IUCRC PROGRAM
FINDINGS FROM THE CENTER STRUCTURE DATABASE

FINAL RESULTS: FY 2012-2013

TRENDS FROM CENTER STRUCTURE DATABASE:
1980-2013

Gray, D.O., Leonchuk, O., & McGowen, L.C.
North Carolina State University
Center Life Cycle*

NSF-I/UCRC Center Structure Database

*Data Current for FY2013  Slide 2
Single & Multi-Site Centers*

*Data Current for FY2014

NSF-I/UCRC Center Structure Database

Single-Site  Multi-Site

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75

'85 '86 '87 '88 '89 '90 '91 '92 '93 '94 '95 '96 '97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10 '11 '12 '13 '14

*Data Current for FY2014

NSF-I/UCRC Center Structure Database
ACTIVE CENTERS AND SITES BY YEAR*

Data Current for FY2014

NSF-I/UCRC Center Structure Database
Total Program Funding

'80 '82 '84 '87 '89 '91 '93 '95 '97 '99 '01 '03 '05 '07 '09 '11 '13

Millions

FY 2012-2013 NSF-I/UCRC Center Structure Database
Average & Median Total Center Funding

Drop in “other federal”
NSF Budget by Year

Note: 2005-2013: Include Supplemental Funding and CISE

FY 2012-2013 NSF-I/UCRC Center Structure Database
NSF Budget by Year

Other Programs co-fund too!
Average NSF IUCRC Awards & Supplements per Center

FY 2012-2013 NSF-I/UCRC Center Structure Database
Average NSF IUCRC Funding per Site

FY 2012-2013 NSF-I/UCRC Center Structure Database
Total Funding by Source in Dollars

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

FY 2012-2013 NSF-I/UCRC Center Structure Database
Total Funding by Source in Percentages

- UNIVERSITY
- OTHER (FED., NON-FED., & OTHER $)
- STATE
- OTHER IND.
- IND. MEM. FEES
- OTHER NSF
- IUCRC

Drop from 33% to 26%

FY 2012-2013 NSF-I/UCRC Center Structure Database
Industrial Memberships

Total Number of Memberships

Average Number of Memberships

FY 2012-2013 NSF-I/UCRC Center Structure Database
Average Membership Turn Over

*Newly funded Centers’ members are not counted as Members Added
FY 2012-2013 NSF-I/UCRC Center Structure Database

Tough times continue; fewer new
Member Turnover Rate

Turnover % = Members terminated in year X+1 / Total members in year X

FY 2012-2013 NSF-I/UCRC Center Structure Database
National Context for Industry Membership: Theory and Reality

Open Innovation

- Challenge
  - Even the largest firms and N.I.S. can only capture a fraction of scientific talent available

- Open Innovation
  - Increasing use of external sources of R&D
  - VP for Open Innovation; National Meetings on Open Innovation
  - Absorptive capacity; networks; partner scanning

Figure 5-2

Percent

- Federal government
- Academic institutions
- All other sources
- State/local government
- Industry


Science and Engineering Indicators 2012
Member Composition 2005-2013

^ Categories comprising Others include: non-profit, non-US gov’t, and other org.
Member Composition 2005-2012

Categories comprising Others include: non-profit, non-US gov’t, and other org.
Average Number of Researchers per Center

FACULTY & POST DOC RESEARCHERS

Note: As of 2003, NSF changed the label of "non-faculty" researchers to "post doc" researchers

FY 2012-2013 NSF-I/UCRC Center Structure Database
Funding per Researcher Total

FY 2012-2013 NSF-I/UCRC Center Structure Database
Intellectual Property & Commercialization Events 03-13 Totals

FY 2012-2013 NSF-I/UCRC Center Structure Database
Average Number of Intellectual Property & Commercialization Events 03-13

FY 2012-2013 NSF-I/UCRC Center Structure Database
Total Students Trained

* Prior to 2002, Masters and PhD were combined into “Grad” category.

FY 2012-2013 NSF-I/UCRC Center Structure Database
Total Students Graduated

FY 2012-2013 NSF-I/UCRC Center Structure Database
Total Students Hired by Members

Masters (2013 Mean = 1.57)
PhD (2012 Mean = 1.33)
BS (2013 Mean = ?)

FY 2012-2013 NSF-I/UCRC Center Structure Database
CISE & ENG Partnership

Some Comparisons and Recent Trends
Growth in # of CISE Centers over time

- 2006: 18%
- 2007: 23%
- 2008: 23%
- 2009: 24%
- 2010: 31%
- 2011: 26%
- 2012: 26%
- 2013: 28%
2013 CISE & ENG: Funding by Source

Total Dollars

CISE
ENG

Average Dollars

FY 2012-2013 NSF-I/UCRC Center Structure Database
CISE & ENG: Average Students Trained

* Prior to 2002, Masters and PhD were combined into “Grad” category.

FY 2012-2013 NSF-I/UCRC Center Structure Database
CISE & ENG: Average Students Graduated

* Prior to 2002, Masters and PhD were combined into "Grad" category.

FY 2012-2013 NSF-I/UCRC Center Structure Database
2013 Phase-based comparison
N of Centers by Phase

- Phase 1: 38 centers
- Phase 2: 12 centers
- Phase 3: 10 centers
Total Program Funding

Phase 1: $50,000,000
Phase 2: $20,000,000
Phase 3: $30,000,000
Industry/University Cooperative Research Centers

Average & Median Total Center Funding

Centers get larger over time

IUCRC Evaluation Project
Average NSF IUCRC Awards & Supplements

Phase 2 & 3 centers getting rewarded

FY 2012-2013 NSF-I/UCRC Center Structure Database
Total Funding by Source in Percentages

FY 2012-2013 NSF-I/UCRC Center Structure Database
Industrial Memberships

Total Number of Memberships

Average Number of Memberships

FY 2012-2013 NSF-I/UCRC Center Structure Database
Average Membership Turn Over

Why the increased turnover?

*Newly funded Centers’ members are not counted as Members Added

FY 2012-2013 NSF-I/UCRC Center Structure Database
Member Turnover Rate

Turnover % = Members terminated in year X+1 / Total members in year X
Member Composition

Answer: Increased reliance on SB?

Categories comprising Others include: non-profit, non-US gov’t, and other org.
Average Funding per Researcher

Phase 1: $0
Phase 2: $140,000
Phase 3: $180,000

FY 2012-2013 NSF-I/UCRC Center Structure Database

Industry/University Cooperative Research Centers
Average Number of Intellectual Property & Commercialization Events 03-13

FY 2012-2013 NSF-I/UCRC Center Structure Database
Average Students Graduated

FY 2012-2013 NSF-I/UCRC Center Structure Database

Slide 43
Average Students Hired by Members

Masters  PhD  BS

Phase 1
Phase 2
Phase 3

FY 2012-2013 NSF-I/UCRC Center Structure Database
QUESTIONS?