Unidata Policy Committee

May 24, 2004

Agenda

- FY 2004 OP
- HIAPER Instrumentation
- Observations and Cyberinfrastructure – Are we prepared for the next decade?
- Single vs Multiply PIs

Budgets

- NSF Budget for FY 04 (appropriation)
  - $5,578 an increase of 5.0% over FY 03
  - $267.9 million increase for FY 2004
    - Research and Related up $220.1 million or 4.8%
    - MREFC up 4.3%
    - EHR up 4.0%

FY Budget for FY 2004 by Account

NSF ACCT	*C.P.* FY03	C.P. FY04	*% Chg* 03 to 04	*Req.* FY 05	*$ Chg*	*% Chg* 04 to 05
R&RA	$4,056	$4,277	4.8%	$4,452	$201	4.7%
EHR	$903	$945	4.0%	$771	-$168	-17.9%
MRE	$149	$156	4.3%	$213	$58	37.6%
S&E	$189	$220	16.4%	$294	$75	34.4%
OIG	$9	$10	11.1%	$10	$0.17	1.7%
NSB	$3.5	$3.9	11.4%	$4	$0.07	1.8%
TOTAL	**$5,310**	**$5,578**	**5.0%**	**$5,745**	**$167**	**3.0%**

NSF Budget Request by Directorate/Major Activity

	FY 03 Plan Amount	FY 04 Plan Amount	FY 05 Request Amount	FY 05 Req/FY 04 $ Change	FY 05 Req/FY 04 % Change
Biological Sciences	570.7	592.0	599.9	13.0	2.2%
CISE	581.9	609.6	618.1	13.0	2.2%
Engineering	540.5	561.0	575.9	10.8	1.9%
Geosciences	**692.2**	**719.0***	**728.5**	**15.4**	**2.2%**
Math & Physical Sciences	1041.0	1100.0	1115.5	24.0	2.2%
Social, Behavioral & Economic Sciences	167.52	205.0	224.7	20.9	10.3%
OISE	26.8	30.0	34.0	5.9	21.1%
Office of U.S. Polar Research	319.1	345.0	349.7	7.7	22.0%
Integrative Activities	116.7	145.0	240.0	95.9	66.5%
Total, Research & Related Activities	**4,056.5**	**4,276.0**	**4,306.4**	**206.9**	**4.9%**

* All increased funding will be applied towards increased funding targets in priority areas

Division of Atmospheric Sciences FY 2004 OP

(in millions of dollars)

Program Element	Amount	Change 03/04	Remarks
Atmos. Sciences Proj. Support	$148.917	3.50%	Includes Op. cost for AMISR & Priority $
Mid-size Infrastructure	$12.000	0%	Second year of four year project
Deployment Pool	$3.862	0%	
CSL	$7.500	0%	
NCAR	$72.329	1.4%*	Includes $1M one-time* BE funds
Unidata	$3.369	0%	
Total Atmospheric Sciences	$227.745	2.2%	Most of increase towards priority areas

HIAPER MREFC Instrumentation

- Solicitation released November 2003
- Proposals received on or before February 15, 2004
- 46 proposals representing 39 projects
- Mail reviews nearly completed
- Panel met at NSF May 10-11, 2004
- Panel “Highly Recommended” 15 proposals (3 collaborative proposals) with a total funding $12.5M
- Includes:Trace Gas Analysis for Organics and Inorganics; Ozone; Lidar systems; GPS; Cloud Physics; Aerosols; Radiation and Spectroscopy, and Radar systems

Observations and Cyberinfrastructure

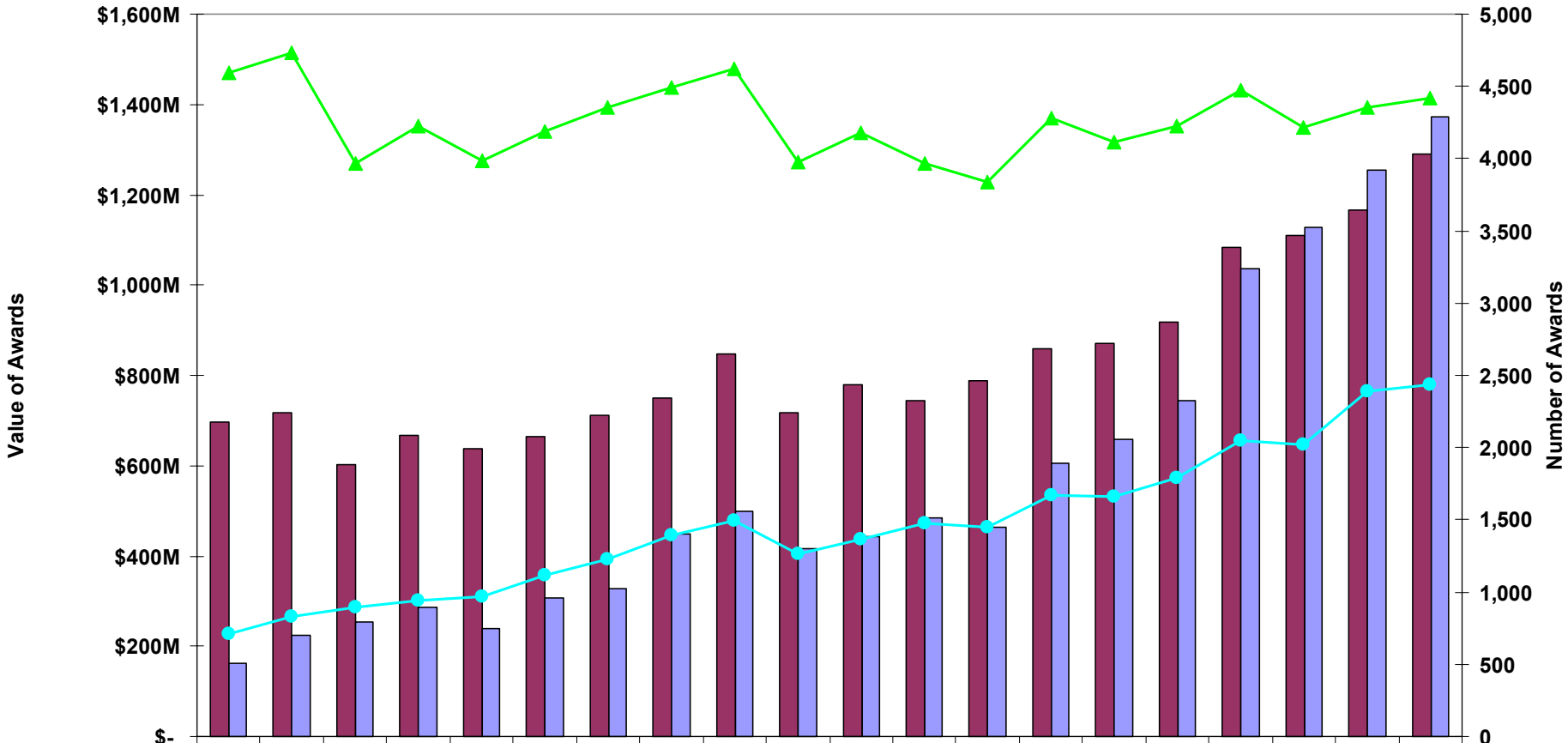
Metcalfe's Law: the useful power of a network multiplies rapidly as the number of nodes in the network increase

Data-enabled Knowledge Law: the useful power of a data set multiplies rapidly as the number of data products increase

Are we prepared for the next generation data generation and use?

- The difference between routine environmental and research observations has become increasing blurred
- Cyberinfrastructure is being developed to have greater capabilities and flexibility in the treatment of observation/model data
- However, there are multiply approaches to provide "data-enabled knowledge" to researcher and educators by multiple groups
- Is it time to plan the next generation of end-to-end CI for data-enabled knowledge?

NSF Research Grants for Single Investigators (SIRPS) and Multiple PI Awards by Value of Grants [bars] and Number of Grants [lines]



	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
By $ - SIRPs	$698M	$717M	$603M	$666M	$638M	$663M	$712M	$750M	$847M	$716M	$779M	$743M	$789M	$859M	$871M	$917M	$1,084	$1,110	$1,165	$1,290
By $ - >= 2 PIs	$161M	$224M	$255M	$286M	$238M	$306M	$327M	$448M	$498M	$415M	$442M	$485M	$464M	$606M	$658M	$744M	$1,037	$1,129	$1,255	$1,372
By # - SIRPs	4,597	4,737	3,970	4,221	3,984	4,186	4,353	4,491	4,626	3,975	4,178	3,968	3,837	4,284	4,111	4,221	4,472	4,215	4,351	4,417
By # - >= 2 PIs	706	832	891	942	969	1,118	1,227	1,389	1,498	1,261	1,365	1,477	1,445	1,671	1,663	1,794	2,051	2,016	2,387	2,435

Single vs. Multiple PI Awards

The evolution of NSF award demongraphics

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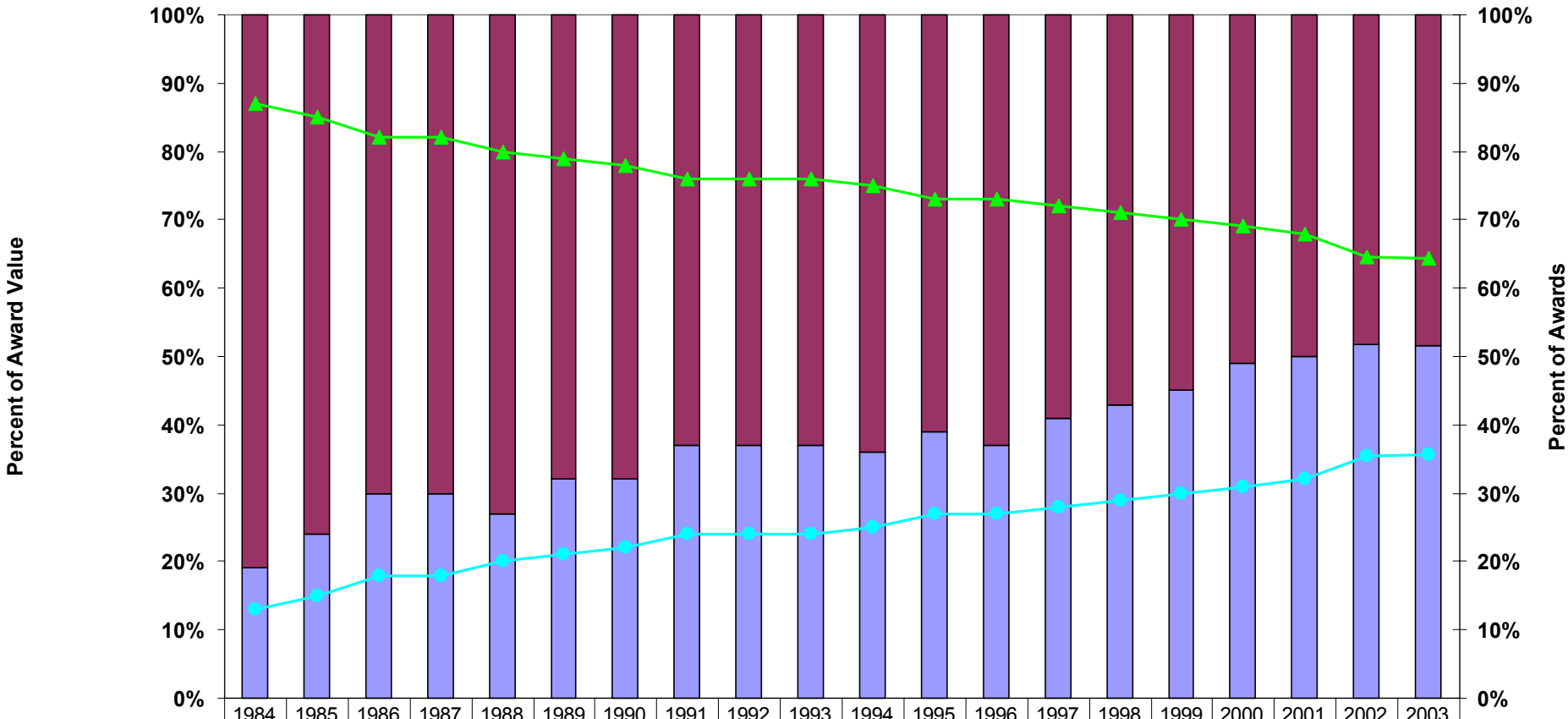
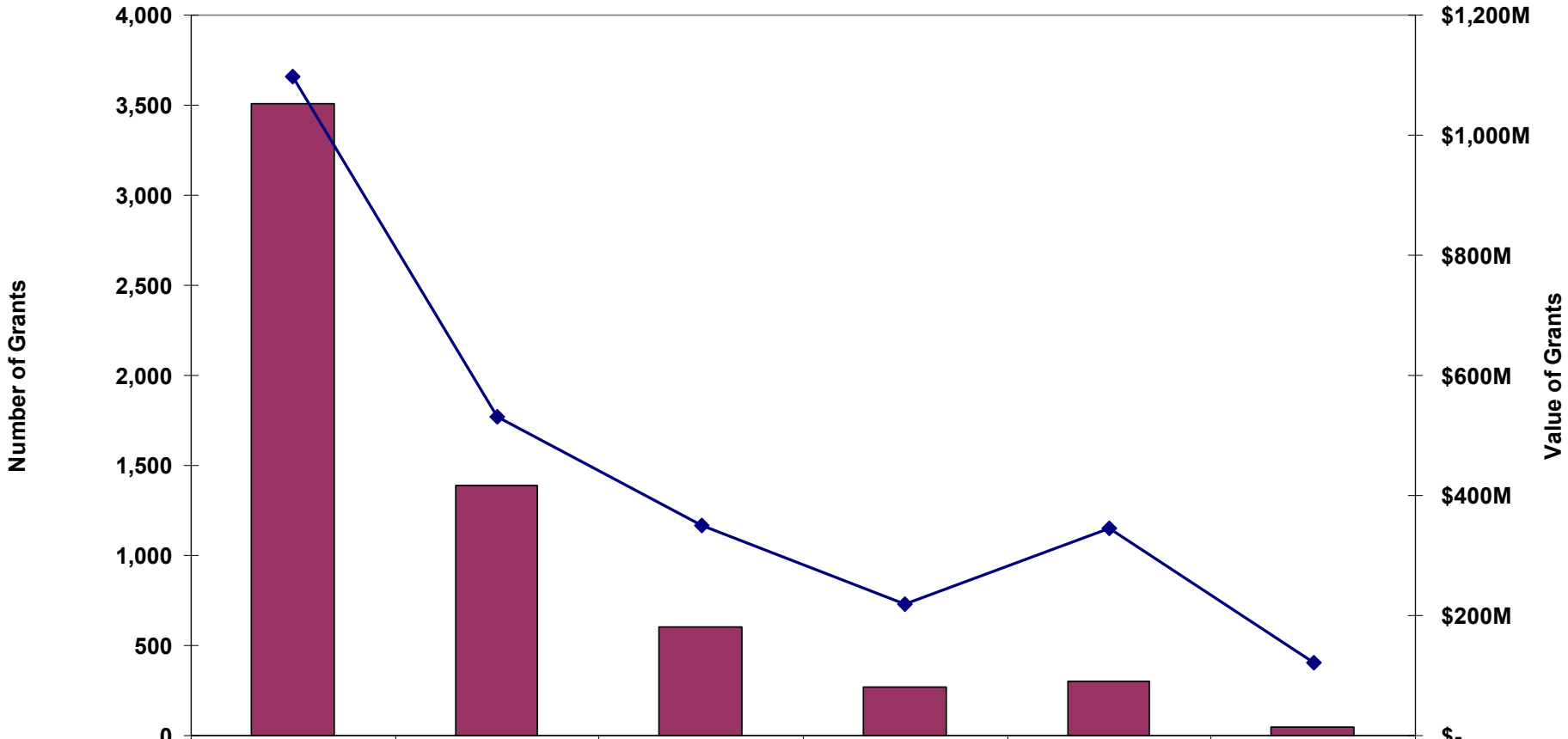


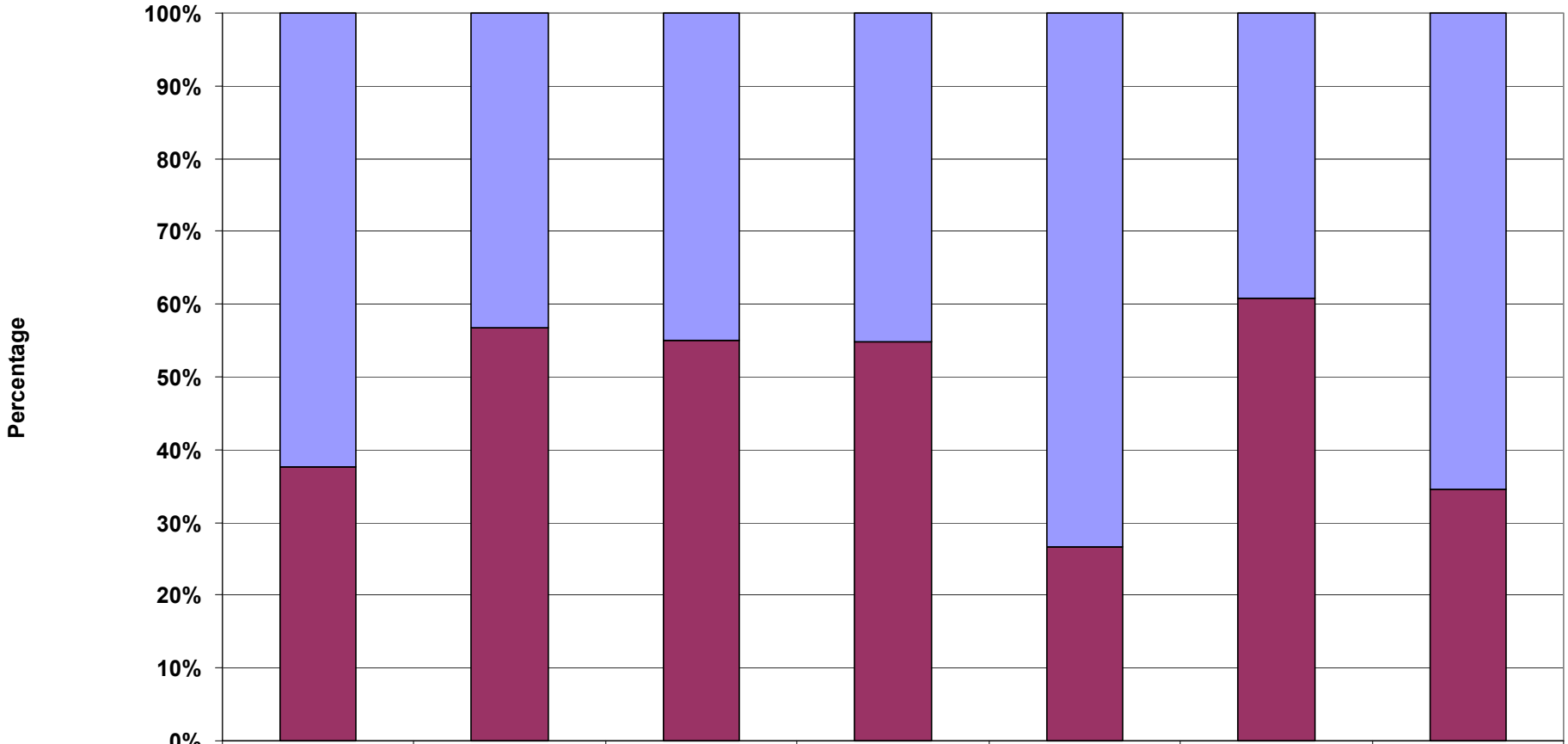
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
By $ - SIRPs	81%	76%	70%	70%	73%	68%	68%	63%	63%	63%	64%	61%	63%	59%	57%	55%	51%	50%	48%	48%
By $ - >= 2 PIs	19%	24%	30%	30%	27%	32%	32%	37%	37%	37%	36%	39%	37%	41%	43%	45%	49%	50%	52%	52%
By # - SIRPs	87%	85%	82%	82%	80%	79%	78%	76%	76%	76%	75%	73%	73%	72%	71%	70%	69%	68%	65%	64%
By # - >= 2 PIs	13%	15%	18%	18%	20%	21%	22%	24%	24%	24%	25%	27%	27%	28%	29%	30%	31%	32%	35%	36%

Number [bars] and Value [line] of Research Grants by PIs/Grant
Fiscal Year 2003



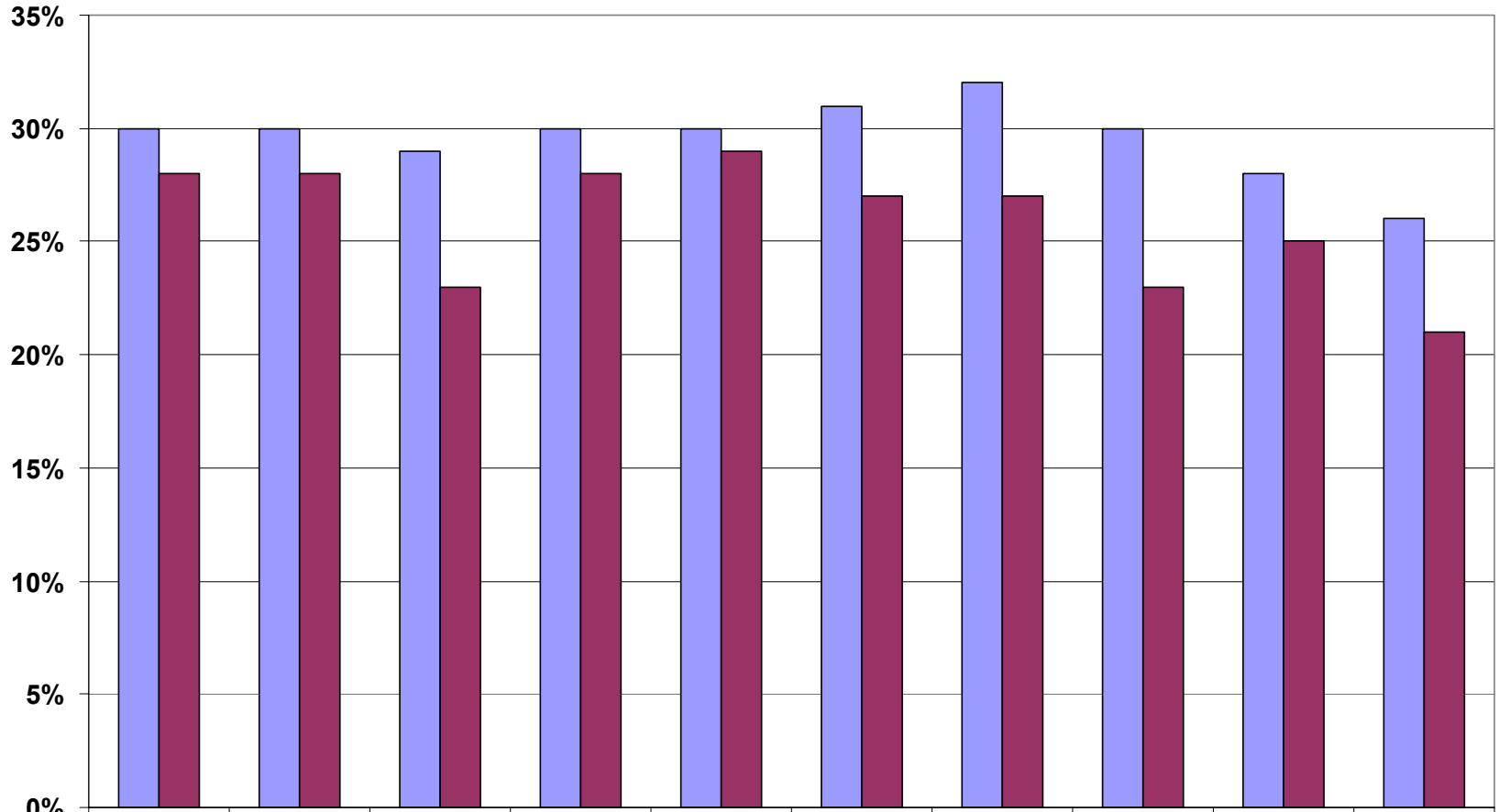
	1	2	3	4	5	6+
Grants	3,506	1,390	600	273	302	48
Amount	$1,097M	$530M	$349M	$219M	$345M	$121M

Percentage of Research Grants with One PI
Fiscal Year 2003

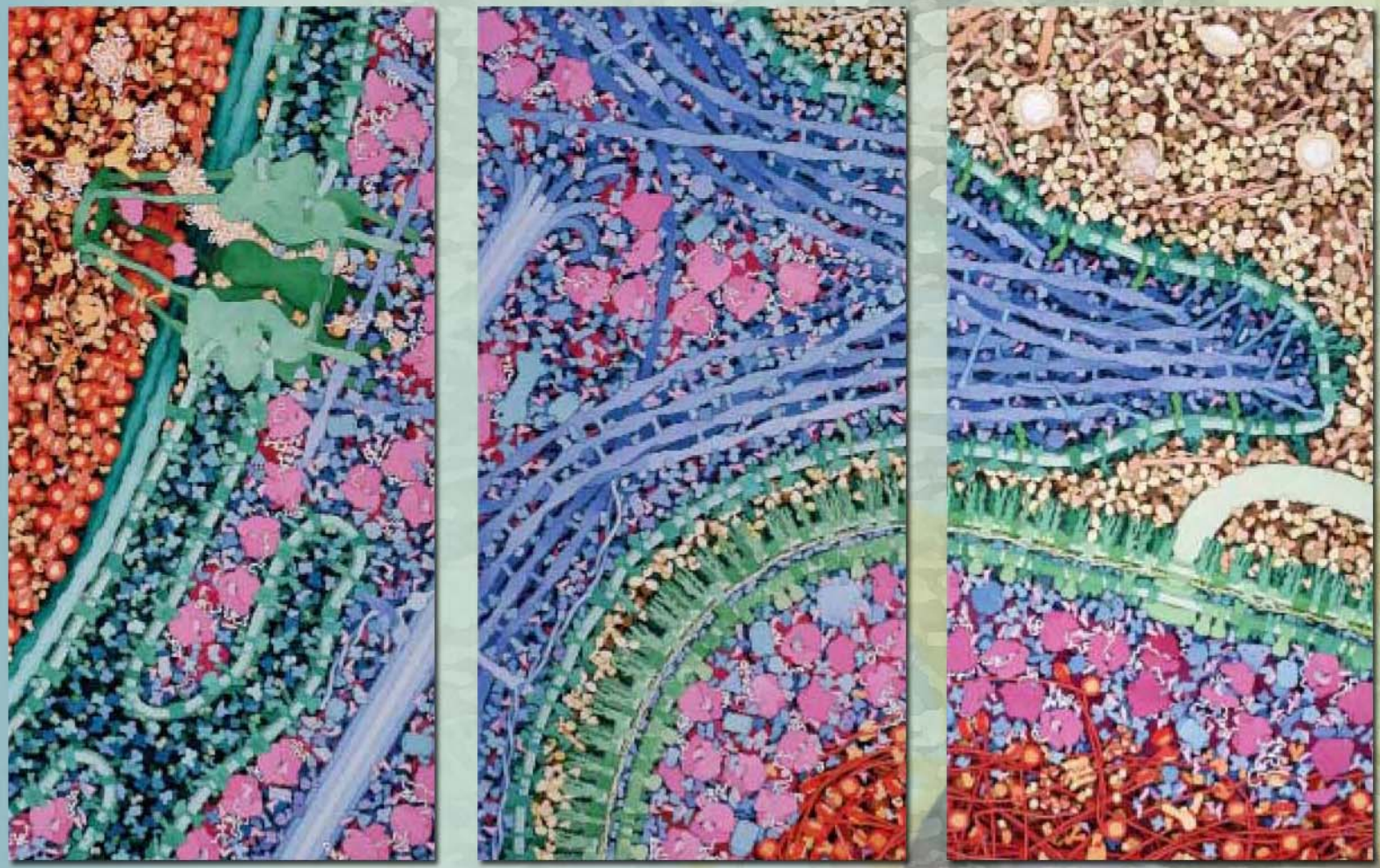


	BIO	CSE	ENG	GEO	MPS	O/D	SBE
1 PI	62%	43%	45%	45%	73%	39%	65%
>= 2 PIs	38%	57%	55%	55%	27%	61%	35%

Funding Rates for Research Awards by PI Involvement



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Single PI	30%	30%	29%	30%	30%	31%	32%	30%	28%	26%
Multiple PIs	28%	28%	23%	28%	29%	27%	27%	23%	25%	21%



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