CAPN Planning Grant Workshop
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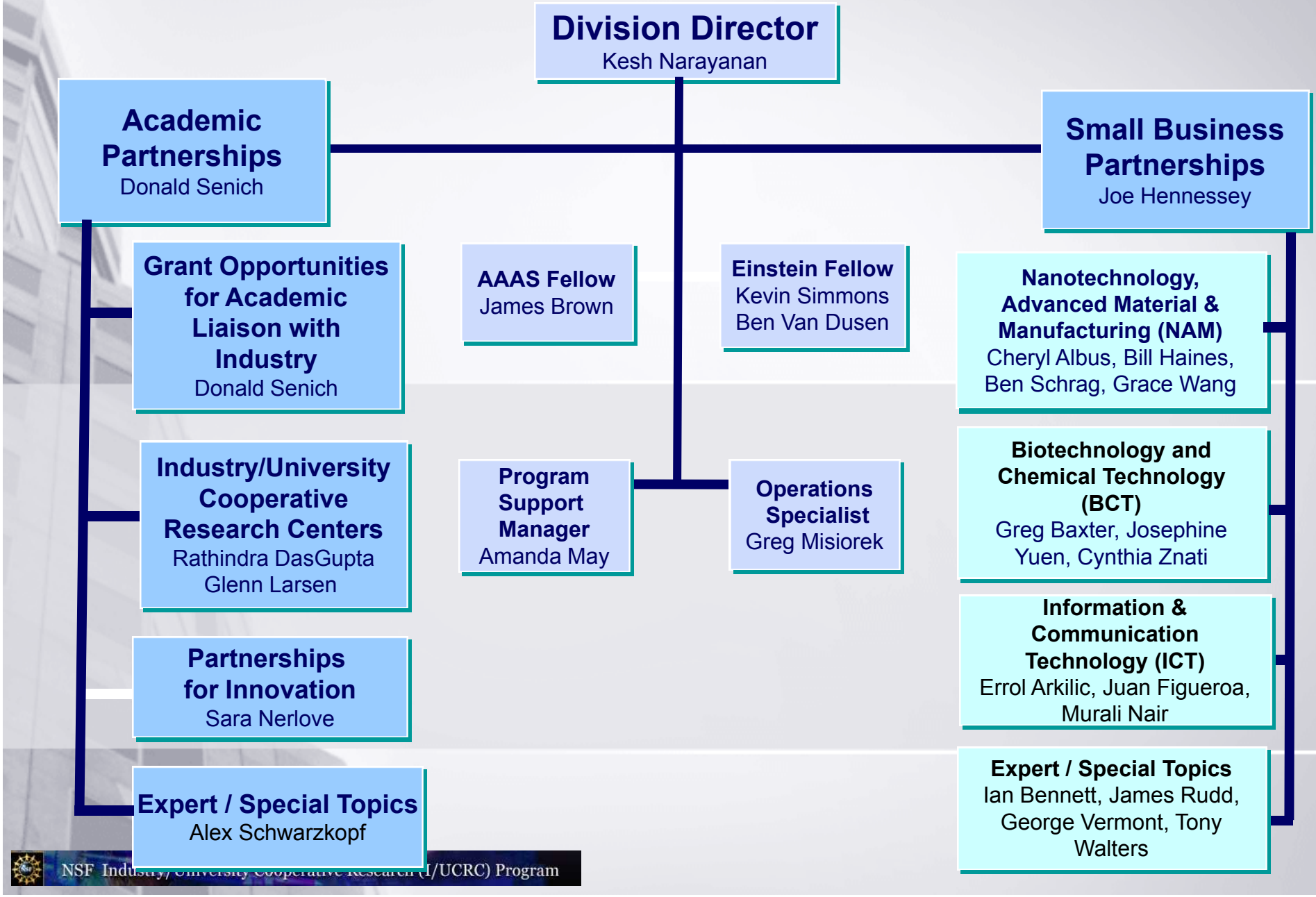
Welcome to the Industry / University Cooperative Research Centers

Presentation Outline

- IIP Organization Chart
- I/UCRC program
  - Mission & Vision
  - Benefits to sponsors
  - Center status & a few success stories
  - Typical organization for a Center
- Membership agreement
- NSF funding
- I/UCRC tools & LIFE forms
- Next steps for CAPN

Industrial Innovation and Partnerships



I/UCRC: Mission and Vision

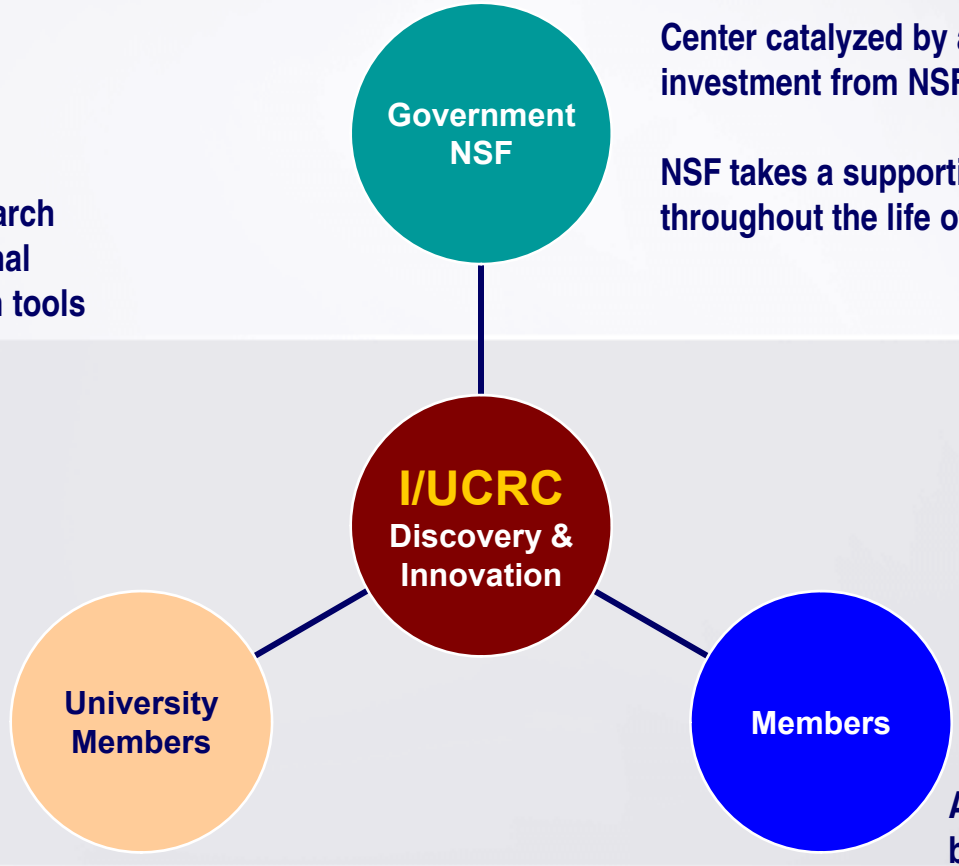
Mission:

- 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/UCRCs enable discovery and innovation through collaboration



Center catalyzed by a small investment from NSF.

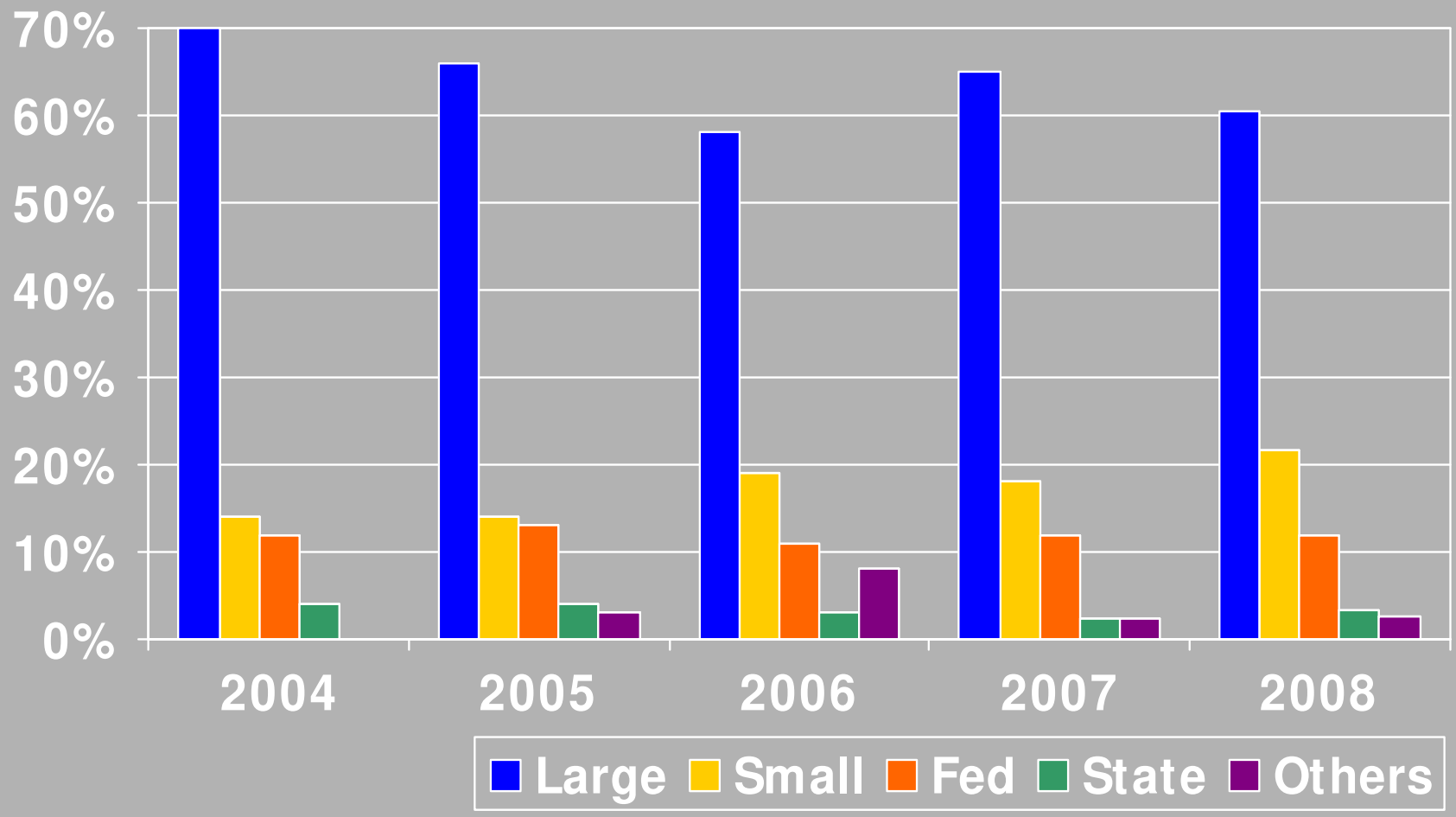
NSF takes a supportive role throughout the life of the center.

•I/UCRCs work like a research "franchise" with operational guidelines and evaluation tools

Single or multi-university

An I/UCRC is primarily funded by industry members & others (non-NSF federal agencies & other organizations)

Member Composition 2004-2008

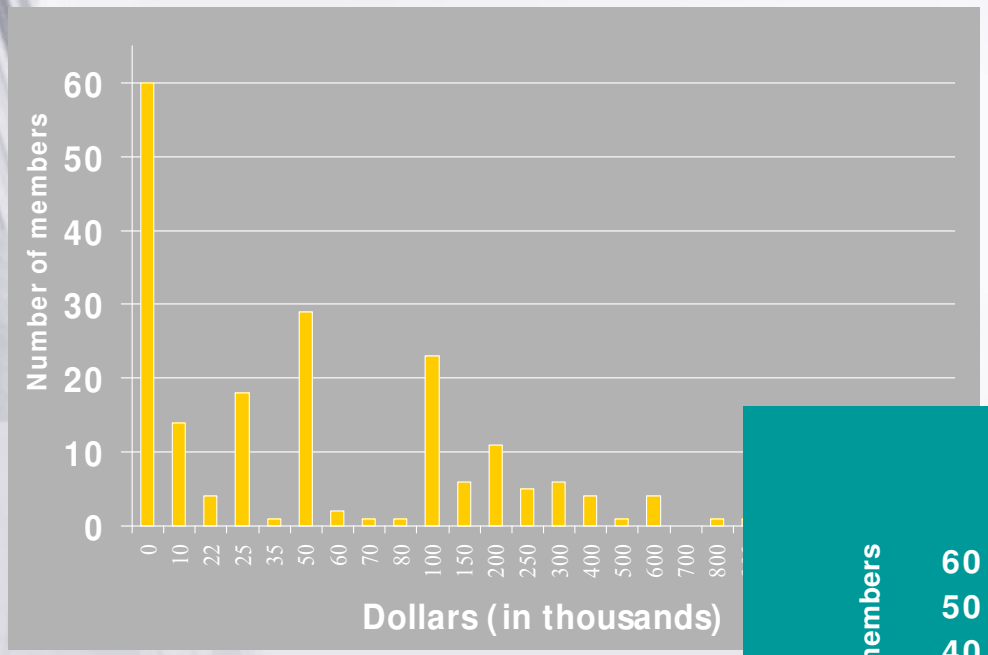


* Categories comprising Others include: non-profit, non-US government, and other organization

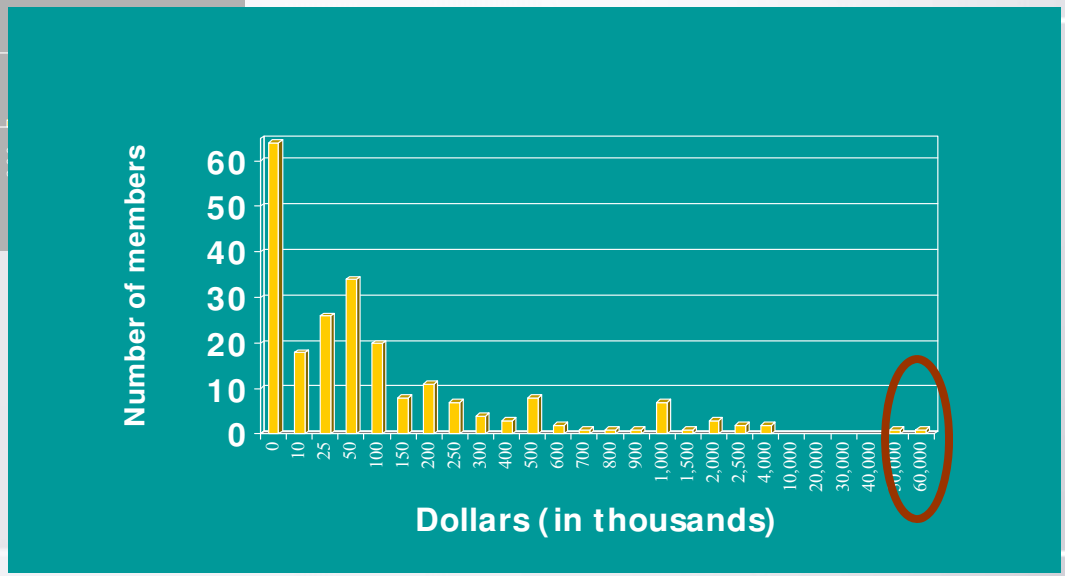
What does an I/UCRC offer?

- 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
- Access to pre-publication technical papers
- Access to world class facilities and researchers
- Access to students
- Transfer of research results to serve industry projects and products

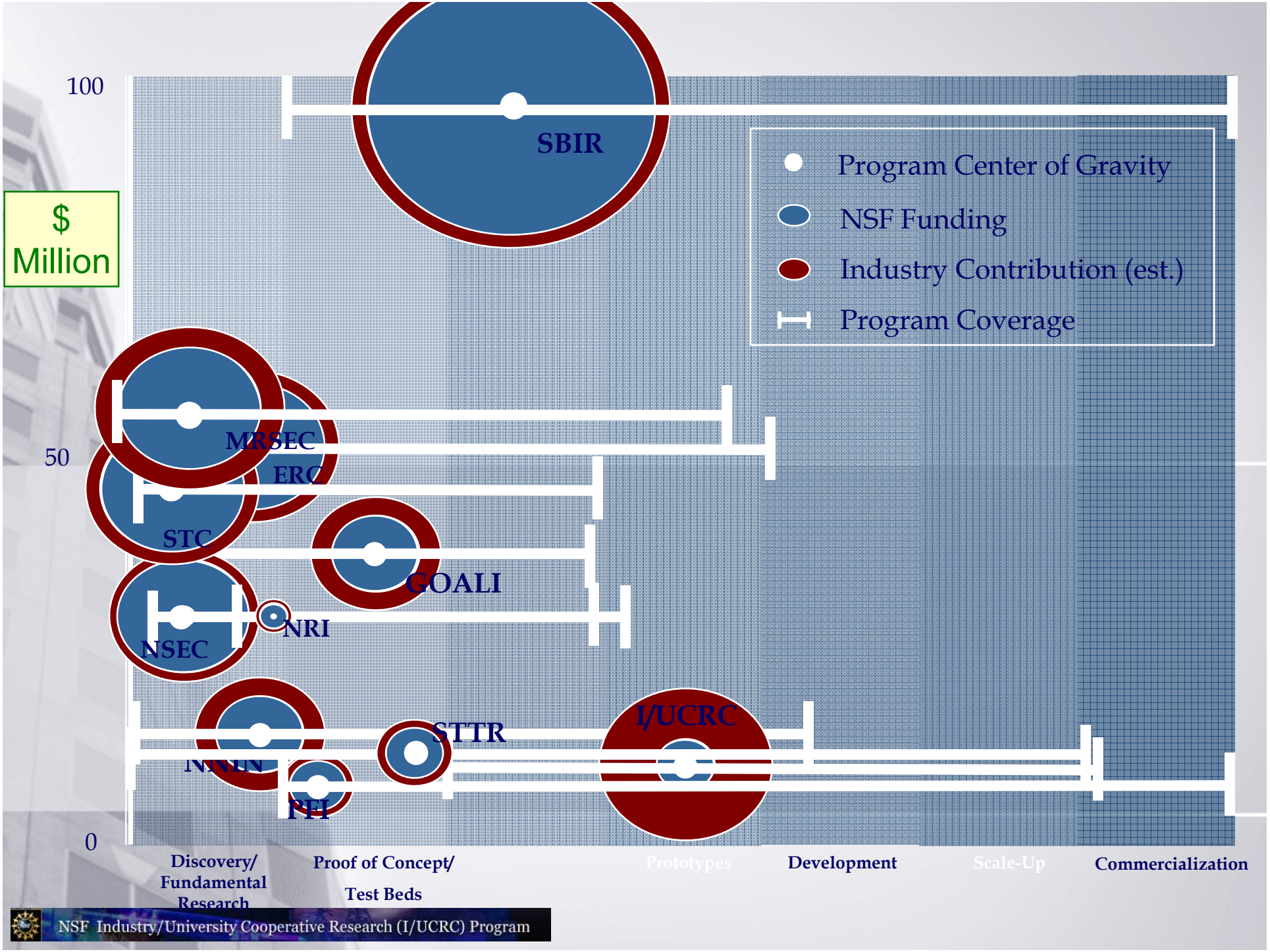
Value of Center-Stimulated Projects



2007-2008



2006-2007


100
$ Million
50
0
SBIR
Program Center of Gravity
NSF Funding
Industry Contribution (est.)
Program Coverage
MRSEC
ERC
STC
GOALI
NRI
NSEC
STTR
I/UCRC
NNIN
PFI
Discovery/ Fundamental Research
Proof of Concept/ Test Beds
Prototypes
Development
Scale-Up
Commercialization

Industry/University Cooperative Research Centers

ENG Multi-University Centers

1. Advanced Forestry
2. Computational Materials Design
3. Dielectrics
4. Friction STIR Processing
5. Fuel Cells
6. Laser and Plasma for Adv. Mfg.
7. Logistics and Distribution
8. Membranes
9. Minimally Invasive Diagnostics
10. Precision Forming
11. Smart Vehicles
12. Water and Environmental Technology
13. Telecommunications
14. Silicon Solar
15. Particulate and Surfactants
16. Advanced Cutting Tools
17. Health Organization & Transformation
18. Sustainable Iron & Steel
19. Small Satellite Technology
20. Bioenergy
21. Electromagnetic Compatibility
22. Composites Infrastructure
23. Grid-Connected Advanced Power Electronic Systems
24. Multiphase Transport Phenomena

CISE Multi-University Centers

1. e-Design
2. Cyber Protection
3. Experimental Computer Systems
4. Identification
5. Intelligent Maintenance
6. Reconfigurable Computers
7. Search & Rescue Robots
8. Wireless Internet
9. Autonomic Computing
10. Embedded Systems
11. Net-Centrics Systems
12. Advanced Knowledge Enablement
13. Hybrid Multi-Core Productivity
14. Intelligent Storage

Single University Centers

1. Bio-catalysis and Bio-processing of Macromolecules
2. Biomolecular Interaction
3. Electronic Micro-Cooling
4. Child Injury Studies

42 Active Centers & 116 sites in FY 2009; excludes the ones that will "graduate" in FY 2009

I/UCRC: A Few Success Stories

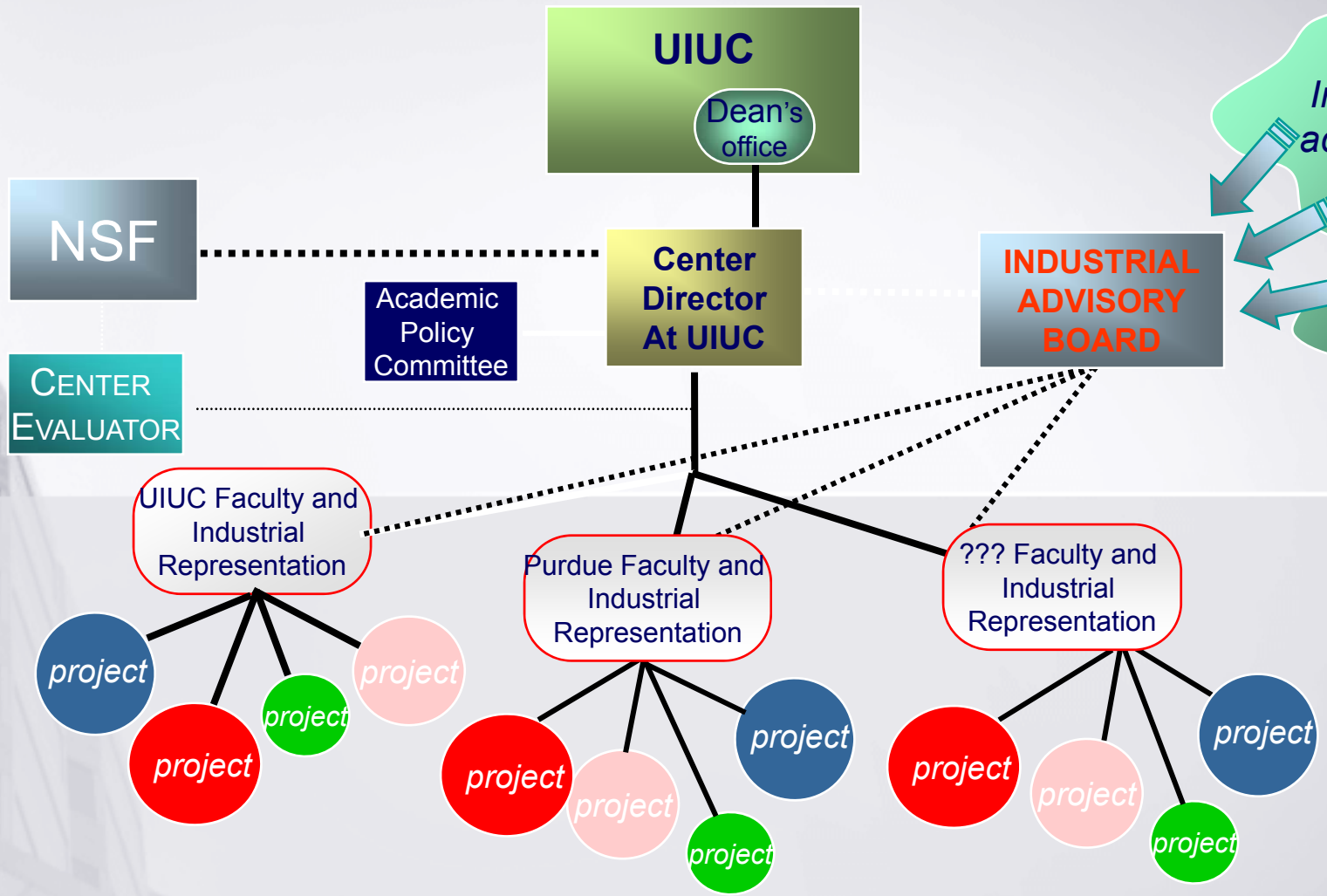
- The 'Water Village' is located at The University of Arizona Environmental Research Laboratory and consists of a number of buildings, each with a unique research focus related to water and wastewater treatment and distribution. The Water Village is a critical asset to the City of Tucson Water utility.
- Supercomputer Novo-G (the most powerful reconfigurable computer that can rearrange its internal circuitry to suit the task at hand) developed at the University of Florida (CHREC)
- CELDi developed an excel-based simulator to replicate the functionality of the Sam's Club logistics software, resulting in over a 4% reduction in inventory costs in categories to which the settings were applied
- A consortium member of CFSP has used the research data from the Center to cost-effectively construct the internal superstructure of a combat (naval) ship

Industry/University Cooperative Research Center Sites (Sept 2008)

Each red circle indicates where one or more research sites are located. For example, A "4" in a red circle indicates that four sites are at that location. The purple cone represents director diversity at a given location. This map includes 26 graduated operating centers that remain committed to I/UCRC principles. A complete directory may be found on the NSF website for the I/UCRC program.

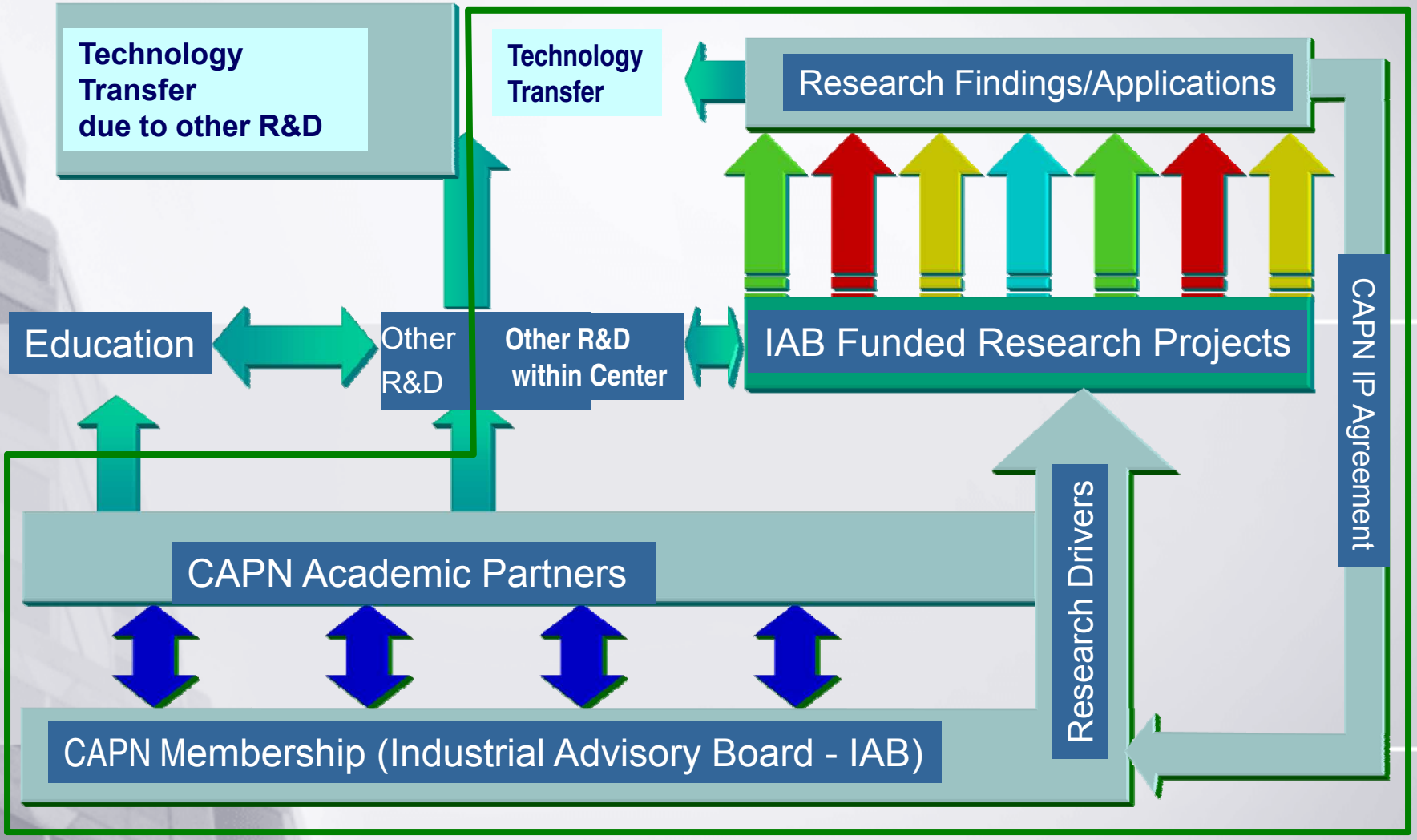
Research Sites Scattered
Female Site Directors Increasing

Typical Management Organization Chart



Each cluster carries its own weight

Project Flow and Impact



Membership Agreement

- Membership fee structure
- Patent rights held by university, with royalty free, non-exclusive rights to center members
- Companies wishing to exercise rights to a royalty-free license pay for the costs of patent application
- If only one company seeks a license, that COMPANY may obtain an exclusive fee-bearing license
- March-in Rights
- Publication delay policy
- Industrial Advisory Board – one representative from each company per membership
- Indemnification

•Must sign the membership agreement form

•ONE center, and ONE membership agreement form

NSF Funding Formula

First five years

- $55 – $80k each year based upon industrial membership level ($150k - $300k)
- Lead university receives $10K for each additional research partner
- NSF provides funds for an evaluator

Second five years

- Universities receive $40K-$60K each year depending upon industrial support
- Lead university receives $10K for each additional research partner
- NSF provides funds for an evaluator

Third Five Years

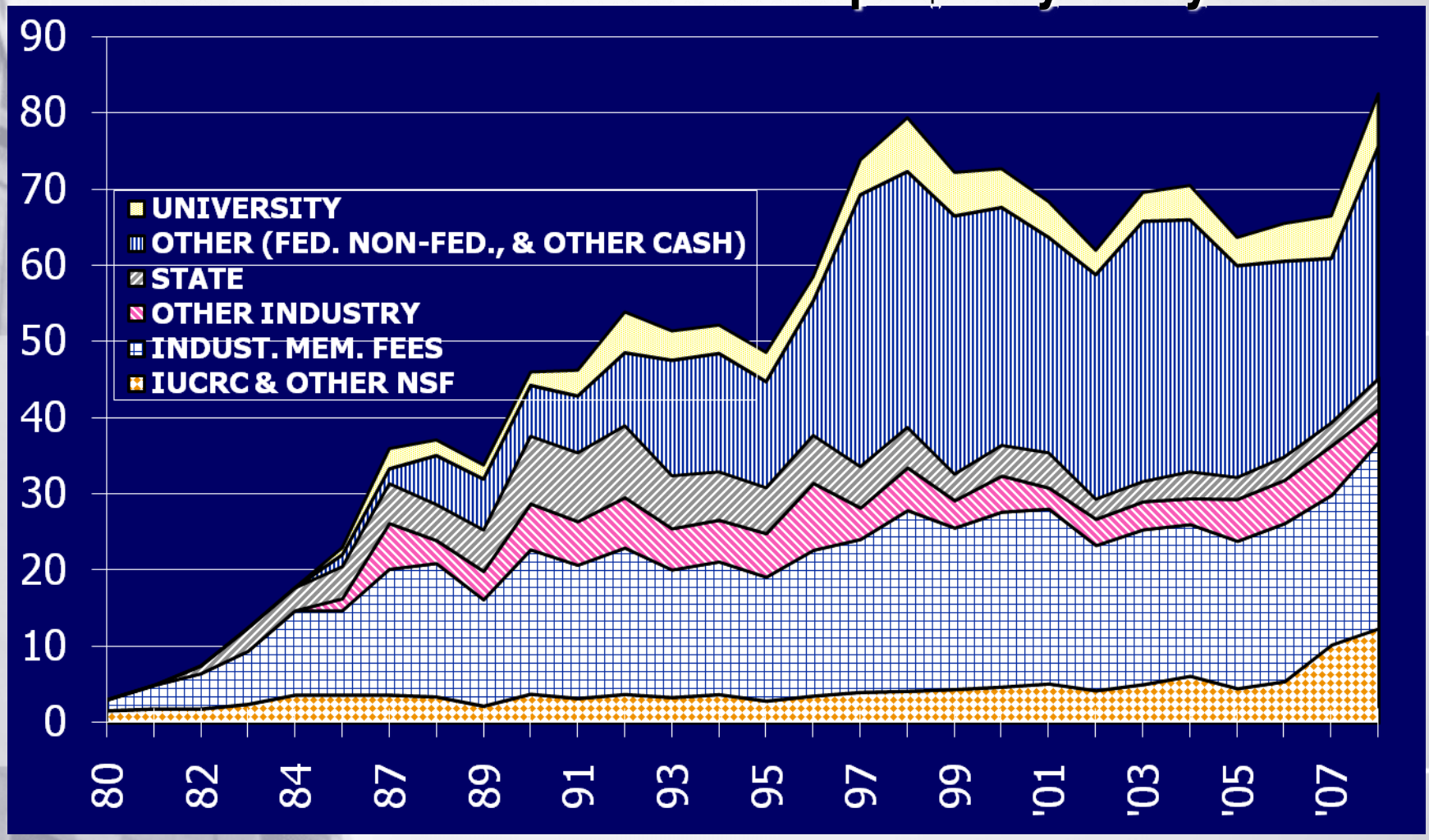
- $15K each year based upon industrial membership level ($175k minimum)
- Lead university receives $25K for each additional research partner
- NSF provides funds for an evaluator

Other Funding Opportunities for I/UCRCs

- TIE Projects – Between I/UCRC Centers (NSF matching!)
- Fundamental Research Supplement
- Research Experience for Undergraduate Students (REU)
- Research Experience for Teachers (RET)
- Federal Government Interagency Exchange of Funds
- Other NSF Programs that Co-fund Centers
  - OISE; CBET; CMMI; ECCS; CISE; and GEO
- International Collaboration/Projects
- Supplemental Opportunity for SBIR/STTR Memberships

Total Funding by Source by Year in Dollars

"Fed" & "Industrial Membership" $ Play a Key Role



I/UCRC tools help guide industrial relevant research

Centers provide industry with the right information to guide project selection including:

- Project description
- Research analysis
- Project duration
- Project cost
- Deliverables
- Milestones

EXECUTIVE SUMMARY
PROJECT OVERVIEW

PROJECT NAME: _____ **PROPOSAL:** _____

PROJECT MANAGER: _____

PROGRAM NAME: _____ **NEW** _____

PROGRAM MANAGER _____ **CONT.**_____

DESCRIPTION:	
EXPERIMENTAL PLAN:	
RELATED WORK ELSEWHERE:	HOW OURS IS DIFFERENT:
RELATED WORK WITHIN THE CENTER:	MILESTONES:
DELIVERABLES:	BUDGET:
POTENTIAL MEMBER COMPANY BENEFITS:	

LIFE Form for Project Feedback

The LIFE process ensures quality and stimulates continued interest in the program.

Comments should include:

- **Precompetitive suggestions**
- **Applications & Industry Benefits**
- **Suggested changes**
- **Innovativeness of Research**
- **Industrial relevance**
- **Similar work done elsewhere**
- **Offers of help (mentoring?)**

Level Of Interest Feedback Evaluation (LIFE)

To facilitate scientific and technical interaction between Center Faculty and Industrial Member Representative, each company represented is requested to rank their company's level of interest and the research relevancy of each presentation. Please mark an X below to reflect the opinion of your company.

Level of Interest:

_____	Very Interested
_____	Interested
_____	Interested with Change
_____	Not Interested
_____	Abstain

Comments: _____

_____

_____

Comments, questions, and concerns from the transcribed LIFE forms are discussed during the IAB meeting prior to making project funding recommendations.

Bottom Line:

- What makes the project so "hot" or "transformational"?
- How can we improve this project?
- Real-time project revisions are encouraged if needed.

Next Steps

- Compile **list of projects** attractive to potential members/sponsors
- **Recruit sponsors** to meet the solicitation requirement (**$150k/site, and a minimum of 3 members per site**)
- Get **commitment letters** per site (key words!!!)
- Refine **membership agreement** (blessed by the SRO)
- Prepare **collaborative** proposal
- Beware of **deadline** (5pm submitter's local time)

National Science Foundation I/UCRC Contacts

Listed alphabetically by last name

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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