CICI IAB Meeting
February 01, 2011

Rathindra (Babu) DasGupta & Larry Hornak
I/UCRC, IIP Division
National Science Foundation

Welcome to the Industry / University Cooperative Research Centers
I/UCRC: Mission and Vision

**Mission:**
- To contribute to the nation’s research infrastructure base by developing long-term partnerships among industry, academe and government
- To leverage NSF funds with industry to support graduate students performing industrially relevant research

**Vision:**
- To expand the innovation capacity of our nation’s competitive workforce through partnerships between industries and universities
What does an I/UCRC offer?

Outcomes from a truly cooperatively defined, shared portfolio of precompetitive research

- **Industry driven** R&D projects
- Leveraging relatively small investment to reap far greater return via consortium-style research center
- Interaction with other key players in industry, peers and customers
- Access to intellectual property *(patents in use)*
- Access to pre-publication technical papers
- Access to world class facilities and researchers
- Access to students *(students hired)*
- Transfer of research results to serve industry *(impact assessment)*
Trust the IUCRC Model

- IUCRC model moves away from a one-on-one contracts

One-on-one contracts → Industrial Affiliates:

Disadvantages of Affiliates Model:
- sub-critical mass projects
- no sense of community
- value << sum of projects

Advantages of the IUCRC Model:
- one-on-one decision-making
- collective ownership

IUCRC:
- collective decision-making
- collective ownership

Much more than collective ownership: **Collective Value**
Priming the IUCRC Shared Portfolio

The co-operative process rapidly aligns the Shared Portfolio with Member Needs and University strengths.
Active Centers and Sites by Year

INCREASE IN CENTERS AND SITES;
Active centers include 5 Phase III

41 ENG
15 CISE
TOTAL FUNDING BY SOURCE BY YEAR IN DOLLARS

Millions

- UNIVERSITY
- OTHER (FED. NON-FED., & OTHER CASH)
- STATE
- OTHER INDUSTRY
- INDUST. MEM. FEES
- OTHER NSF

Years: 80, 82, 84, 87, 89, 91, 93, 95, 97, 99, 01, 03, 05, 07, 09

Funding amounts in millions from 1980 to 2009.
## Industry/University Cooperative Research Centers

### ENG Multi-University Centers

1. Advanced Forestry
2. Advanced Packaging and Processing (III)
3. Bio Energy R & D
4. Composites Infrastructure
5. Ceramics Composites Optical Materials Center
6. Computational Materials Design
7. Design of Analog Digital Integrated Circuits (III)
8. Dielectrics
9. Electromagnetic Compatibility
10. Energy Harvesting
11. Friction Stir Processing
12. Fuel Cells
14. Health Org. & Transformation
15. Integrative Joining of Materials for Energy Applications
17. Logistics and Distribution
18. Membrane Science, Engineering & Technology
19. Minimally Invasive Diagnostics

### ENG Multi -University Centers

20. Next Generation Photovoltaics
21. Particulate and Surfactants
22. Pharmaceutical Development
23. Plug-In Hybrid Electric Vehicles
24. Precision Forming
25. Power Systems Engineering Research Center (III)
26. Resource Recovery & Recycling
27. Smart Vehicles Concepts
28. Silicon Solar
29. Small Satellite Technology
30. Connection One
31. Water and Environmental Technology
32. Water and Equipment Policy
33. Wood Based Composites
34. Metamaterials
35. Agricultural, Biomedical, and Pharmaceutical Nanotechnology

### ENG Single-University Centers

36. Advanced Cutting Tools
37. Advanced Vehicle Electronics (III)
38. Biomolecular Interaction
39. Child Injury Studies
40. Electronic Micro-Cooling
41. Non-Destructive Evaluation (III)

41 ACTIVE ENG CENTERS
Industry/University Cooperative Research Centers

**CISE Multi-University Centers**

1. Advanced Knowledge Enablement
2. Autonomic Computing
3. e-Design
4. Embedded Systems
5. Experimental Computer Systems
6. Hybrid Multicore Productivity
7. Identification
8. Intelligent Maintenance
9. Intelligent Storage
10. Net-Centrics Systems
11. Reconfigurable Computers
12. Search & Rescue Robots
13. Security and Software Engineering Research Center
14. Surveillance Theory
15. Wireless Internet

**15 ACTIVE CISE CENTERS**
Other Funding Opportunities for CICI IUCRC

- CORBI Projects – Between I/UCRC Centers (NSF matching!)
- Fundamental Research (Industry Defined)
- Research Experience for Undergraduate Students (REU)
- Research Experience for Teachers (RET)
- Federal Government Interagency Exchange of Funds
- International Collaboration/Projects
- Supplemental Opportunity for SBIR/STTR Memberships
CICI Status

• All sites awarded with ARRA FUNDS

• The ARRA funds, for each institution, include ONE REU ($8,000 per student per year)

• Annual reports due April 1, 2011

• Each site will update status via on-line (DIMS) effective March 1, 2011.
National Science Foundation I/UCRC Contacts

Rathindra (Babu) DasGupta, I/UCRC Program Director - rdasgupt@nsf.gov
Larry Hornak, Program Director, lhornak@nsf.gov
Derika Fallings, Program Assistant, dfallings@nsf.gov
Denise Hundley, Program Assistant, dhundley@nsf.gov
Rita Rodriguez, CISE Program Director – rrodrigu@nsf.gov
Alex Schwarzkopf, Consultant – aschwarz@nsf.gov

for more information: http://www.nsf.gov
and: http://www.nsf.gov/eng/iip/iucrc

Program phone: (703) 292-8383

Note: The best way to contact us is via e-mail. Many are on the road frequently