialogue facilitated by ADVANCE
- Adaptive activity programming in response to feedback
- Strength of CU-ADVANCE “brand”
- Institutional integration of women faculty communities
  - Uniformly high level of engagement across the board
  - “Reaching the formerly unreachable”

advance.cornell.edu

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Kim Weeden kw74@cornell.edu