Academic Mentoring Workshop

Launching a Successful Research Program

Timothy M. Pinkston, Ph.D.
University of Southern California

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http://www.cmd-it.org/workshops/ACW.html
Research: “concentrated study” that contributes new knowledge & understanding

- Seek answers to difficult questions: What is (is not) possible?
- Seek discovery of new knowledge and insights in addition to broad, deep understanding and/or creative application of those discoveries
  - theories, methods, algorithms, designs, technologies, techniques
- Far-reaching scope in both time horizon and space of exploration
  - goes beyond high-end development, which typically looks out only a few years and has a well constrained design space with fewer, less complex tradeoffs
- Provides basis/foundation for new innovation, new inventions …
- Hallmark: SOS—sustained, original, significant work
  - Understand problem, gain awareness of other proposed solutions (assumptions, benefits, limitations), propose new idea(s), formulate plan of attack, evaluate effectiveness, document/disseminate results
Launching a Research Program Panel

*Panel Objectives:* provide guidance on

- identifying promising research directions
- recruiting and mentoring student researchers (UG, Grad)
- establishing a research program that can thrive
Launch a Research Program: Discussion Questions

• What are the A-B-C’s of identifying and defining a focused scope of promising research ideas and directions?
• How best to invest start-up funds and get positioned to acquire more funds for building a productive research lab?
• What are good ways of attracting/recruiting excellent students (UGs and Grads) highly capable of doing research?
• How should one go about training and mentoring students to acquire the diverse skill-set needed to carry out research and contribute to a well-functioning research team?
• How best to adapt to unexpected hurdles, or twists and turns, in developing a new research program?

* Share a personal story and provide tips or lessons learned (advantages and disadvantages) from past experiences
Panelists

• **Charles Isbell**, Professor and Senior Associate Dean, College of Computing, Georgia Tech

• **Jose Martinez**, Associate Professor, Electrical and Computer Engineering Department, Cornell

• **Manuel Perez-Quinonez**, Associate Professor and Associate Department Head, Department of Computer Science, Virginia Tech

• **Valerie Taylor**, Professor and Senior Associate Dean, Look College of Engineering, Texas A&M
Panel Format

• Panelists’ remarks:
  – responses to panel discussion topic and questions
  – additional tips

• Open Q&A:
  – questions from the audience

• Wrap-up