Measuring Research Impact

Mark Glauser - Syracuse University
presenting elements of Academic Analytics - good overview
Some limitations - articles over the last 4 years
Citations counted over last 5 years
Can use weighted comparisons for different disciplines (FSPI) to determine how to weight conference proceedings vs. journal articles, etc.
Comparisons are made within each discipline for PhD granting institutions across the US
He uses the system to help faculty see where they are now, and to then determine where they need to put effort to make improvements.
Data is gathered for individual faculty members, and then can be aggregated to department and college levels.
Created an "effective" AA funding profile for faculty with significant industrial or state or foundation funding, that would not show up in AA (which draws from federal funding).

Anthony Olejniczak - Academic Analytics
Overview of tool
Can run what-if scenarios:
- what happens to department metrics if you add faculty X
- what happens to department metrics if you lose faculty Y (retention consideration)
Interesting comparison slide on scholarly activity vs. years since PhD - least productive in pre-tenure years - very interesting - also productivity 30 years out - many interesting trends
Recognizing Excellence - correlations to help predict how might win honorific awards (NAE, etc.)
Research Insight - uncovering funding - type in research topic - yields open federal funding opportunities, and then also identify researchers at your institution who may have similar research interests. Comparisons of citation records for different disciplines for the same journal (e.g. Nature)

Brian Yoder - ASEE - Director of Assessment, Evaluation and Institutional Research
Discussion of large ASEE database that we submit each year
Collects data from 360 engineering colleges and schools (they miss a few smaller programs, but only account for about 2% of the graduates each year)
Showed their data analysis and search tool
Also, they do Faculty Salary Survey - Asst., Assoc., and Full Professors
People who provide data they get certain things for free, but then can pay for access to additional data.
New survey - Undergraduate Engineering Retention Survey - carried out in June, every other year - next time is 2017 - COULD BE INTERESTING FOR US TO REVIEW, IF WE ARE PART OF THE SURVEY

Robert Morse - U.S. News & World Report
They have a consumer-oriented mission, so they are targeting the students/parents/alumni who are looking into schools, more than addressing engineering schools as customers.
They recognize that engineering schools use their rankings for peer comparisons.
Challenges and pressures they face with the engineering rankings:
- can better outcome measures be developed at the UG and Grad level to measure post-graduate success of engineering graduates?
- can there be statistical indicators developed for UG rankings that are not based 100% on academic reputation
- should there be a separate ranking for Engineering Technology rankings
- there compilation is a big logistics and data collection and analytical challenge. They try to use the most accurate and complete data available.
ASEE is very important to the U.S. News Grad Engineering Rankings
Peer surveys are sent to dept. chairs
US News uses ASEE’s definition for research expenditures - they can then check for discrepancy between the two data sets.
Weights used for Grad rankings:
- 25% peer assessment (Dean and dean of graduate studies at each school are surveyed)
- 15% corporate and hiring contacts assessment
- 10% student selectivity
- 25% faculty resources
- 25% research activity
Selectivity - Quantitative GRE (1/3) and acceptance rate (2/3)
Research activity - 15% externally-funded research expenditures, 10%
research expenditures per full-time faculty member - only full-time tenured and tenure-track faculty are used
UG rankings - based on entirely on reputation
Also rank Best Online Graduate Engineering programs
Also rank Best Global Universities - use Thomson-Reuters data - based solely on research performance of the institution - table shown that breads down the criteria
Also have U.S. New Academic Insights - analytic dashboard to visualize and compare 25 years of US News rankings and data.

Q&A:
Academic Analytics - they don't use data or information that isn't peer-reviewed (as an internal guide) - which is different from the approach of US News. US News is targeting the consumer, but AA is targeting universities.
ASEE - they measure "what is done"
Do the rankings drive the schools? Or do the schools drive the rankings?
US News was asked about including error bars or having some information about variance, but they said they don't look at things like that. They also don't really look at trends like what happens to institutions over time. They have a lot of data, but they don't really spend time looking at it. They focus on the consumer, and produce each new set each year.