

Center for Design of  
Analog-Digital Integrated Circuits (CDADIC)

**IAB Meeting**

February 17-18, 2011

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*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:

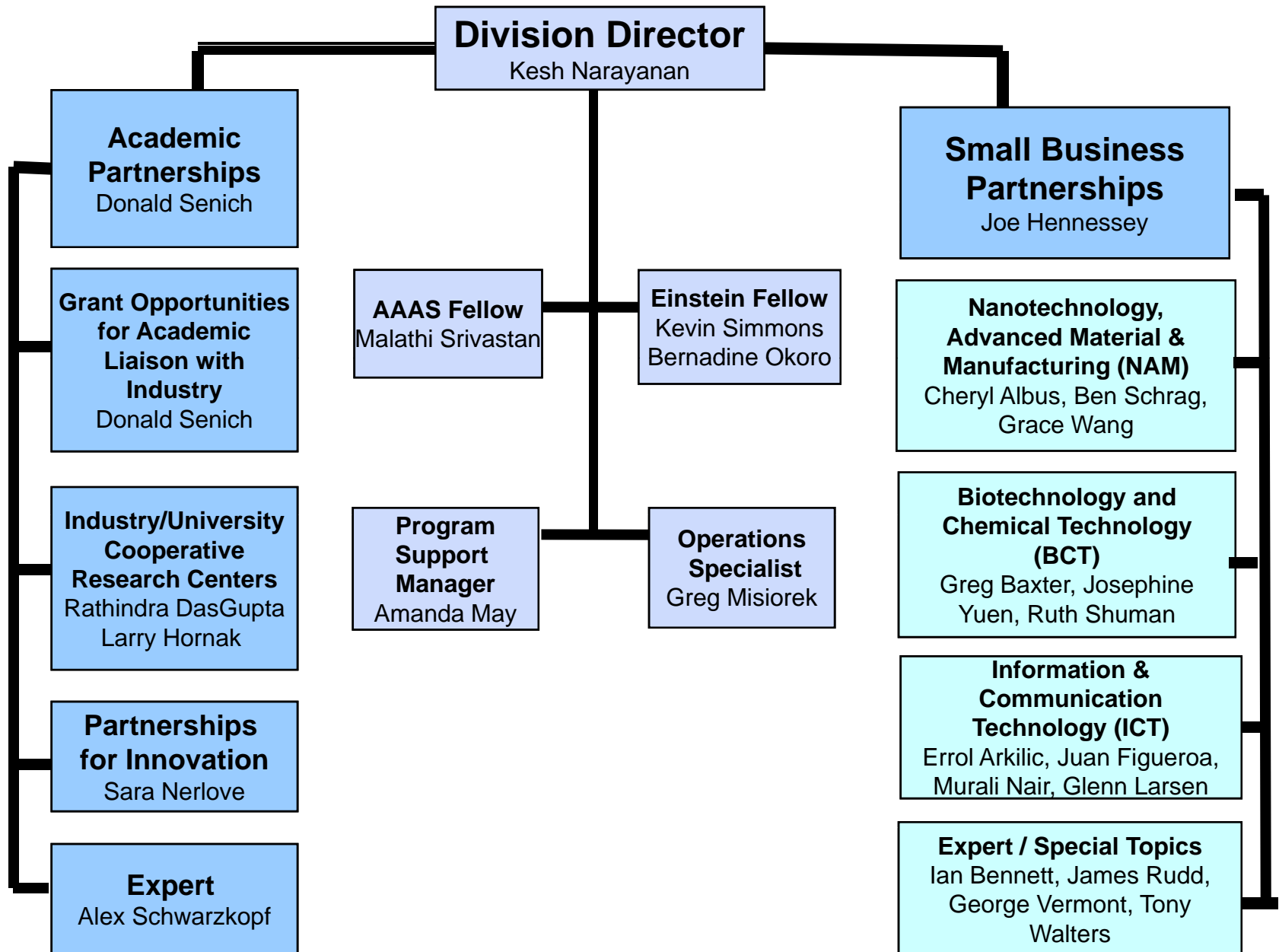
- To **expand the innovation capacity** of our nation's competitive workforce through **partnerships** between industries and universities

**I/UCRC Bedrock: *Trusted, long-term relationships* between industry and academia based on *shared value***





# Industrial Innovation and Partnerships





# 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



## Disadvantages of Affiliates Model:

- sub-critical mass projects
- no sense of community
- value << sum of projects

-one-on-one decision-making

- collective ownership

## Advantages of the IUCRC Model:

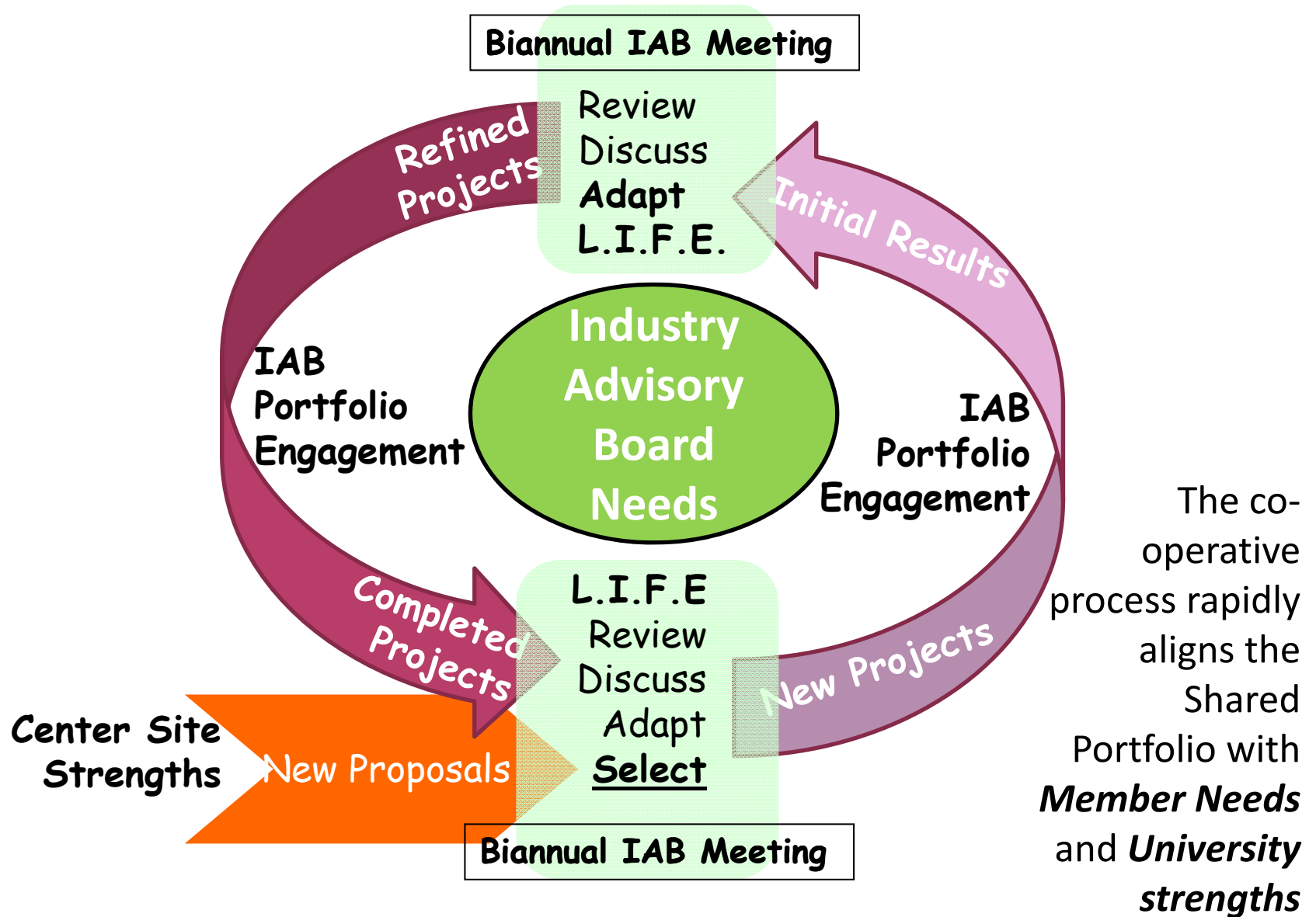
- Conversation validates shared community needs
- Portfolio shaped, direction aligned with member needs
- Value across the portfolio Value >> sum of projects

Much more than collective ownership: **Collective Value**



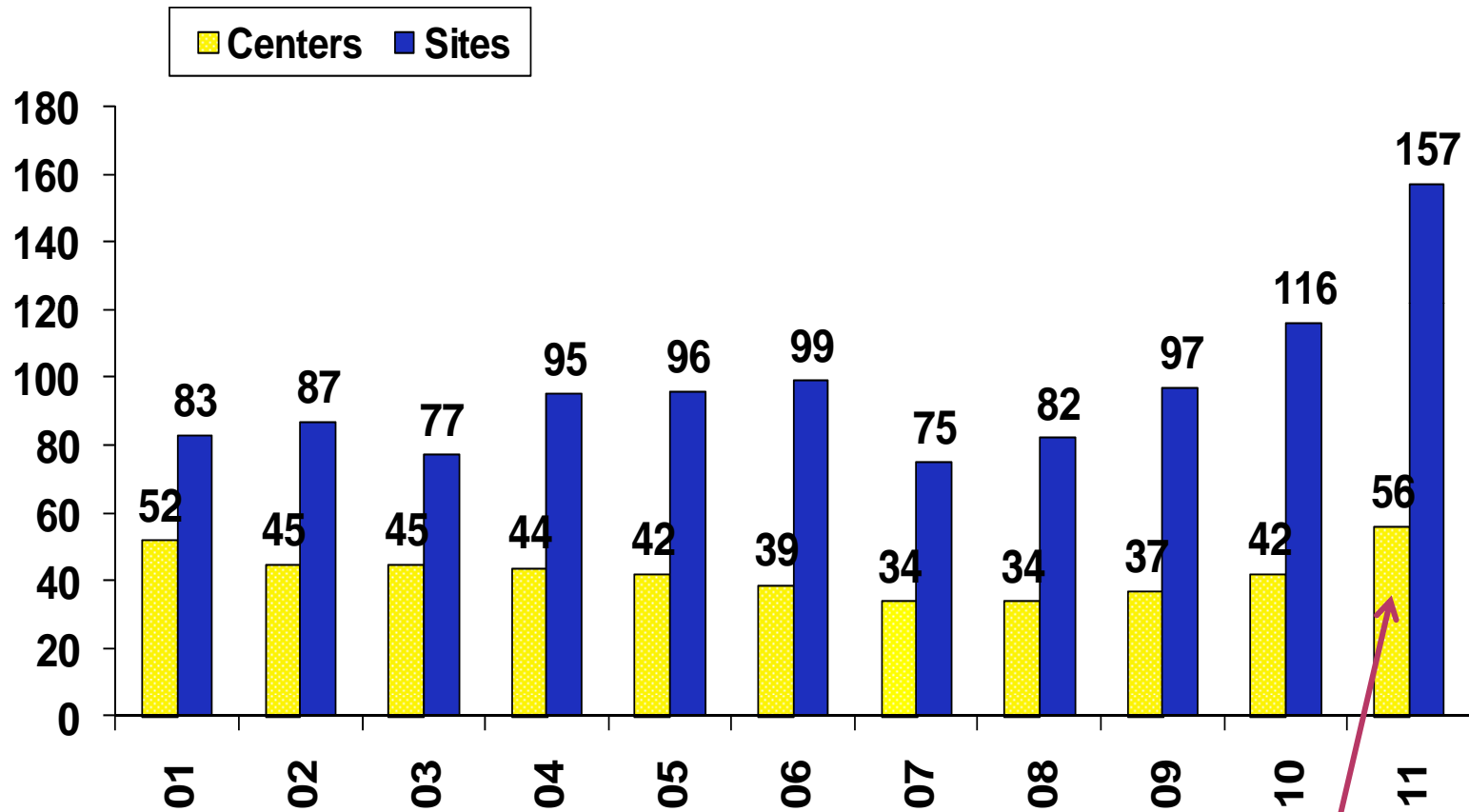


# Priming the IUCRC Shared Portfolio





# Active Centers and Sites by Year



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

41 ENG  
15 CISE\*

\* Computer and Information Science and Engineering

# 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*
13. *Grid-Connected Adv Power Elec*
14. *Health Org. & Transformation*
15. *Integrative Joining of Materials for Energy Applications*
16. *Laser and Plasma for Adv. Mfg.*
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*

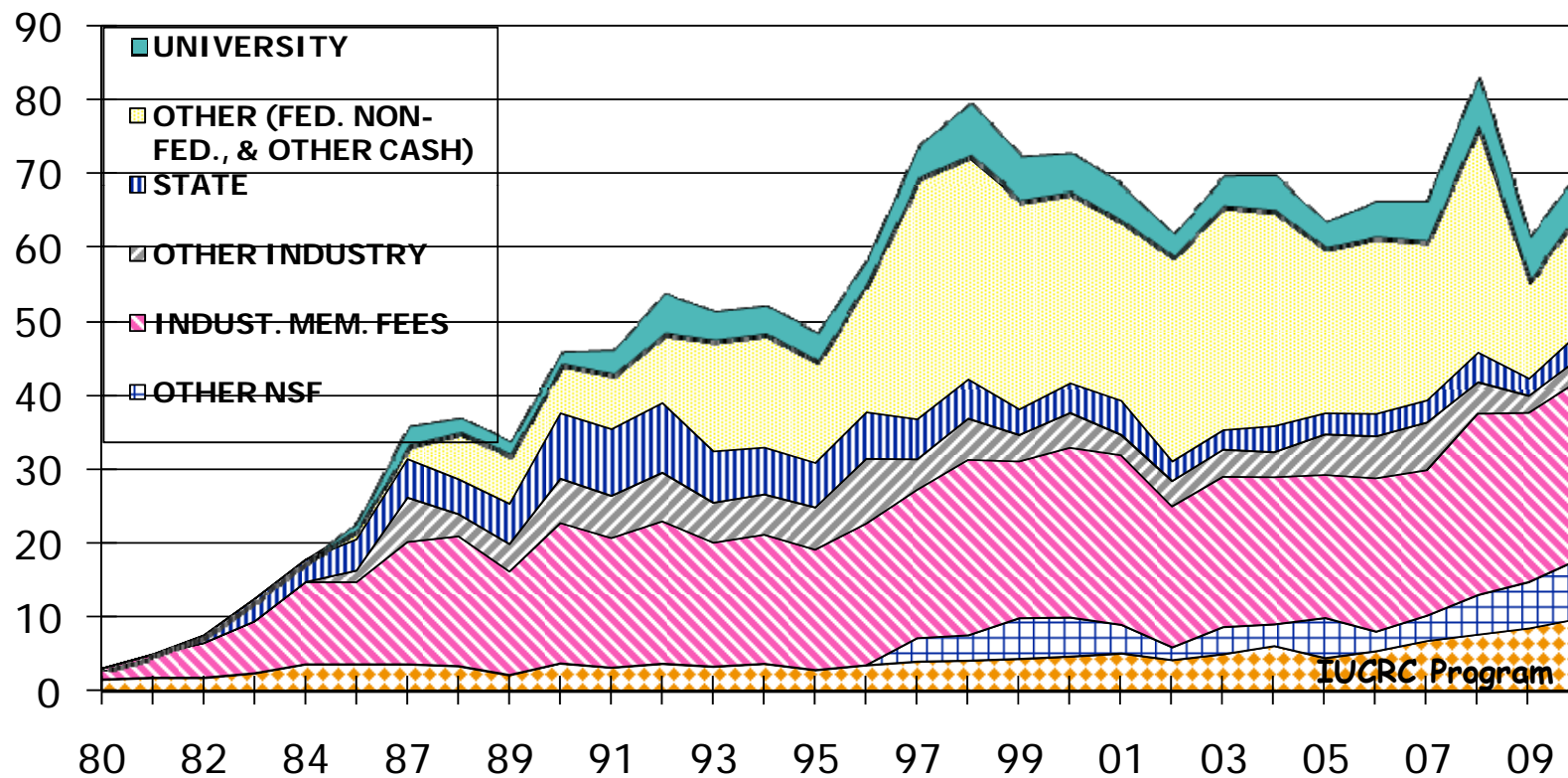
1. **Advanced Knowledge Enablement**
2. ***Autonomic Computing***
3. ***e-Design***
4. **Embedded Systems**
5. **Experimental Computer Systems**
6. **Hybrid Multicore Productivity**
7. **Identification**
8. **Intelligent Maintenance**
9. **Intelligent Storage**
10. **Net-Centrics Systems**
11. ***Reconfigurable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

**15 ACTIVE COMPUTER AND INFORMATION  
SCIENCE AND ENGINEERING (CISE) CENTERS**

# TOTAL FUNDING

## Reported by All Centers by Source and Year

Millions



# Other Funding Opportunities for the CDADIC I/UCRC

- **Fundamental Research (Industry Defined)**
- **Federal Government Interagency Exchange of Funds**
- **Supplementary Opportunities to Center Award:**
  - SBIR/STTR Membership Supplements
  - Research Experience for Undergraduate Students (REU)
  - Research Experience for Teachers (RET)
  - Cooperative Opportunity for Research Between I/UCRCs (CORBI) (NSF matching of IAB Commitment)
  - International Collaboration/Projects



# CDADIC I/UCRC Status

- **Washington State University – Phase III center Award in 2010 under NSF 09-565**
- **University of Washington Site**
- **Oregon State University Site**
- **DIMS going online for center use March 2011**



## National Science Foundation I/UCRC Contacts

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Program phone: (703) 292-8383

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

