Launching a Research Program

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We aren't all cut from the same cloth

Setting is fundamental as you plan for your research program’s outcomes.
Interesting data

- “The US currently spends more on research and development than any of the rest of the G7 countries combined” [3].
- “Research universities receive 83 percent of total federal obligations for research and development” [2].
- 23.1% of the Colleges in the US are Research Universities [2].
Background

- Carnegie Classifications (Carnegie Foundation for the Advancement of Teaching) [1]
  - Doctoral Granting Universities
    - At least 20 research doctoral degrees during the year
    - RU/VH: Research Universities (very high research activity)
      - Rice, Gatech, Tamu, USC, UMich, Purdue
    - RU/H: Research Universities (high research activity)
      - UTEP
    - DRU: Doctoral/Research Universities
      - UPRM
    - Master’s Colleges
    - Baccalaureate Colleges
  - National Academies Classification
    - ERI – Emerging Research Institutions
      - Less than $15 M in federally sponsored research
      - UPRM - $14.8M in the last annual report.
Research Activity Index Results Based on Rank-order Data

Aggregated Research Activity Index

Per-capita Research Activity Index

From Carnegie Classification, http://classifications.carnegiefoundation.org/
The classifications of your institutions

Universities Classifications of Attendees Today

- ERI: 36%
- RU/VH: 36%
- RU/H: 28%
- ME!
ERI characteristics [from 2]

- Teaching load is from 2 to 3 times the load at research universities
- Limited administrative support
  - Researchers carry administrative loads as well
- Faculty reward system does not compensate adequately

Death by a thousand cuts!
Strategies/Metrics

- Metrics
  - Not the same
    - Eg. No seed funding, no lab space
  - Education has a strong component in these institutions
    - However, still publications, grants, number of grad students count

- National Academies Suggest
  - Partnerships with RUs
  - Undergraduate research
My strategy

- Partnership
  - University of Michigan, Ann Arbor
  - Purdue University

- When will partnerships work?
  - Respect
  - Mutual need

- Research Grants
  - Continuous funding
  - Only two out of eight faculty members kept funding
    - DELIVER!!
  - Explore diverse sources of funding… but do not spread too thin
My strategy

- Workforce
  - Graduate students
    - Undergraduate Students
      - ARG model – teach how to do research in cooperative learning environment
      - Undergraduate research course
  - Undergraduate Students

- High standards and plan
- Build expertise in one area
  - Synergy
  - Do not spread to thin

- Multidisciplinary

- Learn about your institution’s peculiarities
How can I measure success?

- +125 Ug RA
- Continuous funding and release time for research for past 8 years
- Publications
  - Some by undergrads
  - Most by MS students
- Collaborators asking me to write proposals
References