Overview and Findings of the
Chicago Conference for Associate Deans of Research
at Small and Mid-Sized Engineering Schools
University of Illinois, Chicago
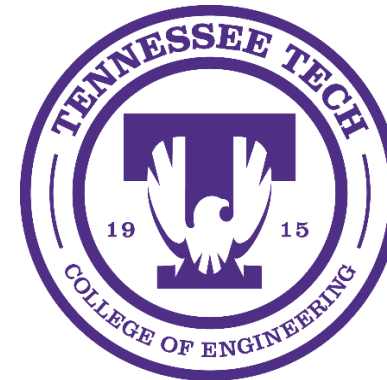## October 11-12, 2016

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Background – Overall Concerns for ADRs in Small to medium Colleges of Engineering

- **Professional development is challenging, no formal opportunities for "training"**
- **The responsibilities and resources available to these ADRs differ from colleges of engineering in large (often land grant) universities and public vs. private.**
- **The variations appear to have a clear demarcation evident in the size of the college faculty and ranking.**
- **The expectations/responsibilities of ADRs vary greatly across these universities: Such as:**
  - **Part-time vs. full-time appointment**
  - **Teaching and/or research expectations**
  - **Staff support**
  - **Budget control or resources**

This conference was developed to provide an intimate and open environment as a professional development and enrichment opportunity for all participating Associate Deans for Research in medium to small colleges of engineering

https://chicago-adr-conference.engr.uic.edu/

Public University Engineering Rank vs. Faculty Size

Source: Dean Peter Nelson University of Illinois at Chicago, UIC

Eng Faculty Size
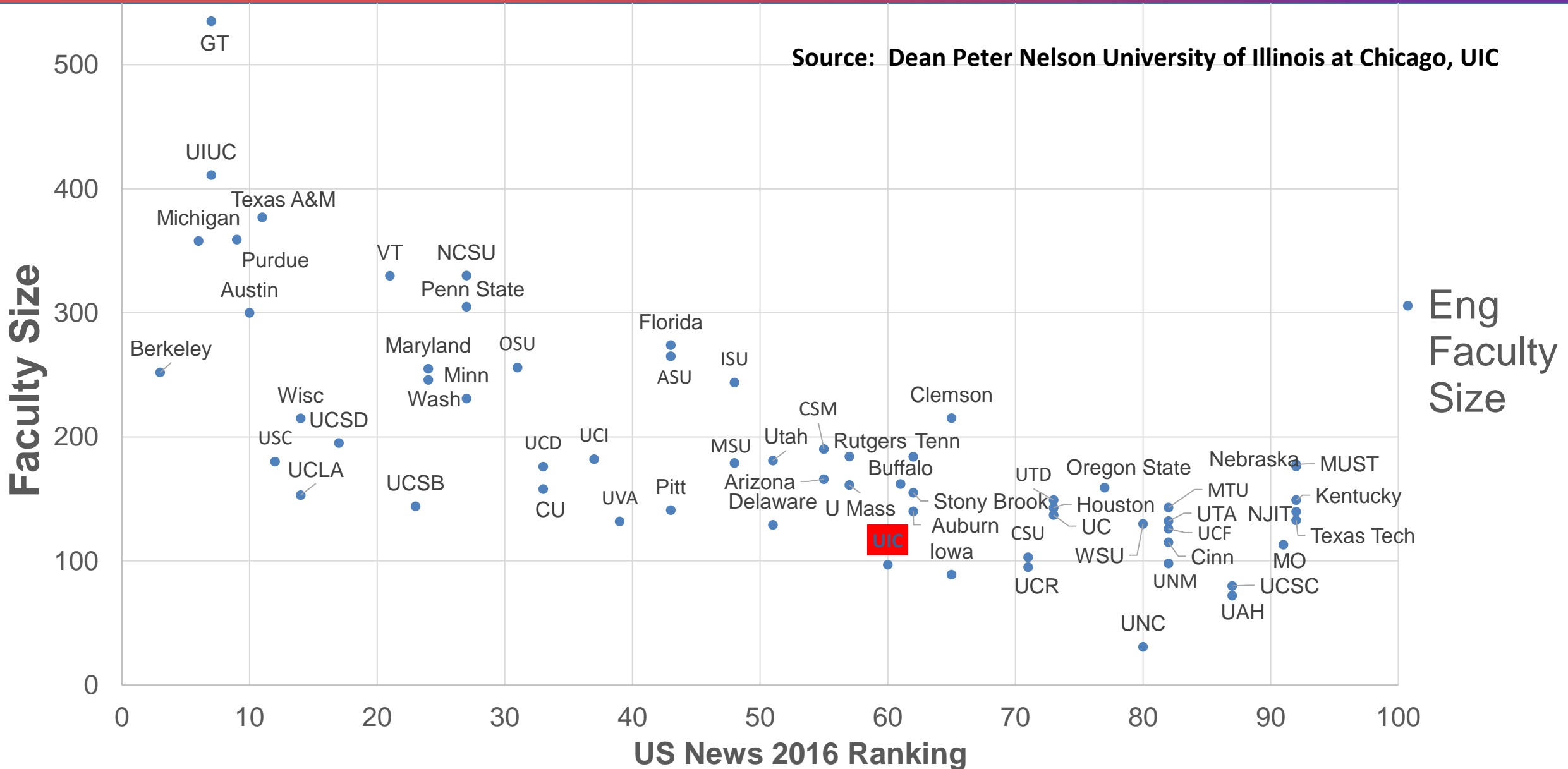
Overall Challenges Identified by ADRs in Small to medium Colleges of Engineering

a) Helping faculty to be successful, i.e. getting more funding and national recognition

b) Assisting junior faculty, especially during their pre-tenure years, through mentoring, particularly for highly prestigious and competitive grants such as the NSF CAREER awards and its equivalent awards from other agencies (e.g. Air Force Young Investigator Award)

c) Providing faculty the necessary infrastructure for writing proposals for large funding amounts

d) Facilitating both disciplinary and interdisciplinary collaborative groups or clusters

e) Increasing research productivity as well as enhancing the impact of the research

f) Cultivating research leaders who might be PIs on future large proposals

g) Defining and empowering the position of Associate Dean of Research in a consistent way

h) Providing Associate Deans of Research a system of metrics both for self-evaluation and for evaluation of their Colleges/Schools of Engineering

i) Recruiting best quality graduate students especially domestic students, possibly from one another's institutions

j) Recruiting women faculty and faculty from underrepresented minority groups

k) Developing inter-institutional collaborations since smaller sized schools do not have the critical mass necessary for having the program managers, proposal managers, research assistantships needed to put together large funding proposals especially for Institutes or Centers

l) Optimizing Associate Deans relationships with their Deans

m) Optimizing Associate Deans relationships with their engineering faculty colleagues.

Chicago Conference Overview

Key Presentations

Dr. Arden Bement, Former Director of the NSF, Former Director of NIST, ***"Does college size and rank matter for new faculty competing for shrinking federal research funding?"*** **Dr. Bement participated in the entire conference.**

Dr. William Olbricht, NSF, Deputy Division Director, Chemical, Bioengineering, Environmental and Transport Systems (CBET), "**Research opportunities for small and mid-sized engineering schools**" - **Dr. Olbricht participated in the entire conference.**

"Challenges of providing the right research and education space for an entire college of engineering, does the prospect large funding solve the problem?"

Chicago Conference Overview

Key Presentations (continued)

Tools for ADRs: "**Concept maps for ADRs**"

"**Domestic student recruiting strategies**"

"**Innovation and Techno-entrepreneurship approaches to enhance student research experience and recruit graduate students**"

Facilitated Discussions

- Summary slide of the keynote and some prepared questions.

- Break-out session to address key challenges .

- Reporting by break-out groups and discussions

a) Helping faculty to be successful, i.e. getting more funding and national recognition

1) What does a successful proposal look like, library of successful proposals.
2) Appropriate startup for new faculty and its management.
3) Assist faculty to find collaborators.
4) National recognition; participate/organize wkshps/conf.

b) Assist junior faculty, through mentoring, particularly for highly prestigious and competitive grants.

1) Provide grant writing and proposal development support.
2) Build confidence in their capabilities.

c) Providing faculty the necessary infrastructure for developing proposals for large funding amounts

1) Provide release time support for large proposals such as ERCs
2) Hire consultants to help with writing. Partner with other institutions
3) If there is a space challenge, the institution can buy space and rent out what is not needed, Look for under used laboratories to utilize

e) Increasing research productivity, enhancing the impact of the research

1) Faculty who are no longer research active: Post tenure review, increased teaching or half appointment, industry-based research/consulting, appeal to the altruistic side.
2) "Launch Committees" – early career management for 1st year, external advice.
3) "Lift Committees" for existing faculty
4) Measure Impact: Outputs, quality of journals, metrics: citations, recognitions, funding, Publicize papers once they are accepted

f) Cultivating research leaders who might be PIs on large proposals

1) Create leadership training program specifically in research that is, for example, similar to typical academic leadership training programs.

2) Create a mentorship program; mentors have records of having developed successful research programs. Mentors may be from the college, or university, and in some cases from other universities.

3) Encourage junior faculty to participate in summer fellows programs at national labs where they can develop skills in building a successful research program.

4) Hire associate professors who are on a trajectory of success; ambitious and high energy.

5) Create an award for faculty who have taken leadership and received external funding greater than a designated amount; for example the annual "Million Dollar Club" dinner for new awards greater than $1.0 M.

j) Faculty recruiting: women and underrepresented minority groups

1) Upper administration (College, University) has to prioritize, give importance
   - Get rid of unconscious bias
   - Trainers providing diversity training

2) Opportunity hires – trailing hires
   - Spousal accommodation
   - Strategic hire – term limited
   - Funding from upper administration

3) More mentoring, special attention, social interaction
   - Address unconscious bias re: tenure clock

4) Institution will provide resources to attract faculty in these groups

j) Faculty recruiting: women and underrepresented minority groups (cont'd)

1) Faculty network "Phone Tree" can be an excellent tool for faculty recruiting
2) Higher Education Recruiting Consortium (HERC) (http://www.hercjobs.org/)
3) Reasons for loss of women faculty
   - Do not get tenure due to a lack of mentoring
   - Pay inequality – allegedly women are getting paid 20% less than men
   - Family issues typically fall to the woman while man continues with his career path
4) Lack of Mentoring
   - Use it as a recruiting tool, a small university can do a better job than at a larger school
5) Help women to achieve tenure and to climb the career ladder
   - Support participation is leadership workshops and institutes HERS – Leadership Training Institutes for Women in Higher Ed -- https://hersnet.org/

k) Developing inter-institutional collaborations since smaller sized schools do not have the critical mass necessary

1) Need to team with a school with a similar size to even the playing field
2) First, explore activity within a campus
   - Bring faculty together and have discussions overseen by a facilitator
   - Focus discussions on some "Grand Challenge" of a "Wicked Problem"
3) Options for identifying external partners
   - Start a conversation at a high level, e.g. Vice Provost or Vice Chancellor for Research
   - Host a workshop focused on the collaboration topic
   - Use a grass roots approach, i.e. individual faculty use their network to build a team by contacting faculty at other small institutions – email "phone tree" approach

Group Picture – 12 October 2016

https://chicago-adr-conference.engr.uic.edu/