



NATIONAL SCIENCE FOUNDATION
INDUSTRY/UNIVERSITY COOPERATIVE RESEARCH CENTERS

FINAL Report

2005-2006 STRUCTURAL INFORMATION¹

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¹**NOTE:** 2005-2006 data collected from 38/39 Center Director Surveys (97.4% response rate).

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Table 1: 2005-2006 GENERAL CENTER INFORMATION* (Sorted Chronologically)

| Yr Funded: | Center Name | University Name: Director | Partner University 1 Director | Partner University 2 Director | Partner University 3 Director | Partner University 4 Director |
|------------|---|--|--|--|----------------------------------|---|
| 1984* | Microcontamination Control | Northeastern Univ. Busnaina | Univ. of Arizona Parks | | | |
| 1985 | Nondestructive Evaluation | Iowa State Univ. Thompson | | | | |
| 1985* | Measurement and Control Engineering^ | Univ. of Tennessee, Knoxville Jendrucko | Oklahoma State Univ. Tree | | | |
| 1986 | Berkeley Sensor & Actuator Center | Univ. of California, Berkeley Huggins | Univ. of California, Davis Horsley | | | |
| 1988 | Composite & Ceramic Materials | Rutgers Univ. Haber | Univ. of New Mexico Dayte | Pennsylvania State Univ. Adair | | |
| 1995* | Health Management | Univ. of Washington Conrad | Univ. of California, Berkeley Rundall | | | |
| 1996* | Power Systems Engineering | Arizona State Univ. Vittal | Carnegie Mellon Univ. Talukdar | Colorado School of Mines Sen | Cornell Univ. Thomas | Georgia Institute of Tech. Meliopoulos |
| 1997* | Advanced Polymer and Composite Engineering | Ohio State Univ. Koelling | Florida State Univ. Wang | Univ. of Wisconsin-Madison Turng | | |
| 1997* | Built Environment | Univ. of California, Berkeley Arens | | | | |
| 1997* | Management of Information | Univ. of Arizona Nunamaker | | | | |
| 1997* | Virtual Proving Ground Simulation | Univ. of Iowa Chen | Univ. of Texas at Auburn Longoria | | | |
| 1998 | Advanced Studies in Novel Surfactants | Columbia Univ. Somasundaran | | | | |
| 1998 | Information Technology and Organizations | Univ. of California, Irvine Gurbaxani | | | | |
| 1998 | Precision Metrology | Univ. of North Carolina, Charlotte Hocken | | | | |
| 1998 | Silicon Wafer Engineering and Defect Science | North Carolina State Univ. Rozgonyi | Univ. of California, Berkeley Weber | | | |
| 1999 | Advanced Vehicle Electronics | Auburn Univ. Suhling | | | | |
| 1999 | Repair of Buildings and Bridges with Composites | Univ. of Miami Nanni | North Carolina State Univ. Rizkalla | | | |
| 1999 | Tree Genetics Research | Purdue Univ. Michler | Oregon State Univ. Strauss | | | |
| 1999 | Water Quality | Univ. of Arizona Pepper | Arizona State Univ. Abbaszadegan | | | |
| 2000 | Biocatalysis & Bioprocessing of Macromolecules | Polytechnic Univ. of New York Gross | | | | |
| 2001 | Biomolecular Interaction Technologies | Univ. of New Hampshire Laue | | | | |
| 2001 | Dielectric Studies | Pennsylvania State Univ. Randall | Univ. of Missouri-Rolla Dogan | | | |
| 2001 | Intelligent Maintenance Systems | Univ. of Cincinnati Lee | Univ. of Michigan Ni | Univ. of Missouri-Rolla Sarangapani | | |
| 2001 | Membrane Applied Science and Technology | Univ. of Colorado at Boulder Greenberg | Univ. of Cincinnati Clarson | | | |

* Report sorted by Status, Organized by Year Funded; ^ = Last year funded by NSF

* Additional Universities and Directors for the Power Systems Engineering Center are: Howard Univ. (Momoh), Iowa State Univ. (McCalley), Texas AM (Kezunovic), Univ. of Cal-Berkeley (Oren), Univ. of IL-Urbana (Sauer), Univ. Wisconsin-Madison (Demarco), Washington State Univ. (Bose), Wichita State Univ. (Jewell)

* Additional Universities and Directors for the Center for Engineering Logistics and Distribution are: Univ. of Florida (Welt), Univ. of Louisville (Heragu), Univ. of Nebraska (Jones), Univ. of Oklahoma (Pulz)

^ No data reported for 2005-2006 by MCEC; table contains 2004-2005 data

IUCRC Structure Database, FY 2005-2006

| <i>Yr Funded:</i> | <i>Center Name</i> | <i>University Name: Director</i> | <i>Partner University 1 Director</i> | <i>Partner University 2 Director</i> | <i>Partner University 3 Director</i> | <i>Partner University 4 Director</i> |
|-------------------|--|--|---|--|--|--|
| 2002 | Compact High-Performance Cooling Technologies | Purdue Univ. Garimella | | | | |
| 2002 | Engineering Logistics and Distribution | Univ. of Arkansas Meller | Clemson Univ. Ferrell | Lehigh Univ. Zimmers | Oklahoma State Univ. Ingalls | Texas Tech Univ. Collins |
| 2002 | Identification Technology Research | West Virginia Univ. Hornak | | | | |
| 2002 | Plasmas & Lasers in Advanced Manufacturing | Univ. of Virginia Gupta | Univ. of Michigan Mazumder | Southern Methodist Univ. Radovan | | |
| 2003 | Communications Circuits & Systems | Arizona State Univ. Kiaei | Rensselaer Polytechnic Institute Shur | Ohio State Univ. Volakis | Univ. of Arizona Rodriguez | Univ. of Hawaii Iskander |
| 2003 | E-Design Manufacturing | Univ. of Pittsburgh Nnaji (Lovell) | Univ. of Massachusetts Grosse | Univ. of Central Florida Crumpton-Young | Virginia Tech Terpenny | Carnegie Mellon Univ. Antaki |
| 2003 | Experimental Research in Computer Systems | Georgia Tech University Schwan | | | | |
| 2003 | Fuel Cell Center | Univ. of South Carolina Van Zee | | | | |
| 2004 | Friction Stir Processing | South Dakota School of Mines and Tech Patnaik | Univ. South Carolina Reynolds | Brigham Young Univ. Nelson | Univ. of Missouri- Rolla Mishra | |
| 2004 | Multiphase Transport Phenomena | Michigan State Univ. Petty | Univ. of Tulsa Mohan | Univ. of Akron Chase | Univ. of Central Florida Kumar | |
| 2004 | Safety, Security, Rescue Research Center | Univ. of South Florida Murphy | Univ. of Minnesota Voyles | | | |
| 2004 | Wireless Internet Center for Advanced Technology | Polytechnic Univ. of New York Batoni | Columbia Univ. Misra | Univ. of Virginia Horowitz | | |
| 2005 | Childrens Injury Prevention Science | Children's Hospital of Philadelphia Winston | | | | |
| 2005 | Computational Materials Design | Pennsylvania State Univ. Liu | Georgia Institute of Tech. McDowell | | | |
| 2005 | Information Protection | Iowa State Univ. Jacobson | New Jersey Institute of Tech. Manikopoulos | | | |
| New | | | | | | |
| 2006 | Center for High-Performance Reconfigurable Computing | Univ. of Florida George | George Washington Univ. Tarek El-Ghazawi | Brigham Young Univ. Brent Nelson | Virginia Tech Shawn Bohner | |
| 2006 | Center for Minimally Invasive Diagnostics | Univ. of Minnesota Erdman | Univ. of Cincinnati Haridis | | | |
| 2006 | Precision Forming | Ohio State Univ. | The Virginia Commonwealth Univ. | | | |

* Report sorted by Status, Organized by Year Funded; * = Last year funded by NSF

* Additional Universities and Directors for the Power Systems Engineering Center are: Howard Univ. (Momoh), Iowa State Univ. (McCalley), Texas AM (Kezunovic), Univ. of Cal-Berkeley (Oren), Univ. of IL-Urbana (Sauer), Univ. Wisconsin-Madison (Demarco), Washington State Univ.(Bose), Wichita State Univ. (Jewell)

* Additional Universities and Directors for the Center for Engineering Logistics and Distribution are: Univ. of Florida (Welt), Univ. of Louisville (Heragu), Univ. of Nebraska (Jones), Univ. of Oklahoma (Pulz)

^ No data reported for 2005-2006 by MCEC; table contains 2004-2005 data

Table 2: 2005-2006 OPERATING BUDGET AND TOTAL FUNDING

| Center Name | Total ⁴ Funding | NSF ⁵ | | INDUSTRY | | | OTHER ¹⁰ | | | |
|--|-------------------------------|--------------------|--------------------|-----------------------------|------------------------------|--------------------|-------------------------|--------------------------------|-------------------------------|--------------------|
| | | NSF/ IUCRC | Other NSF | Member ⁶ Fees | Add ⁷ Industry | State ⁸ | University ⁹ | Other ¹¹ Federal | Non- ¹² Federal | Other Cash |
| Advanced Polymer and Composite Engineering | \$3,202,231 | \$83,390 | \$413,841 | \$650,000 | \$0 | \$0 | \$0 | \$2,027,000 | \$0 | \$28,000 |
| Advanced Studies in Novel Surfactants | \$581,438 | \$242,938 | \$0 | \$243,500 | \$95,000 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Advanced Vehicle Electronics | \$2,393,082 | \$69,000 | \$60,000 | \$1,153,920 | \$0 | \$0 | \$323,098 | \$430,513 | \$0 | \$356,551 |
| Berkeley Sensor & Actuator Center | \$7,105,238 | \$83,000 | \$380,000 | \$1,557,840 | \$1,095,248 | \$49,236 | \$0 | \$3,618,299 | \$321,615 | \$0 |
| Biocatalysis & Bioprocessing of Macromolecules | \$1,617,000 | \$117,000 | \$0 | \$400,000 | \$100,000 | \$0 | \$300,000 | \$700,000 | \$0 | \$0 |
| Biomolecular Interaction Technologies | \$360,000 | \$70,000 | \$0 | \$290,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Built Environment | \$1,195,500 | \$43,000 | \$0 | \$412,500 | \$0 | \$0 | \$0 | \$315,000 | \$384,000 | \$41,000 |
| Childrens Injury Prevention Science | \$492,246 | \$117,246 | \$0 | \$375,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Communications Circuits & Systems | \$2,575,000 | \$281,000 | \$10,000 | \$699,000 | \$585,000 | \$500,000 | \$200,000 | \$300,000 | \$0 | \$0 |
| Compact High-Performance Cooling Technologies | \$2,568,528 | \$120,000 | \$15,000 | \$480,000 | \$480,000 | \$961,028 | \$112,500 | \$0 | \$400,000 | \$0 |
| Composite & Ceramic Materials | \$4,680,610 | \$185,000 | \$492,000 | \$897,500 | \$396,299 | \$133,600 | \$291,746 | \$1,699,132 | \$585,333 | \$0 |
| Computational Materials Design | \$454,524 | \$60,000 | \$0 | \$378,524 | \$0 | \$0 | \$16,000 | \$0 | \$0 | \$0 |
| Dielectric Studies | \$2,539,000 | \$200,000 | \$70,000 | \$544,000 | \$520,000 | \$70,000 | \$135,000 | \$1,000,000 | \$0 | \$0 |
| E-Design Manufacturing | \$1,657,000 | \$30,000 | \$0 | \$600,000 | \$0 | \$0 | \$620,000 | \$407,000 | \$0 | \$0 |
| Engineering Logistics and Distribution | \$4,599,205 | \$571,925 | \$160,000 | \$1,351,320 | \$99,816 | \$90,000 | \$187,500 | \$2,138,644 | \$0 | \$0 |
| Experimental Research in Computer Systems | \$385,460 | \$0 | \$0 | \$250,000 | \$0 | \$54,460 | \$81,000 | \$0 | \$0 | \$0 |
| Friction Stir Processing | \$974,500 | \$286,000 | \$0 | \$584,970 | \$0 | \$0 | \$0 | \$103,530 | \$0 | \$0 |
| Fuel Cell Center | \$712,749 | \$70,000 | \$0 | \$389,500 | \$0 | \$0 | \$253,249 | \$0 | \$0 | \$0 |
| Health Management | \$211,242 | \$35,000 | \$0 | \$176,242 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Identification Technology Research | \$1,181,045 | \$75,000 | \$315,805 | \$375,240 | \$0 | \$100,000 | \$0 | \$0 | \$315,000 | \$0 |
| Information Protection | \$440,000 | \$110,000 | \$0 | \$300,000 | \$0 | \$0 | \$0 | \$30,000 | \$0 | \$0 |
| Information Technology and Organizations | \$167,000 | \$0 | \$0 | \$167,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Intelligent Maintenance Systems | \$2,034,431 | \$337,714 | \$126,270 | \$778,500 | \$34,750 | \$0 | \$447,500 | \$56,000 | \$29,529 | \$224,168 |
| Management of Information | \$2,025,246 | \$0 | \$60,000 | \$600,000 | \$0 | \$0 | \$265,246 | \$1,100,000 | \$0 | \$0 |
| Measurement and Control Engineering* | \$735,103 | \$104,350 | \$151,866 | \$282,000 | \$16,800 | \$0 | \$65,987 | \$64,100 | \$0 | \$50,000 |
| Membrane Applied Science and Technology | \$1,058,700 | \$231,000 | \$0 | \$562,500 | \$63,200 | \$0 | \$202,000 | \$0 | \$0 | \$0 |
| Microcontamination Control | \$50,000 | \$10,000 | \$0 | \$40,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Multiphase Transport Phenomena | \$300,000 | \$120,000 | \$0 | \$120,000 | \$0 | \$0 | \$60,000 | \$0 | \$0 | \$0 |
| Nondestructive Evaluation | \$5,329,876 | \$99,000 | \$217,579 | \$420,000 | \$0 | \$499,984 | \$70,372 | \$3,347,118 | \$116,638 | \$559,185 |
| Plasmas & Lasers in Advanced Manufacturing | \$860,000 | \$80,000 | \$0 | \$170,000 | \$0 | \$50,000 | \$0 | \$500,000 | \$60,000 | \$0 |
| Power Systems Engineering | \$3,534,000 | \$750,000 | \$0 | \$1,670,000 | \$104,000 | \$0 | \$50,000 | \$935,000 | \$25,000 | \$0 |
| Precision Metrology | \$480,000 | \$50,000 | \$0 | \$330,000 | \$0 | \$100,000 | \$0 | \$0 | \$0 | \$0 |
| Repair of Buildings and Bridges with Composites | \$746,000 | \$141,000 | \$0 | \$405,000 | \$0 | \$0 | \$200,000 | \$0 | \$0 | \$0 |
| Safety, Security, Rescue Research Center | \$614,482 | \$130,000 | \$0 | \$295,000 | \$75,000 | \$0 | \$0 | \$114,482 | \$0 | \$0 |
| Silicon Wafer Engineering and Defect Science | \$711,000 | \$150,000 | \$0 | \$450,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$111,000 |
| Tree Genetics Research | \$2,398,000 | \$86,000 | \$0 | \$325,000 | \$11,000 | \$0 | \$506,000 | \$890,000 | \$580,000 | \$0 |
| Virtual Proving Ground Simulation | \$705,356 | \$0 | \$150,000 | \$555,356 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Water Quality | \$3,799,686 | \$103,000 | \$0 | \$900,300 | \$1,960,792 | \$478,297 | \$357,297 | \$0 | \$0 | \$0 |
| Wireless Internet Center for Advanced Technology | \$825,000 | \$170,000 | \$0 | \$515,000 | \$0 | \$0 | \$140,000 | \$0 | \$0 | \$0 |
| Grand Mean | \$1,699,987 | \$138,758 | \$67,240 | \$530,634 | \$144,536 | \$79,144 | \$125,243 | \$507,072 | \$72,234 | \$35,126 |
| Grand Sum | \$66,299,478 | \$5,411,563 | \$2,622,361 | \$20,694,712 | \$5,636,905 | \$3,086,605 | \$4,884,495 | \$19,775,818 | \$2,817,115 | \$1,369,904 |

* Report sorted Alphabetically by Center

^ No data reported for 2005-2006 by MCEC; table contains 2004-2005 data

Table 3: 2005-2006 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 ⁵ | Admin ⁶ |
| Advanced Polymer and Composite Engineering | \$3,202,231 | \$710,000 | \$0 | \$7,500 | \$2,500 | \$700,000 | \$0 | 0 | 49 | 25 |
| Advanced Studies in Novel Surfactants | \$581,438 | \$150,500 | \$59,500 | \$91,000 | \$0 | \$0 | \$0 | 0 | 0 | 0 |
| Advanced Vehicle Electronics | \$2,393,082 | \$510,000 | \$500,000 | \$0 | \$0 | \$10,000 | \$0 | 46 | 46 | 5 |
| Berkeley Sensor & Actuator Center | \$7,105,238 | \$650,000 | \$650,000 | \$0 | \$0 | \$0 | \$0 | 0 | 52 | 9 |
| Biocatalysis & Bioprocessing of Macromolecules | \$1,617,000 | \$100,000 | \$100,000 | \$0 | \$0 | \$0 | \$0 | 10 | 71 | 5 |
| Biomolecular Interaction Technologies | \$360,000 | \$210,000 | \$100,000 | \$50,000 | \$50,000 | \$5,000 | \$5,000 | 11 | 46 | 0 |
| Built Environment | \$1,195,500 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | 0 | 52 | 12 |
| Childrens Injury Prevention Science | \$492,246 | \$7,570 | \$0 | \$0 | \$7,570 | \$0 | \$0 | 0 | 35 | 14 |
| Communications Circuits & Systems | \$2,575,000 | \$7,549,000 | \$5,884,000 | \$0 | \$55,000 | \$1,610,000 | \$0 | 10 | 50 | 75 |
| Compact High-Performance Cooling Technologies | \$2,568,528 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | 0 | 0 | 0 |
| Composite & Ceramic Materials | \$4,680,610 | \$172,000 | \$142,600 | \$0 | \$0 | \$29,400 | \$0 | 0 | 55 | 10 |
| Computational Materials Design | \$454,524 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | 0 | 0 | 0 |
| Dielectric Studies | \$2,539,000 | \$2,400,000 | \$1,500,000 | \$700,000 | \$200,000 | \$0 | \$0 | 0 | 43 | 15 |
| E-Design Manufacturing | \$1,657,000 | \$500,000 | \$0 | \$0 | \$0 | \$500,000 | \$0 | 17 | 49 | 18 |
| Engineering Logistics and Distribution | \$4,599,205 | \$557,327 | \$245,000 | \$100,000 | \$162,327 | \$50,000 | \$0 | 18 | 38 | 22 |
| Experimental Research in Computer Systems | \$385,460 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | 0 | 0 | 0 |
| Friction Stir Processing | \$974,500 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | 44 | 44 | 20 |
| Fuel Cell Center | \$712,749 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | 0 | 45 | 12 |
| Health Management | \$211,242 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | 0 | 0 | 46 |
| Identification Technology Research | \$1,181,045 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | 0 | 46 | 10 |
| Information Protection | \$440,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | 8 | 46 | 10 |
| Information Technology and Organizations | \$167,000 | \$75,000 | \$0 | \$75,000 | \$0 | \$0 | \$0 | 5 | 0 | 25 |
| Intelligent Maintenance Systems | \$2,034,431 | \$136,000 | \$36,000 | \$0 | \$100,000 | \$0 | \$0 | 0 | 53 | 10 |
| Management of Information | \$2,025,246 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | 0 | 51 | 10 |
| Measurement and Control Engineering* | \$735,103 | \$98,500 | \$31,000 | \$0 | \$37,500 | \$29,000 | \$1,000 | 0 | 45 | 30 |
| Membrane Applied Science and Technology | \$1,058,700 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | 6 | 51 | 25 |
| Microcontamination Control | \$50,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | 15 | 57 | 70 |
| Multiphase Transport Phenomena | \$300,000 | \$60,000 | \$0 | \$0 | \$0 | \$60,000 | \$0 | 51 | 0 | 25 |
| Nondestructive Evaluation | \$5,329,876 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | 0 | 47 | 12 |
| Plasmas & Lasers in Advanced Manufacturing | \$860,000 | \$20,000 | \$20,000 | \$0 | \$0 | \$0 | \$0 | 0 | 0 | 20 |
| Power Systems Engineering | \$3,534,000 | \$186,500 | \$150,000 | \$0 | \$16,500 | \$20,000 | \$0 | 5 | 49 | 15 |
| Precision Metrology | \$480,000 | \$1,105,000 | \$1,000,000 | \$0 | \$105,000 | \$0 | \$0 | 0 | 43 | 0 |
| Repair of Buildings and Bridges with Composites | \$746,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | 9 | 46 | 0 |
| Safety, Security, Rescue Research Center | \$614,482 | \$45,000 | \$45,000 | \$0 | \$0 | \$0 | \$0 | 0 | 45 | 30 |
| Silicon Wafer Engineering and Defect Science | \$711,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | 9 | 9 | 15 |
| Tree Genetics Research | \$2,398,000 | \$3,206,000 | \$150,000 | \$2,500,000 | \$506,000 | \$15,000 | \$35,000 | 0 | 52 | 0 |
| Virtual Proving Ground Simulation | \$705,356 | \$47,273 | \$0 | \$0 | \$0 | \$47,273 | \$0 | 0 | 47 | 5 |
| Water Quality | \$3,799,686 | \$25,000 | \$25,000 | \$0 | \$0 | \$0 | \$0 | 0 | 51 | 0 |
| Wireless Internet Center for Advanced Technology | \$825,000 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | 10 | 63 | 23 |
| Grand Mean | \$1,699,987 | \$474,889 | \$272,772 | \$90,346 | \$31,856 | \$78,863 | \$1,051 | 7.03 | 37.85 | 15.97 |
| Grand Sum | \$66,299,478 | \$18,520,670 | \$10,638,100 | \$3,523,500 | \$1,242,397 | \$3,075,673 | \$41,000 | N/A | N/A | N/A |

* Report sorted Alphabetically by Center

^ No data reported for 2005-2006 by MCEC; table contains 2004-2005 data

Table 4: 2005-2006 INDUSTRY MEMBERSHIP DESCRIPTORS

| <i>CenterName</i> | 2005-2006 MEMBERS | | | | LIFETIME MEMBERS | | | ANNUAL FEES | | |
|--|--------------------------|-----------------|------------|-------------|-------------------------|-----------------|------------------|--------------------|------------------|-----------------|
| | <i>Current Members</i> | <i>Starting</i> | <i>New</i> | <i>Left</i> | <i>Life Starting</i> | <i>Life New</i> | <i>Life Left</i> | <i>Primary</i> | <i>Secondary</i> | <i>Tertiary</i> |
| Advanced Polymer and Composite Engineering | 41 | 66 | 10 | 35 | 5 | 105 | 69 | \$35,000 | \$25,000 | \$10,000 |
| Advanced Studies in Novel Surfactants | 11 | 7 | 6 | 2 | 15 | 16 | 20 | \$25,000 | \$9,500 | |
| Advanced Vehicle Electronics | 18 | 20 | 5 | 7 | 11 | 20 | 12 | \$75,000 | \$37,500 | \$10,000 |
| Berkeley Sensor & Actuator Center | 40 | 41 | 5 | 6 | 6 | 67 | 33 | \$50,000 | | |
| Biocatalysis & Bioprocessing of Macromolecule | 8 | 10 | 3 | 5 | 7 | 6 | 3 | \$50,000 | | |
| Biomolecular Interaction Technologies | 11 | 10 | 1 | 0 | 8 | 10 | 7 | \$30,000 | \$20,000 | \$10,000 |
| Built Environment | 23 | 22 | 3 | 2 | 11 | 34 | 22 | \$30,000 | \$10,000 | \$10,000 |
| Child Injury Prevention Studies | 8 | 0 | 0 | 0 | 6 | 8 | 0 | \$50,000 | \$25,000 | |
| Communications Circuits & Systems | 16 | 14 | 2 | 0 | 9 | 12 | 5 | \$50,000 | \$37,500 | |
| Compact High-Performance Cooling Technologi | 17 | 16 | 2 | 1 | 14 | 8 | 5 | \$30,000 | | |
| Composite & Ceramic Materials | 47 | 43 | 4 | 0 | 8 | 84 | 45 | \$35,000 | \$10,000 | \$5,000 |
| Computational Materials Design | 10 | 0 | 0 | 0 | 10 | 10 | 0 | \$39,500 | \$15,000 | |
| Dielectric Studies | 21 | 23 | 4 | 6 | 18 | 66 | 63 | \$30,000 | \$8,500 | |
| E-Design | 25 | 24 | 7 | 6 | 9 | 23 | 7 | \$30,000 | | |
| Engineering Logistics and Distribution | 28 | 28 | 14 | 14 | 29 | 26 | 27 | \$50,000 | \$25,000 | \$5,000 |
| Experimental Research in Computer Systems | 9 | 7 | 2 | 0 | 8 | 9 | 0 | \$45,000 | \$5,000 | |
| Friction Stir Processing | 23 | 20 | 5 | 2 | 20 | 25 | 2 | \$35,000 | \$30,000 | |
| Fuel Cell Center | 15 | 15 | 0 | 0 | 14 | 2 | 1 | \$35,000 | | |
| Health Management | 5 | 6 | 0 | 1 | 6 | 36 | 37 | \$35,000 | | |
| Identification Technology Research | 10 | 9 | 2 | 1 | 8 | 11 | 9 | \$40,000 | | |
| Information Protection | 11 | 0 | 0 | 0 | 11 | 11 | 0 | \$30,000 | \$15,000 | \$10,000 |
| Information Technology and Organizations | 15 | 6 | 11 | 2 | 12 | 21 | 18 | \$25,000 | | |
| Intelligent Maintenance Systems | 33 | 19 | 16 | 2 | 25 | 31 | 23 | \$40,000 | \$12,000 | |
| Management of Information | 6 | 7 | 0 | 1 | 8 | 16 | 18 | \$100,000 | \$50,000 | \$25,000 |
| Measurement and Control Engineering^ | 11 | 11 | 0 | 0 | 14 | 29 | 32 | \$35,000 | \$20,000 | \$9,000 |
| Membrane Applied Science and Technology | 12 | 8 | 6 | 2 | 8 | 28 | 24 | \$50,000 | | |
| Microcontamination Control | 8 | 8 | 0 | 0 | 26 | 46 | 64 | \$40,000 | | |
| Multiphase Transport Phenomena | 6 | 6 | 0 | 0 | 6 | 6 | 0 | \$30,000 | | |
| Nondestructive Evaluation | 12 | 14 | 1 | 3 | 14 | 38 | 40 | \$35,000 | | |
| Plasmas & Lasers in Advanced Manufacturing | 13 | 8 | 8 | 3 | 9 | 11 | 7 | \$30,000 | \$10,000 | |
| Power Systems Engineering | 39 | 37 | 3 | 1 | 17 | 63 | 41 | \$40,000 | \$20,000 | |
| Precision Metrology | 11 | 10 | 1 | 0 | 15 | 12 | 16 | \$30,000 | | |
| Repair of Buildings and Bridges with Composite | 16 | 14 | 3 | 1 | 9 | 22 | 15 | \$50,000 | \$25,000 | \$15,000 |
| Safety, Security, Rescue Research Center | 15 | 13 | 9 | 7 | 7 | 14 | 7 | \$35,000 | \$10,000 | |
| Silicon Wafer Engineering and Defect Science | 13 | 12 | 1 | 0 | 6 | 20 | 13 | \$50,000 | \$25,000 | |
| Tree Genetics Research | 8 | 5 | 8 | 5 | 13 | 13 | 18 | \$25,000 | | |
| Virtual Proving Ground Simulation | 9 | 11 | 0 | 2 | 24 | 27 | 42 | \$40,000 | \$20,000 | |
| Water Quality | 25 | 33 | 0 | 8 | 16 | 36 | 27 | \$30,000 | \$12,000 | \$3,000 |
| Wireless Internet Center for Advanced Technolo | 12 | 7 | 8 | 3 | 7 | 15 | 3 | \$40,000 | | |
| Grand Mean | 16.95 | 15.64 | 3.85 | 3.28 | 12.03 | 26.59 | 19.87 | \$39,859 | \$19,875 | \$10,182 |
| Grand Sum | 661 | 610 | 150 | 128 | 469 | 1037 | 775 | | | |

* Report sorted Alphabetically by Center

^ No data reported for 2005-2006 for MCEC; table contains 2004-2005 data

Table 5: 2005-2006 HUMAN RESOURCES

| Center Name | RESEARCHERS | | | | STUDENTS | | |
|--|-------------------------------------|----------------|-----------|----------------|----------|---------|---------------|
| | Faculty ¹⁸ Scientists | Administrative | Post Docs | Research Staff | PhD | Masters | Undergraduate |
| Advanced Polymer and Composite Engineering | 21 | 5 | 6 | 0 | 21 | 15 | 9 |
| Advanced Studies in Novel Surfactants | 5 | 2 | 2 | 0 | 3 | 1 | 0 |
| Advanced Vehicle Electronics | 16 | 1 | 1 | 4 | 16 | 24 | 5 |
| Berkeley Sensor & Actuator Center | 13 | 1 | 19 | 2 | 72 | 36 | 3 |
| Biocatalysis & Bioprocessing of Macromolecules | 6 | 1 | 5 | 0 | 6 | 3 | 2 |
| Biomolecular Interaction Technologies | 6 | 2 | 1 | 3 | 2 | 1 | 0 |
| Built Environment | 5 | 2 | 1 | 5 | 4 | 9 | 6 |
| Child Injury Prevention Studies | 9 | 1 | 0 | 0 | 2 | 0 | 14 |
| Communications Circuits & Systems | 36 | 4 | 4 | 2 | 66 | 30 | 5 |
| Compact High-Performance Cooling Technologies | 10 | 1 | 3 | 0 | 12 | 6 | 2 |
| Composite & Ceramic Materials | 23 | 5 | 7 | 8 | 25 | 15 | 34 |
| Computational Materials Design | 6 | 1 | 1 | 0 | 2 | 0 | 0 |
| Dielectric Studies | 17 | 2 | 4 | 3 | 6 | 6 | 2 |
| E-Design | 32 | 2 | 1 | 2 | 10 | 2 | 3 |
| Engineering Logistics and Distribution | 61 | 1 | 0 | 2 | 21 | 72 | 25 |
| Experimental Research in Computer Systems | 32 | 2 | 0 | 3 | 62 | 35 | 9 |
| Friction Stir Processing | 10 | 2 | 0 | 1 | 0 | 10 | 9 |
| Fuel Cell Center | 9 | 3 | 0 | 9 | 17 | 3 | 7 |
| Health Management | 8 | 2 | 0 | 0 | 0 | 0 | 0 |
| Identification Technology Research | 13 | 1 | 0 | 2 | 6 | 15 | 4 |
| Information Protection | 17 | 1 | 0 | 0 | 0 | 13 | 0 |
| Information Technology and Organizations | 33 | 6 | 0 | 3 | 22 | 1 | 13 |
| Intelligent Maintenance Systems | 10 | 4 | 4 | 2 | 15 | 12 | 2 |
| Management of Information | 9 | 1 | 0 | 5 | 13 | 3 | 3 |
| Measurement and Control Engineering [^] | 17 | 1 | 5 | 1 | 31 | 13 | 8 |
| Membrane Applied Science and Technology | 20 | 3 | 4 | 0 | 9 | 0 | 0 |
| Microcontamination Control | 7 | 3 | 0 | 0 | 8 | 0 | 0 |
| Multiphase Transport Phenomena | 17 | 0 | 0 | 0 | 6 | 4 | 0 |
| Nondestructive Evaluation | 19 | 8 | 4 | 15 | 11 | 14 | 33 |
| Plasmas & Lasers in Advanced Manufacturing | 3 | 1 | 4 | 0 | 2 | 1 | 0 |
| Power Systems Engineering | 54 | 0 | 0 | 5 | 47 | 3 | 5 |
| Precision Metrology | 19 | 1 | 0 | 5 | 4 | 7 | 3 |
| Repair of Buildings and Bridges with Composites | 7 | 2 | 1 | 0 | 5 | 7 | 7 |
| Safety, Security, Rescue Research Center | 12 | 1 | 1 | 0 | 14 | 0 | 0 |
| Silicon Wafer Engineering and Defect Science | 14 | 1 | 3 | 0 | 9 | 4 | 2 |
| Tree Genetics Research | 6 | 1 | 4 | 4 | 11 | 7 | 4 |
| Virtual Proving Ground Simulation | 2 | 1 | 0 | 12 | 0 | 2 | 6 |
| Water Quality | 30 | 1 | 11 | 15 | 26 | 16 | 6 |
| Wireless Internet Center for Advanced Technology | 24 | 2 | 1 | 0 | 24 | 0 | 0 |
| Grand Mean | 16.87 | 2.03 | 2.49 | 2.90 | 15.64 | 10.00 | 5.92 |
| Grand Sum | 658 | 79 | 97 | 113 | 610 | 390 | 231 |

* Report sorted Alphabetically by Center

[^] No data reported for 2005-2006 by MCEC, table contains 2004-2005 data

Table 6: 2005-2006 CENTER DIRECTOR DESCRIPTORS

*Includes only primary center director

| CenterName | Rank | Tenure | Reports To | TIME ALLOCATION | | | | |
|--|---------------------|------------------|---|-----------------|-------------|----------|----------|-------|
| | | | | Center Admin | Other Admin | Research | Teaching | Other |
| Advanced Polymer and Composite Engineering | Full Professor | Tenured | Dean of Engineering | 10 | 5 | 35 | 40 | 10 |
| Advanced Studies in Novel Surfactants | Full Professor | Tenured | Dean | 10 | 5 | 40 | 35 | 10 |
| Advanced Vehicle Electronics | Full Professor | Tenured | Dean | 25 | 10 | 40 | 15 | 10 |
| Berkeley Sensor & Actuator Center | no academic rank | Non-Tenure Track | Associate Dean of Research | 60 | 30 | 10 | 0 | 0 |
| Biocatalysis & Bioprocessing of Macromolecules | Full Professor | Tenured | Provost | 25 | 20 | 40 | 10 | 5 |
| Biomolecular Interaction Technologies | Full Professor | Tenured | Dean | 20 | 40 | 20 | 20 | 0 |
| Built Environment | Full Professor | Tenured | Vice Chancellor for Research | 100 | 0 | 0 | 0 | 0 |
| Childrens Injury Prevention Science | Associate Professor | Tenured | Chief, Division of General Pediatrics | 5 | 10 | 80 | 5 | 0 |
| Communications Circuits & Systems | Full Professor | Tenured | Department Chair | 25 | 25 | 20 | 10 | 20 |
| Compact High-Performance Cooling Technologies | Full Professor | Tenured | Department Head | 20 | 5 | 50 | 20 | 5 |
| Composite & Ceramic Materials | Full Professor | Tenured | Vice President for Research | 30 | 5 | 30 | 30 | 5 |
| Computational Materials Design | Full Professor | Tenured | Department Head | 0 | 0 | 0 | 0 | 0 |
| Dielectric Studies | Full Professor | Tenured | Director of Materials Research Institute | 20 | 5 | 30 | 30 | 15 |
| E-Design Manufacturing | Full Professor | Tenured | Dean | 25 | 5 | 35 | 25 | 10 |
| Engineering Logistics and Distribution | Full Professor | Tenured | Department Head | 25 | 10 | 30 | 35 | 0 |
| Experimental Research in Computer Systems | Full Professor | Tenured | Vice President for Research | 10 | 10 | 40 | 40 | 0 |
| Friction Stir Processing | no academic rank | Non-Tenure Track | Vice President of Research | 15 | 30 | 45 | 5 | 5 |
| Fuel Cell Center | Full Professor | Tenured | Dean | 15 | 0 | 50 | 25 | 10 |
| Health Management | Full Professor | Tenured | Department Chair | 20 | 0 | 50 | 30 | 0 |
| Identification Technology Research | Full Professor | Tenured | VP for Rsrch and Econ. Dev. | 25 | 20 | 30 | 20 | 5 |
| Information Protection | Associate Professor | Tenured | Vice Provost for Rsrch & Econ. Dev. | 15 | 30 | 25 | 25 | 5 |
| Information Technology and Organizations | Full Professor | Tenured | Director of CRITO | 25 | 25 | 25 | 25 | 0 |
| Intelligent Maintenance Systems | Full Professor | Tenured | Department Head | 50 | 0 | 20 | 20 | 10 |
| Management of Information | Full Professor | Tenured | Dean | 5 | 5 | 60 | 25 | 5 |
| Measurement and Control Engineering* | Full Professor | Tenured | Associate Dean of Engineering | 50 | 0 | 10 | 40 | 0 |
| Membrane Applied Science and Technology | Full Professor | Tenured | Department Chair | 15 | 15 | 50 | 20 | 0 |
| Microcontamination Control | Full Professor | Tenured | Dean | 10 | 40 | 40 | 5 | 5 |
| Multiphase Transport Phenomena | Full Professor | Tenured | Associate Dean of Engineering | 20 | 0 | 40 | 40 | 0 |
| Nondestructive Evaluation | Full Professor | Tenured | Director, Inst. for Physical Rsrch & Tech | 50 | 5 | 25 | 15 | 5 |
| Plasmas & Lasers in Advanced Manufacturing | Full Professor | Tenure Track | Department Head | 20 | 0 | 40 | 30 | 10 |
| Power Systems Engineering | Full Professor | Tenured | Dean of Engineering | 40 | 10 | 25 | 20 | 5 |
| Precision Metrology | Full Professor | Tenured | Dean | 20 | 10 | 40 | 30 | 0 |
| Repair of Buildings and Bridges with Composites | Full Professor | Tenured | Dean | 15 | 25 | 30 | 25 | 5 |
| Safety, Security, Rescue Research Center | Full Professor | Tenured | Dean of Engineering | 40 | 10 | 20 | 20 | 10 |
| Silicon Wafer Engineering and Defect Science | Full Professor | Tenured | Dean | 20 | 5 | 40 | 30 | 5 |
| Tree Genetics Research | Associate Professor | Tenured | Department Head | 25 | 40 | 25 | 0 | 10 |
| Virtual Proving Ground Simulation | Full Professor | Tenured | VP of Research | 5 | 50 | 20 | 20 | 5 |
| Water Quality | Full Professor | Tenured | Dean | 30 | 35 | 20 | 10 | 5 |
| Wireless Internet Center for Advanced Technology | Full Professor | Non-Tenure Track | Department Chair | 40 | 0 | 0 | 0 | 60 |
| Grand Mean | | | | 25.13 | 13.85 | 31.54 | 20.38 | 6.54 |

* Report sorted Alphabetically by Center

^ No data reported for 2005-2006 by MCEC; table contains 2004-2005 data

Table 7: 2005-2006 CENTER OUTCOMES

| Center Name: | STUDENTS RECEIVING DEGREE 20 | | | STUDENTS HIRED BY INDUSTRY21 | | | PUBLICATIONS 22 | | |
|--|------------------------------|---------|----------|------------------------------|----------|-----------|--------------------|-------------------|---------------|
| | BA Grad | MA Grad | PhD Grad | BA Hired | MA Hired | PhD Hired | w/ Ctr Research | w/ IAB Members | Presentations |
| Advanced Polymer and Composite Engineering | 7 | 3 | 6 | 0 | 1 | 0 | 22 | 5 | 62 |
| Advanced Studies in Novel Surfactants | 0 | 2 | 3 | 0 | 1 | 0 | 15 | 7 | 55 |
| Advanced Vehicle Electronics | 1 | 6 | 6 | 0 | 2 | 1 | 43 | 14 | 30 |
| Berkeley Sensor & Actuator Center | 2 | 18 | 16 | 0 | 6 | 8 | 71 | 6 | 57 |
| Biocatalysis & Bioprocessing of Macromolecules | 1 | 1 | 2 | 0 | 0 | 0 | 16 | 3 | 24 |
| Biomolecular Interaction Technologies | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 3 |
| Built Environment | 3 | 3 | 1 | 0 | 1 | 0 | 10 | 1 | 32 |
| Childrens Injury Prevention Science | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 12 |
| Communications Circuits & Systems | 3 | 7 | 15 | 3 | 3 | 5 | 9 | 4 | 5 |
| Compact High-Performance Cooling Technologies | 10 | 7 | 10 | 0 | 3 | 3 | 121 | 6 | 32 |
| Composite & Ceramic Materials | 20 | 4 | 10 | 8 | 4 | 6 | 46 | 8 | 113 |
| Computational Materials Design | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dielectric Studies | 1 | 2 | 2 | 0 | 0 | 0 | 15 | 3 | 20 |
| E-Design Manufacturing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Engineering Logistics and Distribution | 18 | 20 | 3 | 0 | 0 | 0 | 33 | 0 | 48 |
| Experimental Research in Computer Systems | 30 | 20 | 20 | 0 | 0 | 0 | 50 | 15 | 50 |
| Friction Stir Processing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Fuel Cell Center | 0 | 1 | 3 | 0 | 0 | 2 | 5 | 4 | 9 |
| Health Management | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 2 | 15 |
| Identification Technology Research | 3 | 13 | 2 | 0 | 2 | 0 | 51 | 0 | 20 |
| Information Protection | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 0 |
| Information Technology and Organizations | 0 | 0 | 1 | 0 | 0 | 0 | 14 | 0 | 16 |
| Intelligent Maintenance Systems | 2 | 2 | 4 | 0 | 0 | 1 | 20 | 2 | 70 |
| Management of Information | 3 | 2 | 4 | 0 | 0 | 0 | 15 | 2 | 21 |
| Measurement and Control Engineering^ | 0 | 5 | 1 | 0 | 0 | 0 | 20 | 2 | 29 |
| Membrane Applied Science and Technology | 0 | 1 | 3 | 0 | 0 | 1 | 11 | 2 | 31 |
| Microcontamination Control | 0 | 0 | 2 | 0 | 1 | 1 | 8 | 4 | 16 |
| Multiphase Transport Phenomena | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nondestructive Evaluation | 8 | 11 | 8 | 3 | 0 | 2 | 25 | 1 | 45 |
| Plasmas & Lasers in Advanced Manufacturing | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 2 | 3 |
| Power Systems Engineering | 10 | 20 | 22 | 13 | 3 | 8 | 115 | 30 | 135 |
| Precision Metrology | 0 | 2 | 3 | 0 | 0 | 2 | 9 | 0 | 10 |
| Repair of Buildings and Bridges with Composites | 0 | 0 | 0 | 0 | 1 | 1 | 9 | 0 | 18 |
| Safety, Security, Rescue Research Center | 0 | 1 | 0 | 0 | 0 | 0 | 13 | 1 | 18 |
| Silicon Wafer Engineering and Defect Science | 1 | 1 | 5 | 0 | 0 | 0 | 22 | 6 | 36 |
| Tree Genetics Research | 3 | 2 | 1 | 0 | 1 | 0 | 78 | 2 | 91 |
| Virtual Proving Ground Simulation | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 5 |
| Water Quality | 0 | 20 | 14 | 0 | 0 | 0 | 23 | 2 | 53 |
| Wireless Internet Center for Advanced Technology | 0 | 3 | 4 | 0 | 0 | 0 | 4 | 0 | 9 |
| <i>Grand Mean</i> | 3.33 | 4.54 | 4.38 | 0.69 | 0.77 | 1.05 | 23.87 | 3.44 | 30.72 |
| <i>Grand Sum</i> | 130 | 177 | 171 | 27 | 30 | 41 | 931 | 134 | 1198 |

* Report sorted by Alphabetically by Center

^ No data reported for 2005-2006 by MCEC; table contains 2004-2005 data

Table 8: 2005-2006 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 | 13 | 33.33 |
| Patent Applications | 16 | 41.03 |
| Software Copyrights | 0 | 0.00 |
| Patents Granted/Derived | 9 | 23.08 |
| Licensing Agreements | 12 | 30.77 |
| Royalties Realized | 4 | 10.26 |

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 | 75 | 1.92 |
| Patent Applications | 44 | 1.13 |
| Software Copyrights | 0 | 0.00 |
| Patents Granted/Derived | 18 | 0.46 |
| Licensing Agreements | 20 | 0.51 |
| Royalties Realized | 7 | 0.18 |

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 2005-2006 fiscal year.
- 3) On Table 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/PUI awards, etc. "NSF OTHER" refers to cash support for Center operations provided by other NSF groups or divisions. Neither of these categories includes 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" 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.
- 11) 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.
- 12) On Table 2, "OTHER NON-FEDERAL AGENCY" refers to cash support for Center operations provided by other non-Federal funding sources, foundations, etc.
- 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, "FACULTY SCIENTISTS" includes the Center Director(s) and Faculty Researchers.
- 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 center-supported 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 center-supported 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.