Launching a Research Program

Nayda G. Santiago
Electrical and Computer Engineering Department
University of Puerto Rico, Mayaguez Campus

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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].

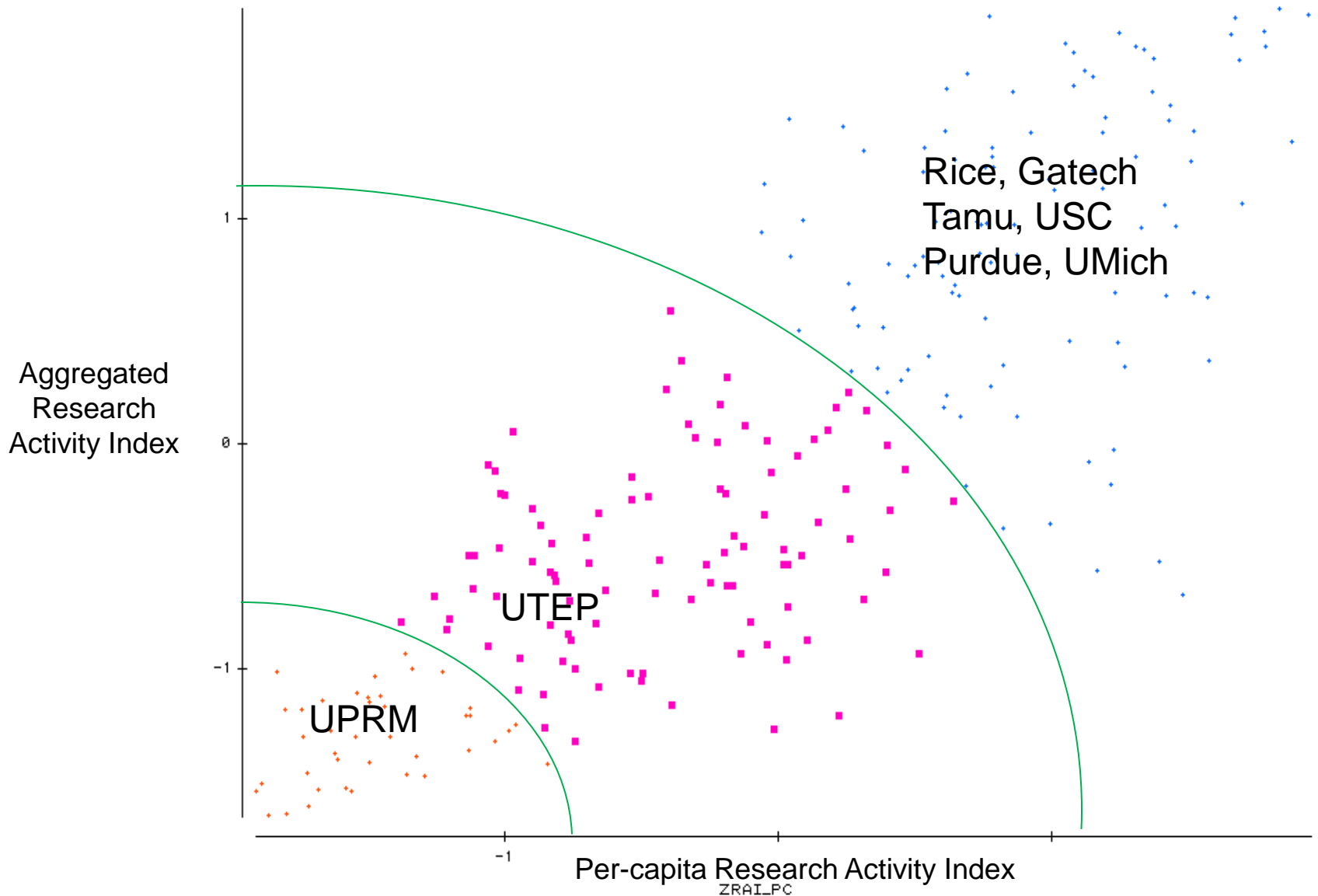- 23.1% of the Colleges in the US are Research Universities [2].

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.
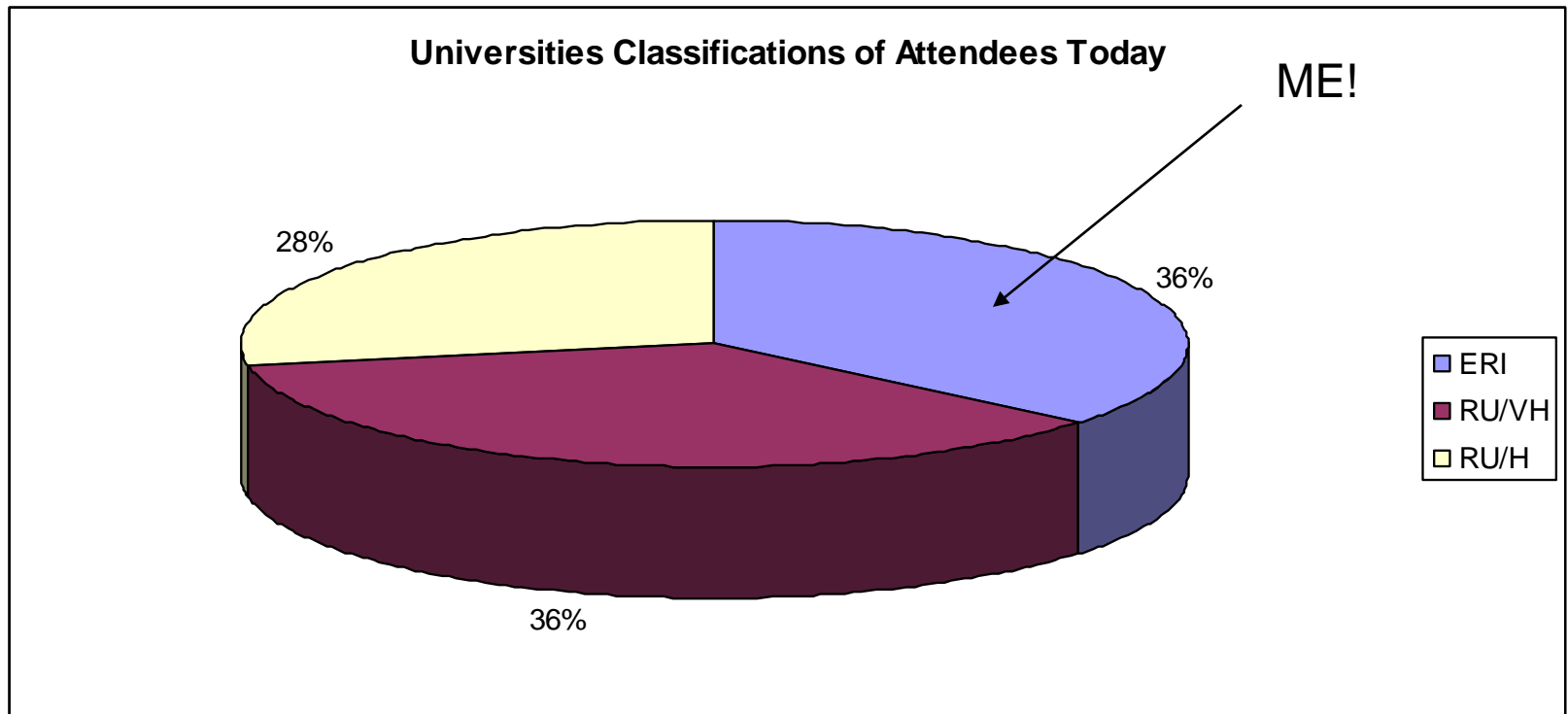
Research Activity Index Results Based on Rank-order Data

From Carnegie Classification, http://classifications.carnegiefoundation.org/

The classifications of your institutions

Universities Classifications of Attendees Today

ME!

28%

36%

36%

ERI
RU/VH
RU/H

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
- **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

1. The Carnegie Foundation for the Advancement of Teaching, http://www.carnegiefoundation.org/

2. Partnerships for Emerging Research Institutions: Report of a Workshop - by Committee on Partnerships for Emerging Research Institutions and National Research Council , National Academies Press (March 27, 2009)

3. Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future, Committee on Prospering in the Global Economy of the 21st Century: An Agenda for American Science and Technology, National Academy of Sciences, National Academy of Engineering, Institute of Medicine, National Academies Press (March 9, 2007)