

Academic Mentoring Workshop

Launching a Successful Research Program

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April 12, 2013

<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**

