

**NATIONAL SCIENCE FOUNDATION
INDUSTRY/UNIVERSITY
COOPERATIVE RESEARCH CENTERS**

Final Report

2000-2001 STRUCTURAL INFORMATION^{1,2}

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NOTE: 2000-2001 data collected from 50/50 Center Director Surveys (100% response rate).

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Table 1: 2000-2001 GENERAL CENTER INFORMATION* (Sorted Chronologically)

Yr Funded:	Center Name	University Name: Director	Partner University 1 Co-Director 1	Partner University 2 Co-Director 2	Partner University 3 Co-Director 3	Partner University 4 Co-Director 4
Active						
1984	Microcontamination Control	Univ. of Arizona O'Hanlon	Rensselaer Polytech Institute Rose			
1985	Measurement and Control Engineering	Univ. of Tennessee, Knoxville Garrison	Oklahoma State Univ. High			
1985	Nondestructive Evaluation	Iowa State Univ. Thompson				
1986	Sensors and Actuators	Univ. of California, Berkeley Muller	Univ. of California, Davis Tien			
1988	Building Performance and Diagnostics	Carnegie Mellon Univ. Hartkopf				
1988	Ceramic and Composite Materials	Univ. of New Mexico Datye	Rutgers Univ. Niesz			
#1989	Advanced Air Conditioning and Refrigeration	Univ. of Illinois Urbana-Champaign Bullard				
#1990	Dimensional Measurement & Control in Manufacturing	Univ. of Michigan, Ann Arbor Hu				
#1991	Advanced Communications	Villanova Univ. Di Giacomo				
#1991	Integrated Pest Management	North Carolina State Univ. Stinner				
#1991	Materials Handling/Logistics Institute	Georgia Institute of Technology Nemhauser	Univ. of Arkansas Taylor			
#1991	Polymer Interfaces	Lehigh Univ. Chaudhury				
#1991	Wireless Information Networks	Rutgers Univ. Yates				
1993	Advanced Computing and Communication	North Carolina State Univ. Kekas	Duke Univ. Trivedi			
1993	Corrosion in Multiphase Systems	Ohio University Jepson				
1993	Machine-tool Systems	Univ. of Illinois Urbana-Champaign Kapoor				
1994	Advanced Processing and Packaging Studies	North Carolina State Univ. Swartzel	Univ. of California, Davis Shoemaker	Ohio State Univ. Schwartz & Sastry		
1994	Analog/Digital Integrated Circuits	Washington State Univ. Ringo	Univ. of Washington Sechen	State Univ. of NY, Stony Brook Leuciuc	Oregon State Univ. Moon	
1994	Engineering Tribology	Georgia Institute of Technology Danyluk	Northwestern Univ. Keer			
1994	Software Engineering	Ball State Zage	West Virginia Ammar			
1995	Advanced Electronic Materials, Devices and Systems	Univ. of Texas, Arlington Taylor	Texas A&M Fitzer			
1995	Coatings Research	Eastern Michigan Univ. Jones	Univ. of Southern Mississippi Urban			
1995	Ergonomics	Texas A&M Congleton				
1995	Man & Packaging of Micro, Optical & Digital Electronics	Univ. of Colorado, Boulder Mahajan				
1995	Optoelectronic Devices, Interconnects and Packaging	Univ. of Arizona Peyghambarian	Univ. of Maryland, College Park Dagenais			
1995	Particulate Materials	Pennsylvania State Univ., Univ. Park Adair				

* Report sorted by Status, Organized by Year Funded # Center in last year of funding

<i>Yr Funded:</i>	<i>Center Name</i>	<i>University Name: Director</i>	<i>Partner University 1 Co-Director 1</i>	<i>Partner University 2 Co-Director 2</i>	<i>Partner University 3 Co-Director 3</i>	<i>Partner University 4 Co-Director 4</i>
1995	Pharmaceutical Processing Research	Purdue Nail	Univ. of Connecticut Pikal	Univ. of Puerto Rico Ghaly		
1996	Glass Research	Alfred Univ., College of Ceramics Seward	Univ. of Missouri, Rolla Moore	Pennsylvania State Univ. Pantano		
1996	Health Management	Univ. of Washington Zuckerman	Univ. of California, Berkeley Shortell			
1996	Power Systems Engineering	Cornell Univ. Thomas	Univ. of California, Berkeley Oren	Univ. of Illinois Urbana-Champaign Sauer	Univ. of Wisconsin, Madison Lasseter	Washington State Univ. Bose
1997	Advanced Polymer and Composite Engineering	Ohio State Univ. Lee				
1997	Biological Surface Science	State Univ. of New York at Buffalo Baier	Univ. of Memphis Jahan	Univ. of Miami Cheung	Alfred Univ., College of Ceramics Clare	
1997	Built Environment	Univ. of California, Berkeley Arens				
1997	Management of Information	Univ. of Arizona Nunamaker				
1997	Quality and Reliability Engineering	Rutgers Univ. Elsayed				
1997	Silicon Wafer Engineering and Defect Science	North Carolina State Univ. Rozgonyi				
1997	Virtual Proving Ground Simulation	Univ. of Iowa Haug	Univ. of Texas, Austin Longoria			
1997	Wireless Electromagnetic Compatibility	Univ. of Oklahoma Grant				
1998	Precision Metrology	Univ. of North Carolina, Charlotte Hocken				
1999	Advanced Studies in Novel Surfactants	Columbia Univ. Somasundaran				
1999	Advanced Vehicle Electronics	Auburn Univ. Johnson				
1999	Center for Next Generation Video	Rensselaer Polytech Institute Woods	New Jersey Institute of Technology Dhawan			
1999	Composite Reinforcement	Univ. of Missouri, Rolla Nanni				
1999	Fundamentals & Applications of Photopolymerizations	Univ. of Iowa Scranton	Univ. of Colorado, Boulder			
1999	Information Technology and Organization	Univ. of California, Irvine Kraemer				
1999	Intelligent Biomedical Devices & Musculoskeletal Sys.	Colorado School of Mines Shoureshi	Rocky Mountain Musculoskeletal Research Komistek			
1999	Tree Genetics	Oregon State Univ. Meilan				
1999	Water Quality	Univ. of Arizona Pepper				
2001	Dielectric Studies	Pennsylvania State Univ., Univ. Park Randall	Univ. of Missouri, Rolla Anderson			
2001	Membrane Applied Science and Technology	Univ. of Colorado, Boulder Noble				

<i>Yr Funded:</i>	<i>Center Name</i>	<i>University Name: Director</i>	<i>Partner University 1 Co-Director 1</i>	<i>Partner University 2 Co-Director 2</i>	<i>Partner University 3 Co-Director 3</i>	<i>Partner University 4 Co-Director 4</i>
New/Recompleted						
2000	Biocatalysis & Bioprocessing of Macromolecules	Polytechnic University of New York Gross				
2000	Biomolecular Interaction Technologies	Univ. of New Hampshire Laue				
2001	Identification Technology Research	West Virginia Univ. Hornak				
2001	Intelligent Maintenance Systems	University of Wisconsin, Milwaukee Lee	Univ. of Michigan, Ann Arbor Ni			

Table 2: 2000-2001 OPERATING BUDGET AND TOTAL FUNDING

Center Name	Total ⁴ Funding	NSF ⁵		INDUSTRY			OTHER			
		NSF/ IUCRC	Other NSF	Member ⁶ Fees	Addl ⁷ Industry	State ⁸	University ⁹ Federal	Other ¹⁰ Federal	Non-11 Federal	Other ¹² Cash
Advanced Air Conditioning and Refrigeration	\$2,670,397	\$8,000	\$25,000	\$1,140,000	\$0	\$575,000	\$0	\$222,327	\$700,000	\$70
Advanced Communications	\$583,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$583,000
Advanced Computing and Communication	\$1,928,797	\$103,000	\$381,700	\$590,000	\$338,631	\$0	\$43,513	\$471,953	\$0	\$0
Advanced Electronic Materials, Devices and Systems	\$280,000	\$100,000	\$0	\$150,000	\$0	\$0	\$30,000	\$0	\$0	\$0
Advanced Polymer and Composite Engineering	\$1,457,745	\$100,000	\$565,882	\$302,613	\$110,000	\$100,000	\$77,500	\$0	\$0	\$201,750
Advanced Processing and Packaging Studies	\$794,898	\$128,000	\$20,000	\$440,000	\$0	\$126,898	\$80,000	\$0	\$0	\$0
Advanced Studies in Novel Surfactants	\$389,854	\$70,000	\$14,479	\$287,500	\$17,875	\$0	\$0	\$0	\$0	\$0
Advanced Vehicle Electronics	\$1,075,000	\$95,000	\$5,000	\$825,000	\$0	\$0	\$150,000	\$0	\$0	\$0
Analog/Digital Integrated Circuits	\$2,656,750	\$175,000	\$94,250	\$922,500	\$0	\$35,000	\$504,000	\$0	\$0	\$926,000
Biological Surface Science	\$2,208,164	\$206,800	\$9,800	\$240,000	\$16,788	\$1,534,000	\$66,995	\$0	\$0	\$133,781
Building Performance and Diagnostics	\$762,616	\$43,000	\$0	\$427,503	\$0	\$0	\$50,000	\$200,000	\$42,113	\$0
Built Environment	\$1,032,950	\$100,000	\$100,000	\$408,950	\$20,000	\$0	\$332,000	\$60,000	\$0	\$12,000
Center for Next Generation Video	\$330,000	\$120,000	\$0	\$110,000	\$0	\$0	\$0	\$100,000	\$0	\$0
Ceramic and Composite Materials	\$2,428,451	\$85,000	\$500,100	\$697,093	\$23,964	\$81,000	\$253,338	\$606,735	\$181,221	\$0
Coatings Research	\$454,000	\$43,000	\$70,000	\$120,000	\$0	\$0	\$71,000	\$0	\$0	\$150,000
Composite Reinforcement	\$532,000	\$70,000	\$15,000	\$300,000	\$0	\$0	\$147,000	\$0	\$0	\$0
Corrosion in Multiphase Systems	\$526,000	\$43,000	\$0	\$250,000	\$0	\$0	\$233,000	\$0	\$0	\$0
Dielectric Studies	\$1,825,000	\$8,000	\$0	\$520,000	\$453,000	\$210,000	\$94,000	\$540,000	\$0	\$0
Dimensional Measurement & Control in Manufacturin	\$268,000	\$43,000	\$0	\$175,000	\$50,000	\$0	\$0	\$0	\$0	\$0
Engineering Tribology	\$562,451	\$65,000	\$148,088	\$219,375	\$100,000	\$0	\$0	\$29,988	\$0	\$0
Ergonomics	\$307,500	\$43,000	\$5,000	\$160,000	\$22,500	\$0	\$0	\$77,000	\$0	\$0
Fundamentals & Applications of Photopolymerizations	\$410,000	\$70,000	\$0	\$340,000	\$0	\$0	\$0	\$0	\$0	\$0
Glass Research	\$1,494,156	\$143,000	\$0	\$1,029,500	\$0	\$0	\$115,377	\$206,279	\$0	\$0
Health Management	\$467,500	\$93,000	\$0	\$374,500	\$0	\$0	\$0	\$0	\$0	\$0
Information Technology and Organization	\$425,000	\$100,000	\$0	\$250,000	\$0	\$0	\$75,000	\$0	\$0	\$0
Integrated Pest Management	\$1,160,150	\$43,000	\$114,404	\$548,125	\$0	\$0	\$10,000	\$401,621	\$43,000	\$0
Intelligent Biomedical Devices & Musculoskeletal Syst	\$982,000	\$150,000	\$0	\$715,000	\$0	\$32,000	\$85,000	\$0	\$0	\$0
Machine-tool Systems	\$553,175	\$43,000	\$0	\$320,000	\$190,175	\$0	\$0	\$0	\$0	\$0
Man & Packaging of Micro, Optical & Digital Electroni	\$2,458,350	\$48,000	\$0	\$445,500	\$62,500	\$0	\$27,500	\$1,874,850	\$0	\$0
Management of Information	\$1,705,000	\$70,000	\$0	\$700,000	\$0	\$85,000	\$0	\$750,000	\$100,000	\$0
Materials Handling/Logistics Institute	\$1,864,888	\$62,000	\$355,888	\$516,000	\$106,000	\$0	\$825,000	\$0	\$0	\$0
Measurement and Control Engineering	\$656,400	\$85,000	\$0	\$570,000	\$1,400	\$0	\$0	\$0	\$0	\$0
Membrane Applied Science and Technology	\$1,664,756	\$480,000	\$0	\$414,972	\$134,256	\$45,528	\$40,000	\$550,000	\$0	\$0
Microcontamination Control	\$528,000	\$253,000	\$0	\$275,000	\$0	\$0	\$0	\$0	\$0	\$0
Nondestructive Evaluation	\$8,360,760	\$70,000	\$87,365	\$525,000	\$0	\$1,162,303	\$0	\$5,547,381	\$347,927	\$620,784
Optoelectronic Devices, Interconnects and Packaging	\$696,000	\$48,000	\$0	\$330,000	\$0	\$318,000	\$0	\$0	\$0	\$0
Particulate Materials	\$1,821,000	\$100,000	\$50,000	\$325,000	\$3,000	\$0	\$165,000	\$0	\$10,000	\$1,168,000
Pharmaceutical Processing Research	\$588,000	\$35,000	\$0	\$425,000	\$0	\$0	\$128,000	\$0	\$0	\$0
Polymer Interfaces	\$400,508	\$48,000	\$5,000	\$160,000	\$116,000	\$0	\$71,508	\$0	\$0	\$0
Power Systems Engineering	\$4,209,000	\$405,000	\$239,000	\$1,340,000	\$475,000	\$40,000	\$500,000	\$1,200,000	\$10,000	\$0
Precision Metrology	\$894,627	\$75,000	\$213,020	\$390,000	\$0	\$0	\$216,607	\$0	\$0	\$0
Quality and Reliability Engineering	\$570,000	\$75,000	\$75,000	\$300,000	\$0	\$0	\$35,000	\$85,000	\$0	\$0
Sensors and Actuators	\$7,968,345	\$80,000	\$0	\$1,800,000	\$5,000	\$100,000	\$0	\$5,483,345	\$500,000	\$0
Silicon Wafer Engineering and Defect Science	\$465,000	\$140,000	\$0	\$325,000	\$0	\$0	\$0	\$0	\$0	\$0
Software Engineering	\$495,000	\$85,000	\$0	\$305,000	\$105,000	\$0	\$0	\$0	\$0	\$0
Tree Genetics	\$591,275	\$68,000	\$0	\$275,000	\$25,000	\$0	\$223,275	\$0	\$0	\$0
Virtual Proving Ground Simulation	\$895,000	\$103,000	\$300,000	\$492,000	\$0	\$0	\$0	\$0	\$0	\$0
Water Quality	\$1,036,000	\$350,000	\$0	\$321,000	\$365,000	\$0	\$0	\$0	\$0	\$0
Wireless Electromagnetic Compatibility	\$330,000	\$70,000	\$0	\$260,000	\$0	\$0	\$0	\$0	\$0	\$0
Wireless Information Networks	\$1,621,178	\$48,000	\$461,783	\$600,000	\$0	\$254,079	\$12,416	\$117,000	\$0	\$127,900
Grand Mean	\$1,367,693	\$101,776	\$77,115	\$459,143	\$54,822	\$93,976	\$93,241	\$370,470	\$38,685	\$78,466
Grand Sum	\$68,384,641	\$5,088,800	\$3,855,759	\$22,957,131	\$2,741,089	\$4,698,808	\$4,662,029	\$18,523,479	\$1,934,261	\$3,923,285

* Report sorted Alphabetically by Center

Table 3: 2000-2001 CAPITAL AND IN-KIND SUPPORT

CenterName	Capital and In-Kind Support ¹³							Overhead		Budget
	Total Funding	Total Cap In-Kind	Equipment	Facilities	Personnel	Software	Other Support	% to Mem ¹⁴	Typical ¹⁵	Admin ¹⁶
Advanced Air Conditioning and Refrigeration	\$2,670,397	\$80,000	\$50,000	\$0	\$0	\$0	\$30,000	10	0	0
Advanced Communications	\$583,000	\$0	\$0	\$0	\$0	\$0	\$0	0	0	0
Advanced Computing and Communication	\$1,928,797	\$6,851,000	\$6,350,000	\$0	\$0	\$500,000	\$1,000	10	50	0
Advanced Electronic Materials, Devices and Systems	\$280,000	\$250,000	\$250,000	\$0	\$0	\$0	\$0	10	44	35
Advanced Polymer and Composite Engineering	\$1,457,745	\$470,826	\$120,000	\$0	\$0	\$40,000	\$310,826	0	47	2
Advanced Processing and Packaging Studies	\$794,898	\$18,000	\$18,000	\$0	\$0	\$0	\$0	0	10	20
Advanced Studies in Novel Surfactants	\$389,854	\$14,300	\$14,300	\$0	\$0	\$0	\$0	5	63	25
Advanced Vehicle Electronics	\$1,075,000	\$500,000	\$500,000	\$0	\$0	\$0	\$0	0	0	7
Analog/Digital Integrated Circuits	\$2,656,750	\$89,000	\$60,000	\$0	\$8,000	\$10,000	\$11,000	0	47	15
Biological Surface Science	\$2,208,164	\$25,799	\$0	\$15,000	\$0	\$0	\$10,799	12	50	15
Building Performance and Diagnostics	\$762,616	\$50,000	\$0	\$50,000	\$0	\$0	\$0	0	50	30
Built Environment	\$1,032,950	\$22,100	\$0	\$18,100	\$4,000	\$0	\$0	0	50	13
Center for Next Generation Video	\$330,000	\$0	\$0	\$0	\$0	\$0	\$0	10	50	10
Ceramic and Composite Materials	\$2,428,451	\$0	\$0	\$0	\$0	\$0	\$0	0	53	10
Coatings Research	\$454,000	\$140,000	\$120,000	\$0	\$20,000	\$0	\$0	0	43	0
Composite Reinforcement	\$532,000	\$100,000	\$0	\$0	\$50,000	\$0	\$50,000	0	49	25
Corrosion in Multiphase Systems	\$526,000	\$0	\$0	\$0	\$0	\$0	\$0	10	0	0
Dielectric Studies	\$1,825,000	\$2,480,000	\$2,000,000	\$400,000	\$80,000	\$0	\$0	0	0	1
Dimensional Measurement & Control in Manufacturing	\$268,000	\$350,000	\$50,000	\$300,000	\$0	\$0	\$0	0	56	10
Engineering Tribology	\$562,451	\$0	\$0	\$0	\$0	\$0	\$0	10	47	10
Ergonomics	\$307,500	\$35,000	\$10,000	\$25,000	\$0	\$0	\$0	11	45	20
Fundamentals & Applications of Photopolymerizations	\$410,000	\$80,000	\$80,000	\$0	\$0	\$0	\$0	0	47	8
Glass Research	\$1,494,156	\$0	\$0	\$0	\$0	\$0	\$0	7	75	24
Health Management	\$467,500	\$0	\$0	\$0	\$0	\$0	\$0	0	0	25
Information Technology and Organization	\$425,000	\$50,000	\$0	\$50,000	\$0	\$0	\$0	5	0	0
Integrated Pest Management	\$1,160,150	\$0	\$0	\$0	\$0	\$0	\$0	10	47	3
Intelligent Biomedical Devices & Musculoskeletal Syste	\$982,000	\$260,000	\$150,000	\$50,000	\$20,000	\$40,000	\$0	25	50	15
Machine-tool Systems	\$553,175	\$1,100	\$0	\$0	\$0	\$0	\$1,100	15	0	15
Man & Packaging of Micro, Optical & Digital Electronics	\$2,458,350	\$62,500	\$47,500	\$0	\$0	\$15,000	\$0	5	47	15
Management of Information	\$1,705,000	\$0	\$0	\$0	\$0	\$0	\$0	0	51	15
Materials Handling/Logistics Institute	\$1,864,888	\$0	\$0	\$0	\$0	\$0	\$0	0	49	10
Measurement and Control Engineering	\$656,400	\$340,600	\$90,600	\$0	\$0	\$250,000	\$0	0	43	14
Membrane Applied Science and Technology	\$1,664,756	\$0	\$0	\$0	\$0	\$0	\$0	6	46	20
Microcontamination Control	\$528,000	\$40,000	\$40,000	\$0	\$0	\$0	\$0	27	52	25
Nondestructive Evaluation	\$8,360,760	\$0	\$0	\$0	\$0	\$0	\$0	0	44	11
Optoelectronic Devices, Interconnects and Packaging	\$696,000	\$30,000	\$30,000	\$0	\$0	\$0	\$0	0	52	10
Particulate Materials	\$1,821,000	\$100,000	\$100,000	\$0	\$0	\$0	\$0	0	37	22
Pharmaceutical Processing Research	\$588,000	\$60,000	\$60,000	\$0	\$0	\$0	\$0	52	26	10
Polymer Interfaces	\$400,508	\$0	\$0	\$0	\$0	\$0	\$0	12	58	0
Power Systems Engineering	\$4,209,000	\$395,000	\$110,000	\$30,000	\$25,000	\$125,000	\$105,000	5	50	15
Precision Metrology	\$894,627	\$821,000	\$750,000	\$0	\$71,000	\$0	\$0	0	30	5
Quality and Reliability Engineering	\$570,000	\$45,000	\$15,000	\$0	\$20,000	\$10,000	\$0	20	55	0
Sensors and Actuators	\$7,968,345	\$280,000	\$220,000	\$50,000	\$0	\$10,000	\$0	0	51	7
Silicon Wafer Engineering and Defect Science	\$465,000	\$0	\$0	\$0	\$0	\$0	\$0	9	46	20
Software Engineering	\$495,000	\$1,000	\$1,000	\$0	\$0	\$0	\$0	26	0	28
Tree Genetics	\$591,275	\$2,700	\$0	\$0	\$0	\$0	\$2,700	0	43	5
Virtual Proving Ground Simulation	\$895,000	\$169,000	\$0	\$0	\$0	\$169,000	\$0	0	47	10
Water Quality	\$1,036,000	\$500,000	\$0	\$500,000	\$0	\$0	\$0	0	25	5
Wireless Electromagnetic Compatibility	\$330,000	\$35,000	\$35,000	\$0	\$0	\$0	\$0	26	47	15
Wireless Information Networks	\$1,621,178	\$147,000	\$51,000	\$96,000	\$0	\$0	\$0	0	55	26
Grand Mean	\$1,367,693	\$297,919	\$226,448	\$31,682	\$5,960	\$23,380	\$10,449	10	0	0
Grand Sum	\$68,384,641	\$14,895,925	\$11,322,400	\$1,584,100	\$298,000	\$1,169,000	\$522,425	N/A	N/A	N/A

* Report sorted Alphabetically by Center

Table 4: 2000-2001 INDUSTRY MEMBERSHIP DESCRIPTORS

CenterName	2000-2001 MEMBERS				LIFETIME MEMBERS			ANNUAL FEES		
	Current Members	Starting	New	Left	Life Starting	Life New	Life Left	Primay	Secondary	Tertiary
Advanced Air Conditioning and Refrigeration	32	27	6	1	13	34	15	\$40,000	\$0	\$10,000
Advanced Communications	6	6	0	0	4	20	18	\$42,000	\$15,000	\$5,000
Advanced Computing and Communication	13	11	4	2	8	30	25	\$50,000	\$20,000	\$0
Advanced Electronic Materials, Devices and Systems	4	10	2	8	6	23	25	\$30,000	\$15,000	\$0
Advanced Polymer and Composite Engineering	24	22	7	5	5	33	14	\$35,000	\$25,000	\$5,000
Advanced Processing and Packaging Studies	12	13	4	5	8	26	22	\$35,000	\$20,000	\$0
Advanced Studies in Novel Surfactants	8	12	1	5	15	3	10	\$25,000	\$9,500	\$0
Advanced Vehicle Electronics	11	11	0	0	11	0	0	\$75,000	\$0	\$0
Analog/Digital Integrated Circuits	25	24	6	5	11	41	28	\$40,000	\$0	\$0
Biological Surface Science	7	13	0	6	6	14	12	\$40,000	\$0	\$0
Building Performance and Diagnostics	20	15	5	0	15	29	11	\$50,000	\$30,000	\$250,000
Built Environment	19	18	2	1	11	13	5	\$30,000	\$10,000	\$0
Center for Next Generation Video	13	11	2	0	7	10	4	\$40,000	\$15,000	\$5,000
Ceramic and Composite Materials	32	26	14	8	8	40	16	\$35,000	\$10,000	\$5,000
Coatings Research	13	11	6	4	11	19	17	\$30,000	\$0	\$0
Composite Reinforcement	12	9	5	2	9	14	2	\$50,000	\$15,000	\$0
Corrosion in Multiphase Systems	11	19	2	10	4	25	18	\$25,000	\$0	\$0
Dielectric Studies	21	19	7	5	18	45	42	\$30,000	\$8,500	\$0
Dimensional Measurement & Control in Manufacturing	5	7	0	2	8	7	10	\$50,000	\$25,000	\$0
Engineering Tribology	5	10	3	8	14	20	33	\$27,500	\$20,000	\$0
Ergonomics	13	12	0	1	9	0	0	\$25,000	\$15,000	\$10,000
Fundamentals & Applications of Photopolymerizations	9	9	0	0	9	9	0	\$40,000	\$0	\$0
Glass Research	33	32	1	0	8	35	6	\$33,000	\$0	\$0
Health Management	10	10	5	5	6	28	23	\$35,000	\$0	\$0
Information Technology and Organization	9	10	3	4	12	4	7	\$25,000	\$0	\$0
Integrated Pest Management	21	18	5	2	7	20	12	\$25,000	\$5,000	\$0
Intelligent Biomedical Devices & Musculoskeletal Syste	14	14	1	1	14	1	1	\$50,000	\$0	\$0
Machine-tool Systems	8	8	0	0	6	7	5	\$50,000	\$20,000	\$0
Man & Packaging of Micro, Optical & Digital Electronics	8	7	3	2	10	13	15	\$45,000	\$30,000	\$0
Management of Information	7	7	4	4	8	9	10	\$100,000	\$50,000	\$25,000
Materials Handling/Logistics Institute	12	14	8	10	18	13	19	\$50,000	\$25,000	\$0
Measurement and Control Engineering	15	20	1	6	14	23	22	\$35,000	\$20,000	\$7,500
Membrane Applied Science and Technology	10	10	0	0	8	12	8	\$40,000	\$0	\$0
Microcontamination Control	14	13	3	2	26	37	49	\$40,000	\$10,000	\$0
Nondestructive Evaluation	18	20	2	4	14	35	30	\$35,000	\$0	\$0
Optoelectronic Devices, Interconnects and Packaging	14	14	0	0	9	28	23	\$50,000	\$25,000	\$0
Particulate Materials	14	14	0	0	12	13	14	\$35,000	\$10,000	\$0
Pharmaceutical Processing Research	21	21	0	0	11	19	9	\$25,000	\$0	\$0
Polymer Interfaces	5	6	1	2	10	8	13	\$35,000	\$20,000	\$0
Power Systems Engineering	34	30	8	4	17	30	11	\$40,000	\$20,000	\$0
Precision Metrology	15	15	2	2	15	5	5	\$30,000	\$0	\$0
Quality and Reliability Engineering	12	12	0	0	11	6	5	\$30,000	\$15,000	\$10,000
Sensors and Actuators	33	33	0	0	6	52	25	\$50,000	\$0	\$0
Silicon Wafer Engineering and Defect Science	10	9	1	0	6	5	1	\$50,000	\$25,000	\$0
Software Engineering	12	8	6	2	10	31	29	\$30,000	\$5,000	\$0
Tree Genetics	12	13	0	1	13	0	0	\$25,000	\$0	\$0
Virtual Proving Ground Simulation	14	15	0	1	24	19	29	\$40,000	\$2,000	\$0
Water Quality	17	16	1	0	16	1	0	\$30,000	\$3,000	\$0
Wireless Electromagnetic Compatibility	16	16	0	0	14	5	3	\$35,000	\$15,000	\$5,000
Wireless Information Networks	22	21	4	3	20	24	21	\$30,000	\$0	\$0
Grand Mean	14.90	14.82	2.70	2.66	11.10	18.76	14.44	\$38,850	\$11,060	\$6,750
Grand Sum	745	741	135	133	555	938	722			

* Report sorted Alphabetically by Center

Table 5: 2000-2001 HUMAN RESOURCES

CenterName	RESEARCHERS		STUDENTS		ADMINISTRATION ¹⁸			
	Faculty	Non-Faculty	Grads	Undergrads	Professional	Professional	Clerical	Clerical
	Scientists	Scientists			Full Time	Part Time	Full Time	Part Time
Advanced Air Conditioning and Refrigeration	17	5	47	26	0	2	1	0
Advanced Communications	0	0	0	0	0	0	0	0
Advanced Computing and Communication	16	2	37	1	1	0	2	0
Advanced Electronic Materials, Devices and Systems	7	0	10	1	0	2	0	1
Advanced Polymer and Composite Engineering	5	1	35	6	0	2	0	0
Advanced Processing and Packaging Studies	5	2	5	0	0	2	0	1
Advanced Studies in Novel Surfactants	4	6	5	0	0	1	0	1
Advanced Vehicle Electronics	7	1	14	10	0	1	1	0
Analog/Digital Integrated Circuits	12	0	42	8	2	6	0	0
Biological Surface Science	9	0	6	4	0	5	0	4
Building Performance and Diagnostics	2	6	10	5	1	1	0	2
Built Environment	15	6	10	2	1	2	0	1
Center for Next Generation Video	8	2	9	0	0	3	0	2
Ceramic and Composite Materials	25	13	30	11	3	1	3	1
Coatings Research	6	3	7	2	0	3	0	2
Composite Reinforcement	2	4	6	3	0	3	0	2
Corrosion in Multiphase Systems	3	4	7	1	0	2	1	0
Dielectric Studies	4	2	10	3	1	0	0	0
Dimensional Measurement & Control in Manufacturing	8	0	0	0	0	2	0	1
Engineering Tribology	8	2	8	1	0	0	0	1
Ergonomics	5	0	8	2	0	2	0	1
Fundamentals & Applications of Photopolymerizations	5	2	6	2	0	2	0	2
Glass Research	15	8	19	5	5	3	4	1
Health Management	18	13	0	0	0	5	0	1
Information Technology and Organization	12	2	8	2	0	1	0	1
Integrated Pest Management	16	4	8	5	0	0	0	1
Intelligent Biomedical Devices & Musculoskeletal Systems	5	4	12	5	0	2	0	2
Machine-tool Systems	6	1	18	2	0	2	0	1
Man- & Packaging of Micro, Optical & Digital Electronics	8	2	28	0	1	3	0	0
Management of Information	8	7	16	4	1	1	2	2
Materials Handling/Logistics Institute	13	0	20	0	2	1	1	0
Measurement and Control Engineering	11	0	21	9	0	3	2	0
Membrane Applied Science and Technology	11	3	9	4	1	2	0	1
Microcontamination Control	7	3	7	2	1	1	0	1
Nondestructive Evaluation	15	23	39	24	3	0	6	0
Optoelectronic Devices, Interconnects and Packaging	7	3	4	2	0	2	0	2
Particulate Materials	12	4	11	2	1	1	1	0
Pharmaceutical Processing Research	13	1	12	0	0	0	0	1
Polymer Interfaces	14	8	4	1	0	2	1	0
Power Systems Engineering	47	4	71	17	1	13	0	8
Precision Metrology	15	4	22	4	1	0	0	0
Quality and Reliability Engineering	7	0	8	4	0	0	0	1
Sensors and Actuators	16	8	70	5	4	0	5	0
Silicon Wafer Engineering and Defect Science	8	7	14	2	0	2	0	1
Software Engineering	16	2	9	4	0	2	0	1
Tree Genetics	4	0	6	15	0	1	0	1
Virtual Proving Ground Simulation	5	14	14	1	0	3	0	2
Water Quality	8	0	4	2	0	2	0	0
Wireless Electromagnetic Compatibility	1	2	5	3	0	1	1	1
Wireless Information Networks	8	1	19	6	4	0	2	0
Grand Mean	9.98	3.78	15.80	4.36	0.68	1.90	0.66	1.02
Grand Sum	499	189	790	218	34	95	33	51

90

688

* Report sorted Alphabetically by Center

13.74

Table 6: 2000-2001 CENTER DIRECTOR DESCRIPTORS

CenterName	Rank	Tenure	Reports To	TIME ALLOCATION 19				
				Center Admin	Other Admin	Research	Teaching	Other
Advanced Air Conditioning and Refrigeration	Full Professor	Tenured	Department Head	15	10	40	30	5
Advanced Communications	Director	Non-tenure Track	Vice President of Academic Affairs	50	0	25	0	25
Advanced Computing and Communication	Director	Non-Tenure Track	Dean of Engineering	80	20	0	0	0
Advanced Electronic Materials, Devices and Systems	Distinguished Professor	Tenured	Department Head	5	0	50	45	0
Advanced Polymer and Composite Engineering	Director and Professor	Tenured	Dean, College of Engineering	10	10	40	35	0
Advanced Processing and Packaging Studies	Director	Non-Tenure Track	Vice Chancellor, Research	10	40	50	0	0
Advanced Studies in Novel Surfactants	Professor	Tenured	Dean	10	5	40	35	10
Advanced Vehicle Electronics	Director and Professor	Tenured	Head ECE Dept. and Dean of College of Engine	25	5	40	15	15
Analog/Digital Integrated Circuits	Director	Tenured	Dean	35	50	0	15	0
Biological Surface Science	Professor	Tenured	Vice President for Research	15	5	50	30	0
Building Performance and Diagnostics	Director and Professor	Tenured	Dean, College of Fine Arts	30	0	45	25	0
Built Environment	Full Professor	Tenured	Vice Chancellor for Research	25	25	5	40	5
Center for Next Generation Video	Full Professor	Tenured	Dean of Engineering	10	3	50	25	12
Ceramic and Composite Materials	Professor	Tenured	Vice Provost for Research	20	10	40	30	0
Coatings Research	Full Professor	Tenured	Department Chairs	20	25	55	0	0
Composite Reinforcement	Distinguished Professor	Tenured	Dean	25	25	20	25	5
Corrosion in Multiphase Systems	Director and Professor	Non-Tenure Track	Dean of the Russ College of Engr. & Tech.	25	0	42	25	8
Dielectric Studies	Full Professor	Tenured	Director, Materials Research Institute	20	5	40	30	5
Dimensional Measurement & Control in Manufacturing	Associate Professor	Tenured	Dean	10	10	30	40	10
Engineering Tribology	Full Professor	Tenured	Chair	10	50	20	10	10
Ergonomics	Professor	Tenured	Director of TEES	20	5	50	20	5
Fundamentals & Applications of Photopolymerizations	Full Professor	Tenured	Dean, College of Engineering	10	30	30	30	0
Glass Research	Professor	Tenure Track	Dean, School of Ceramic Engineering/Materials	75	0	10	10	5
Health Management	Director and Professor	Tenured	Chair, Department of Health Services	25	10	25	40	0
Information Technology and Organization	Professor	Tenured	V-C for Research	25	25	25	25	0
Integrated Pest Management	Director and Professor	Tenured	Dean, CALS	20	0	70	0	10
Intelligent Biomedical Devices & Musculoskeletal System	Professor	Tenured	Dean of Graduate Studies and Research	15	10	50	20	0
Machine-tool Systems	Professor	Tenured	Dean, College of Engineering	10	10	40	40	0
Man & Packaging of Micro, Optical & Digital Electronics	Full Professor	Tenured	Dean, College of Engineering and Applied Scien	15	5	40	30	10
Management of Information	Regents Professor	Tenured	Dean	20	5	50	25	0
Materials Handling/Logistics Institute	Professor	Tenured	Department Chair	25	0	50	25	0
Measurement and Control Engineering	Director and Professor	Tenured		50	0	50	0	0
Membrane Applied Science and Technology	Professor	Tenured	Chair of Chemical Engineering	10	10	40	40	0
Microcontamination Control	Full Professor	Tenured	Department Head	34	0	33	33	0
Nondestructive Evaluation	Distinguished Professor	Tenured	Director, Institute for Physical Research and Te	50	5	25	15	5
Optoelectronic Devices, Interconnects and Packaging	Full Professor	Tenured	Professor and Chair	20	20	50	0	10
Particulate Materials	Associate Professor	Tenured	Director, Materials Research Lab	50	0	30	20	0
Pharmaceutical Processing Research	Full Professor	Tenured	Department Head	15	5	40	40	0
Polymer Interfaces	Associate Professor	Tenured	Dean, College of Engineering & Applied Scien	20	0	40	40	0
Power Systems Engineering	Professor	Tenured	Dean	40	5	25	25	5
Precision Metrology	Distinguished Professor	Tenured	Associate Dean of Research	10	10	25	50	5
Quality and Reliability Engineering	Professor	Tenured	Dean of School of Engineering	20	25	25	15	10
Sensors and Actuators	Director and Professor	Tenured	Chairperson, Dept. of Elec. Eng. And Computer	20	15	50	8	7
Silicon Wafer Engineering and Defect Science	Director and Professor	Tenured	Dean, College of Engineering	20	5	40	30	5
Software Engineering	Full Professor	Tenured	Dean	25	0	25	50	0
Tree Genetics	Professor	Tenured	Head of Department	10	15	40	15	20
Virtual Proving Ground Simulation	Distinguished Professor	Tenured	Vice President for Research	20	30	25	25	0
Water Quality	Director	Tenure Track	Dean, College of Agriculture and Life Sciences	35	0	50	10	5
Wireless Electromagnetic Compatibility	Full Professor	Tenured	Director, School of Industrial Engineering	25	0	50	25	0
Wireless Information Networks	Associate Professor	Tenured	Chairman, Electrical and Computer Engineering	40	0	20	40	0
Grand Mean				24.48	10.86	36.10	24.02	4.24

* Report sorted Alphabetically by Center

Table 7: 2000-2001 CENTER OUTCOMES

CenterName:	STUDENTS RECEIVING DEGREE ²⁰			STUDENTS HIRED BY INDUSTRY ²¹			PUBLICATIONS ²²		
	BA Grad	MA Grad	PhD Grad	BA Hired	MA Hired	PhD Hired	w/ Ctr	w/ IAB	Presentation
							Research	Members	
Advanced Air Conditioning and Refrigeration	10	12	4	0	0	1	0	27	8
Advanced Computing and Communication	0	12	7	0	7	2	0	0	0
Advanced Electronic Materials, Devices and Systems	0	2	1	0	0	0	6	0	4
Advanced Polymer and Composite Engineering	5	7	7	2	0	0	93	0	52
Advanced Processing and Packaging Studies	0	0	0	0	0	0	0	0	0
Advanced Studies in Novel Surfactants	0	0	0	0	0	0	5	0	20
Advanced Vehicle Electronics	2	1	0	0	0	0	2	1	2
Analog/Digital Integrated Circuits	2	14	5	1	13	2	42	0	31
Biological Surface Science	0	2	1	0	0	0	15	1	19
Building Performance and Diagnostics	0	2	2	0	0	0	12	0	175
Built Environment	2	3	0	0	0	0	10	11	7
Center for Next Generation Video	0	3	5	0	0	0	53	0	0
Ceramic and Composite Materials	5	3	3	2	0	4	31	0	64
Coatings Research	1	1	3	0	1	3	7	1	6
Composite Reinforcement	1	5	2	0	0	2	29	3	22
Corrosion in Multiphase Systems	0	2	3	0	0	0	4	0	6
Dielectric Studies	3	4	2	2	1	0	24	1	40
Dimensional Measurement & Control in Manufacturin	0	0	2	0	0	5	8	0	9
Engineering Tribology	0	2	2	0	0	0	0	4	5
Ergonomics	0	3	1	0	0	0	0	0	9
Fundamentals & Applications of Photopolymerization	0	0	1	0	0	0	0	0	9
Glass Research	2	2	0	0	0	0	0	0	0
Health Management	0	0	0	0	0	0	10	0	20
Information Technology and Organization	2	4	2	1	0	0	15	5	15
Integrated Pest Management	2	5	2	0	2	2	16	1	29
Intelligent Biomedical Devices & Musculoskeletal Sys	4	9	2	0	2	1	20	10	14
Machine-tool Systems	3	5	4	0	2	1	11	2	7
Man & Packaging of Micro, Optical & Digital Electroni	0	2	5	0	2	0	10	0	7
Management of Information	6	4	2	0	0	0	20	5	24
Materials Handling/Logistics Institute	0	0	6	0	0	0	10	0	4
Measurement and Control Engineering	8	3	7	4	0	1	18	0	13
Membrane Applied Science and Technology	0	1	2	0	0	0	6	0	9
Microcontamination Control	1	3	2	1	3	2	6	0	12
Nondestructive Evaluation	2	3	8	6	3	8	16	6	15
Optoelectronic Devices, Interconnects and Packaging	0	0	0	0	1	1	6	2	5
Particulate Materials	0	4	3	0	0	0	67	1	59
Pharmaceutical Processing Research	0	2	4	0	0	3	8	3	15
Polymer Interfaces	0	1	2	0	0	0	6	0	0
Power Systems Engineering	14	16	15	4	7	7	88	33	110
Precision Metrology	0	2	4	0	1	2	16	0	16
Quality and Reliability Engineering	0	0	3	0	2	0	10	1	18
Sensors and Actuators	0	9	7	0	3	4	8	1	55
Silicon Wafer Engineering and Defect Science	0	4	6	0	1	2	18	7	20
Software Engineering	4	3	1	0	0	0	8	2	8
Tree Genetics	0	0	0	0	0	0	6	1	21
Virtual Proving Ground Simulation	0	1	2	0	0	0	0	0	22
Water Quality	0	2	0	0	0	0	4	4	8
Wireless Electromagnetic Compatibility	0	3	0	0	0	0	7	0	20
Wireless Information Networks	0	5	4	0	4	2	19	2	23
Grand Mean	1.61	3.49	2.94	0.47	1.12	1.12	15.71	2.76	21.57
Grand Sum	79	171	144	23	55	55	770	135	1057

* Report sorted by Alphabetically by Center

Table 8: 2000-2001 INTELLECTUAL PROPERTY EVENTS

Table 8a: Centers reporting One or More Intellectual Property Event Last Fiscal Year

Intellectual Property Event	# of Centers	% of Centers
Invention Disclosures	15	30.00
Patent Applications	11	22.00
Software Copyrights	3	6.00
Patents Granted/Derived	4	8.00
Licensing Agreements	4	8.00
Royalties Realized	1	2.00

Table 8b: Total Number and Means of Intellectual Property Events last Fiscal Year

Intellectual Property Event	Total for all Centers	Mean for All Centers
Invention Disclosures	53	1.06
Patent Applications	36	0.72
Software Copyrights	7	0.14
Patents Granted/Derived	9	0.18
Licensing Agreements	10	0.20
Royalties Realized	1	0.02

APPENDIX

FOOTNOTES AND SPECIAL CONSIDERATIONS

Footnotes appear on top of columns and/or at end of rows for each Table and are described in this Appendix.

- 1) All averages and sums exclude missing data. With the exception of percentages, data from multi-university centers has been aggregated across universities; percentages represent averages for the reporting universities.
- 2) This report includes only data on Centers which were considered active participants in the NSF IUCRC Program during the 1997-98 fiscal year. Some Centers are reporting data from different fiscal years (1996-1997 & 1997-1998), depending on when the Center had completed their fiscal year at the time NSF requested the Center Director data.
- 3) On Tables 1, "YEAR FUNDED" indicates the year NSF gave the center the operating grant it is currently operating under.
- 4) On Table 2, "TOTAL FUNDING" refers to the total cash income coming into the Center.
- 5) On Table 2, "NSF FUNDING" refers to two kinds of support, "IUCRC FUNDING" which refers to the total support provided by the IUCRC program, including operating grant, self-sustaining Center funding, evaluator support, TIE awards, RUI/PUJ awards, etc. "NSF OTHER" refers to cash support for Center operations provided by other NSF groups or divisions. Neither of these categories include money transferred through NSF from other Federal Agencies (MIPRs).
- 6) On Table 2, "INDUSTRY MEMBERSHIP FEES" refers to the total cash membership fees from Center members.
- 7) On Table 2, "INDUSTRY OTHER" refers to additional industry cash funding for operations provided by industrial members (e.g., enhancements, donations, etc.) which is applied to the Center as a whole (e.g., income that results in outcomes shared equally by all Center members).
- 8) On Table 2, "STATE TOTAL" refers to the support provided by state government and/or an agency or program funded by state government.
- 9) On Table 2, "UNIV. TOTAL" refers to the support for the Center operating costs including salary, travel, and overhead returned to the Center. It does NOT include items such as utilities and space.
- 10) On Table 2, "OTHER FEDERAL AGENCY" refers to cash support for Center operations provided by other Federal funding sources, but does NOT include funding from NSF.
- 11) On Table 2, "OTHER NON-FEDERAL AGENCY" refers to cash support for Center operations provided by other non-Federal funding sources, foundations, etc.
- 12) On Table 2, "OTHER FUNDING" refers to any other cash support, such as contracts, received by Center researchers that would not have been received if the Center did not exist. The funding would not result in outcomes shared equally by Center members.
- 13) On Table 3, "CAPITAL AND IN-KIND CONTRIBUTIONS" refers to capital support for items of value over \$25,000 and includes equipment, facilities, personnel, and software.
- 14) On Table 3, "% to MEM" refers to the overhead rate charged to industry membership fees.
- 15) On Table 3, "TYPICAL OVERHEAD" refers to the typical overhead rate charged to funding sources.
- 16) On Table 3, "ADMIN. BUDGET (%)" refers to the estimated percentage of the Center's direct operating budget allocated to administration (e.g., administrative salaries, travel, telephone).
- 17) On Table 4, "FEES" are broken down into primary, secondary, and tertiary (the latter two represent variable membership fees).
- 18) On Table 5, "PROFESSIONAL ADMINISTRATIVE" includes the Center Director and Co- or Site Director.
- 19) On Table 6, "TIME ALLOCATION" refers to allocation of director's full-time equivalent for budgetary purposes.
- 20) On Table 7, "STUDENTS RECEIVING DEGREE" refers to the number of Ph.D.'s, M.S.'s, and B.A./B.S.'s that received a degree during the reporting period.
- 21) On Table 7, "STUDENTS HIRED BY INDUSTRY" refers to the number of Ph.D.'s, M.S.'s, and B.A./B.S.'s that were hired by member companies during the reporting period.
- 22) On Table 7, "PUBLICATIONS" refers to the publications in the open literature the Center researchers produced based on Center research including publications reported that have a Center industry member as an author.