



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

FINAL Report

2013-2014 STRUCTURAL INFORMATION¹

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¹**NOTE:** 2013-2014 data collected from 66/66 Center Director Surveys (100% response rate).

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Table 1: 2013-2014 GENERAL CENTER INFORMATION (Sorted Chronologically)

Yr Started:	Center Name	University Name: Director	Partner University 1 Director	Partner University 2 Director	Partner University 3 Director	Partner University 4 Director	Partner University 5 Director	Partner University 6 Director
Active								
1999*	Advanced Vehicle & Extreme Environment Electronics	Auburn Univ. Lall						
2001	Identification Technology Research	Clarkson Univ. Shuckers	West Virginia Univ. Cukic	Univ. of Arizona	Univ. of Buffalo Govindaraju			
2001	Intelligent Maintenance Systems	Univ. of Cincinnati Lee	Univ. of Michigan, Ann Arbor Ni	Missouri Univ. of Science & Tech. Sarangapani	Univ. of Texas, Austin Djurdjanovic			
2002	Compact High-Performance Cooling Technologies Research Center	Purdue Univ. Garimella						
2002	Connection One	Arizona State Univ. Kiaei	Rensselaer Polytechnic Institute Shur	Ohio State Univ. Volakis	Univ. of Hawaii Iskander			
2002	Excellence in Logistics and Distribution	Univ. of Arkansas Rossetti	Clemson Univ. Ferrell	Univ. of Missouri Columbia Noble	Univ. of California, Berkeley Kaminsky	Virginia Tech. Ellis		
2002	Experimental Research in Computer Systems	Georgia Institute of Tech. Schwan	Ohio State Univ. Ramanathan					
2002	Plasmas & Lasers in Advanced Manufacturing	Univ. of Virginia Gupta	Southern Methodist Univ. Kovacevic	Univ. of Illinois, Urbana Champagne Ruzic	North Carolina State Univ. Shannon			
2003	E-Design	Iowa State Terpenny	Univ. of Massachusetts Krishnamurty	Wayne State Univ. Kim	Univ. of Buffalo Lewis	Brigham Young Univ. Jensen	Oregon State Univ. Turner	
2003	Friction Stir Processing	Brigham Young Univ. Nelson	Univ. of North Texas Mishra	South Dakota School of Mines & Tech. West	Univ. of South Carolina Reynolds	Wichita State Univ. McCoy		
2003	Safety, Security, Rescue Research Center	Univ. of Minnesota Papanikolopoulos	Univ. of North Carolina, Charlotte Xiao	Univ. of Denver Andrews	Univ. of Pennsylvania Danilidis			
2005	Child Injury Prevention Studies	Children's Hospital of Philadelphia Winston (Arbogast)	Ohio State Univ. Bolte					
2006	High-Performance Reconfigurable Computing	Univ. of Florida George	Brigham Young Univ. Wirthlin	George Washington Univ. El-Ghazawi	Virginia Tech. Athanas			
2007	Advanced Forestry Systems ^a	North Carolina State Univ. Goldfarb	Oregon State Univ. Howe	Purdue Univ. Michler	Virginia Tech. Fox	Univ. of Maine Wagner	Univ. of Georgia Kane	Univ. of Washington Ettl
2007	Smart Vehicle Concepts	Ohio State Univ. Singh						
2008	Advanced Knowledge Enablement ^b	Florida International Univ. Rishe	Florida Atlantic Univ. Furht	Dubna International Univ. (Russia) Cheremisina				
2008	Bioenergy Research and Development	South Dakota School of Mines and Tech. Abata	Univ. of Hawaii Turn	State Univ. of New York; Stony Brook Mahajan	North Carolina State Univ. Peretti			
2008	Cloud & Autonomic Computing	Univ. of Florida Fortes	Rutgers Univ. Parashar	Mississippi State Univ. Banicescu				
2008	Health Organization Transformation	Texas A&M Health Science Center Kash	Georgia Institute of Tech. Lee	Northeastern Univ. Bennevan	Pennsylvania State Univ. Nembhard			
2008	Particulate and Surfactant Systems ^b	Univ. of Florida Moudgil	Columbia Univ. Somasundaran	Dharmsinh Desai Univ. (India) Mukherjee				
2008	Silicon Solar Consortium	North Carolina State Univ. Late Rozgonyi	Georgia Institute of Tech. Rohatgi					
2009	Electromagnetic Compatibility	Missouri Univ. of Science & Tech. DuBroff	Univ. of Houston Chen	Clemson Univ. Hubing	Univ. of Oklahoma Refai			
2009	Embedded Systems	Arizona State Univ. Vrudhula	Southern Illinois Univ. Carbondale Tragoudas					

* Report sorted by Status. Organized by Year Started. Starting in 2013-2014 report, centers' Year Funded changed to Year Started. * = Last year funded by NSF.
a: Additional Universities for the Center for Advanced Forestry Systems are: Univ. of Florida (Jokela), Univ. of Idaho (Coleman) and Auburn Univ. (Enebak).
b: Information from international sites are not reflected in the report.

Yr Started:	Center Name	University Name: Director	Partner University 1 Director	Partner University 2 Director	Partner University 3 Director	Partner University 4 Director	Partner University 5 Director	Partner University 6 Director
2009	Grid-Connected Advanced Power Electronic Systems	Univ. of Arkansas Mantooth	Univ. of South Carolina Dougal					
2009	Hybrid Multicore Productivity Research	Univ. Maryland Baltimore County Halem (Yesha)	Univ. of California, San Diego Brown					
2009	Integration of Composites into Infrastructure	West Virginia Univ. GangaRao	Rutgers Univ. Balaguru	Univ. of Miami Nanni	North Carolina State Univ. Rizkalla			
2009	Net-Centric and Cloud Software and Systems	Univ. of North Texas Kavi	Univ. of Texas, Dallas Bastani	Arizona State Univ. Spanias	Missouri Univ. of Science & Technology Madria			
2009	Research in Intelligent Storage	Univ. of Minnesota Du						
2009	Water and Environmental Technology	Temple Univ. Suri	Univ. of Arizona Pepper	Arizona State Univ. Abbaszadegan				
2010	Ceramics Composites and Optical Materials Center	Clemson Univ. Brown	Rutgers Univ. Haber					
2010	Electric Vehicles: Transportation and Electricity Convergence	Univ. of Texas, Austin Baldick	Texas A&M Kezunovic					
2010	Energy Harvesting Materials and Systems ^D	Virginia Tech. Haji	Univ. of Texas, Dallas Voit	Leibniz Univ. (Germany) Tweifei				
2010	Integrative Joining of Materials for Energy Applications	Ohio State Univ. Lippold	Univ. of Wisconsin - Madison Kou	Lehigh Univ. DuPont	Colorado School of Mines Liu			
2010	Membrane Science, Engineering & Technology Center	New Jersey Institute of Technology Sirkar	Univ. of Colorado at Boulder Greenberg	Univ. of Arkansas Wickramasinghe				
2010	Pharmaceutical Development	Georgia Institute of Tech. Bommarius	Univ. of Kentucky Munson					
2010	Resource Recovery and Recycling ^D	Worcester Polytechnic Institute Apelian	Colorado School of Mines Mishra	KU Leuven (Belgium) Blanpain				
2010	Security and Software Engineering Research Center	Ball State Univ. Zage	Iowa State Univ. Zambreno	Virginia Tech. Clancy	Georgetown Univ. Burger			
2010	Surveillance Research	Ohio State Univ. Potter	Wright State Univ. Rigling					
2010	Water Equipment and Policy	Univ. Wisconsin-Milwaukee Chen	Marquette Univ. Zitomer					
2010	Wood-Based Composites	Virginia Tech. Frazier	Oregon State Univ. Kamke					
2010 ^A	Advanced Processing and Packaging Studies	Ohio State Univ. Schwartz	North Carolina State Univ. Sandeep					
2010 ^A	Design of Analog/Digital Integrated Circuits	Oregon State Univ. Weisshaar	Univ. of Washington Darling	Washington State Univ. Ringo				
2010 ^A	Nondestructive Evaluation	Iowa State Univ. Bond						
2010 ^A	Power Systems Engineering Research Center ^C	Arizona State Univ. Vittal (Heydt)	Cornell Univ. Tong	Texas A&M Kezunovic	Washington State Univ. Bose	Univ. of Wisconsin - Madison DeMarco	Iowa State Univ. Ajarapu	Wichita State Univ. Jewell
2011	Advanced Non-Ferrous Structural Alloys	Colorado School of Mines Kaufman	Univ. of North Texas Collins					
2011	Biophotonics Sensors and Systems	Boston Univ. Bifano (Dudley)	Univ. of California, Davis Matthews					
2011	Dynamic Data Analytics	Rutgers Univ. Metaxas	State Univ. of New York Kaufman					
2011	Energy-Smart Electronic Systems	Binghamton Univ., State Univ. of New York Sammakia	Villanova Univ. Ortega	Univ. of Texas; Arlington Agofer	Georgia Institute of Tech. Joshi			

* Report sorted by Status. Organized by Year Started. Starting in 2013-2014 report, centers' Year Funded changed to Year Started. * = Last year funded by NSF.

^A Centers are Phase III grant recipients that have had a break in their NSF I/UCRC funding. They are formerly funded centers that re-competed for a third five year award.

^B: Information from international sites are not reflected in the report.

^C: Additional Universities for the Power Systems Engineering Research Center are: Univ. of Illinois, Urbana Champagne (Sauer), Georgia Institute of Tech. (Meliopoulos, Howard Univ. (Momoh), Univ. of California, Berkeley (Oregon)

IUCRC Structure Database, FY 2013-2014

<i>Yr Started:</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>	<i>Partner University 5 Director</i>	<i>Partner University 6 Director</i>
2011	Innovative Instrumentation Technology	Univ. of Illinois Cunningham						
2011	Metamaterials	City Univ. of New York, City College Crouse	Clarkson Univ Babu	Univ. of North Carolina, Charlotte Fiddy				
2011	Next Generation Photovoltaics	Univ. of Texas, Austin Korgel	Colorado State Univ. Sampath					
2011 [^]	Berkeley Sensor & Actuator Center	Univ. of California, Berkeley Huggins	Univ. of California, Davis Horsley					
2012	Optical Wireless Applications	Pennsylvania State Univ. Kavehrad	Georgia Institute of Tech. Chang					
2012	Sustainably Integrated Buildings and Sites	Univ. of North Carolina, Charlotte Cox	Carnegie Mellon Univ. Hartkopf	City Univ. of New York Paaswell				
2012	Tire Research	Virginia Tech. Taheri	Univ. of Akron Batur					
2012	Visual and Decision Informatics	Univ. of Louisiana at Lafayette Raghavan /Gottumukkala	Drexel Univ. Hu/Miller					
2013	Arthropod Management Technologies	Iowa State Univ. Bonning	Univ. of Kentucky Palli					
2013	Broadband Wireless Access and Applications ^d	Univ. of Arizona Bose	Univ. of Virginia Patek	Virginia Tech. Park	Auburn Univ. Agrawal	Notre Dame Laneman		
2013	Configuration Analytics and Automation	Univ. of North Carolina, Charlotte Al-Shaer	George Mason Univ. Jajodia					
2013	Cyber-Physical Systems for the Hospital Operating Room	Univ. of Houston Garbey	Univ. of Florida Berccell					
2013	Freeform Optics	Univ. of Rochester Rolland	Univ. of North Carolina, Charlotte Davies					
2013	Research in Storage Systems	Univ. of California, Santa-Cruz Miller						
2013	Science Center for Marine Fisheries	Univ. of Southern Mississippi Powell	Virginia Institute for Marine Science Mann					
2013	Spatiotemporal Thinking, Computing and Application	George Mason Univ. Yang	Harvard Univ. Bol	Univ. of California, Santa Barbara Clarke				
2013	Unmanned Aircraft Systems	Brigham Young Univ. McLain	Univ. of Colorado Frew					
2013	Wheat Genetics	Kansas State Univ. Gill	Colorado State Univ. Byrne					

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[^] Centers are Phase III grant recipients that have had a break in their NSF I/UCRC funding. They are formerly funded centers that re-competed for a third five year award.

^d. Information from Broadband Wireless Access and Applications' new Notre Dame site are not reflected in the report.

<i>Yr Started:</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>	<i>Partner University 5 Director</i>	<i>Partner University 6 Director</i>
New/Recompeted/< 1 Year Operating								
2014	Advanced Design and Man of Integrated Microfluidics	UC - Irvine Lee	University of Cincinnati Papautsky					
2014	Bioplastics and Biocomposites	Iowa State Univ. Grewell	Washington State Univ. Kessler					
2014	Dielectrics and Piezoelectrics	North Carolina State Univ. Dickey	Penn State Randall					
2014	Disruptive Musculoskeletal Innovations	Univ. of California San Francisco Lotz	Univ. of Toledo Goel					
2014	Electrochemical Processes and Technologies	Ohio Univ. Botte	Washington Univ. Ramachandran					
2014	iPerform - IUCRC for Assistive Technologies to Enhance Human Performance	Univ. of Texas Arlington Makedon	Univ. of Texas Dallas Daescu					
2014	Multi-functional Integrated System Technology	Univ. of Florida Nishida	Univ. of Central Florida Yuan					
2014	Novel High-Voltage/Temperature Materials and Structures	Univ. of Denver Kumosa	Michigan Technological Univ. Odegard	Univ. of Illinois Urbana-Champaign Jasiuk				
2014	Robots and Sensors for the Human Well-being	Univ. of Minnesota - Twin Cities Morellas	Univ. of Pennsylvania Daniilidis	Univ. of Denver Andrews	Univ. of North Carolina, Charlotte Xiao	Purdue Univ. Matson		
2014	Smart Ocean Technology	Univ. of Connecticut Cui	Univ. of Washington Roy					
2014	Wind Energy Science, Technology and Research	Univ. of Massachusetts, Lowell Niezrecki	Univ. of Texas, Dallas Rotea					

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IUCRC Structure Database, FY 2013-2014

Table 2: 2013-2014 OPERATING BUDGET AND TOTAL FUNDING

<i>Center Name</i>	<i>Total⁴ Funding</i>	<i>NSF/⁵ IUCRC</i>	<i>Other⁵ NSF</i>	<i>Member⁶ Fees</i>	<i>Add⁷ Industry</i>	<i>State⁸</i>	<i>Univer-⁹ sity</i>	<i>Other¹⁰ Federal</i>	<i>Non-¹¹ Federal</i>	<i>Other¹² Cash</i>
Advanced Forestry Systems	\$9,431,140	\$804,120	\$0	\$3,913,162	\$0	\$250,000	\$1,549,997	\$2,692,861	\$215,000	\$6,000
Advanced Knowledge Enablement	\$14,378,850	\$605,750	\$958,000	\$415,100	\$800,000	\$0	\$0	\$11,400,000	\$0	\$200,000
Advanced Non-Ferrous Structural Alloys	\$1,130,000	\$326,000	\$0	\$351,000	\$0	\$0	\$0	\$453,000	\$0	\$0
Advanced Processing and Packaging St	\$379,000	\$44,000	\$0	\$335,000	\$0	\$0	\$0	\$0	\$0	\$0
Advanced Vehicle & Extreme Environm	\$7,294,547	\$50,000	\$0	\$7,244,547	\$0	\$0	\$0	\$0	\$0	\$0
Arthropod Management Technologies	\$834,097	\$175,000	\$8,000	\$350,000	\$0	\$0	\$97,500	\$0	\$0	\$203,597
Berkeley Sensor & Actuator Center ^a	\$11,027,608	\$0	\$0	\$2,229,430	\$1,751,863	\$141,186	\$0	\$5,140,324	\$1,764,805	\$0
Bioenergy Research and Development ^a	\$150,000	\$0	\$0	\$50,000	\$0	\$50,000	\$0	\$50,000	\$0	\$0
Biophotonics Sensors and Systems	\$1,190,152	\$179,000	\$400,000	\$300,000	\$0	\$0	\$311,152	\$0	\$0	\$0
Broadband Wireless Access and Applic	\$4,433,630	\$669,569	\$791,817	\$812,000	\$82,000	\$0	\$0	\$1,681,187	\$397,057	\$0
Ceramics Composites and Optical Mate	\$740,416	\$160,000	\$0	\$580,416	\$0	\$0	\$0	\$0	\$0	\$0
Child Injury Prevention Studies	\$3,200,802	\$333,953	\$1,382,586	\$825,000	\$41,804	\$0	\$617,459	\$0	\$0	\$0
Cloud & Autonomic Computing	\$147,944	\$54,944	\$0	\$77,000	\$0	\$0	\$16,000	\$0	\$0	\$0
Compact High-Performance Cooling Te	\$1,038,000	\$48,000	\$0	\$390,000	\$100,000	\$0	\$200,000	\$300,000	\$0	\$0
Configuration Analytics and Automation	\$1,125,000	\$595,000	\$0	\$450,000	\$0	\$0	\$80,000	\$0	\$0	\$0
Connection One	\$2,014,601	\$619,869	\$0	\$861,732	\$0	\$0	\$0	\$533,000	\$0	\$0
Cyber-Physical Systems for the Hospital	\$360,000	\$160,000	\$0	\$200,000	\$0	\$0	\$0	\$0	\$0	\$0
Design of Analog/Digital Integrated Circ	\$949,000	\$59,000	\$0	\$390,000	\$275,000	\$95,000	\$30,000	\$0	\$0	\$100,000
Dynamic Data Analytics	\$10,746,000	\$335,000	\$1,150,000	\$305,000	\$606,000	\$5,800,000	\$0	\$2,550,000	\$0	\$0
E-Design	\$2,297,500	\$499,000	\$50,000	\$980,000	\$165,000	\$0	\$311,500	\$196,000	\$0	\$96,000
Electric Vehicles: Transportation and El	\$250,400	\$142,400	\$0	\$108,000	\$0	\$0	\$0	\$0	\$0	\$0
Electromagnetic Compatibility	\$2,255,875	\$217,875	\$70,000	\$1,576,000	\$282,000	\$0	\$0	\$0	\$0	\$110,000
Embedded Systems	\$842,123	\$167,999	\$0	\$577,500	\$0	\$0	\$96,624	\$0	\$0	\$0
Energy Harvesting Materials and Syste	\$420,704	\$160,000	\$0	\$185,000	\$0	\$0	\$75,704	\$0	\$0	\$0
Energy-Smart Electronic Systems	\$1,546,290	\$318,540	\$157,000	\$658,750	\$6,000	\$90,000	\$226,000	\$90,000	\$0	\$0
Excellence in Logistics and Distribution	\$1,463,549	\$210,950	\$171,586	\$941,963	\$0	\$0	\$92,527	\$0	\$0	\$46,523
Experimental Research in Computer Sy ^a	\$803,594	\$0	\$0	\$803,594	\$0	\$0	\$0	\$0	\$0	\$0
Freeform Optics	\$554,779	\$165,000	\$0	\$240,000	\$0	\$0	\$149,779	\$0	\$0	\$0
Friction Stir Processing	\$1,252,517	\$161,000	\$0	\$590,000	\$0	\$316,017	\$150,500	\$35,000	\$0	\$0
Grid-Connected Advanced Power Electr	\$880,000	\$410,000	\$0	\$470,000	\$0	\$0	\$0	\$0	\$0	\$0
Health Organization Transformation	\$1,019,825	\$244,825	\$0	\$775,000	\$0	\$0	\$0	\$0	\$0	\$0
High-Performance Reconfigurable Com	\$3,053,863	\$173,000	\$465,000	\$1,677,162	\$0	\$0	\$528,701	\$210,000	\$0	\$0
Hybrid Multicore Productivity Research	\$2,150,000	\$216,000	\$24,000	\$420,000	\$585,000	\$0	\$0	\$65,000	\$30,000	\$810,000
Identification Technology Research	\$6,228,381	\$640,000	\$483,000	\$709,951	\$0	\$0	\$36,145	\$4,033,496	\$325,789	\$0
Innovative Instrumentation Technology	\$748,987	\$89,000	\$0	\$325,000	\$0	\$0	\$334,987	\$0	\$0	\$0
Integration of Composites into Infrastruc	\$1,991,663	\$287,000	\$158,000	\$736,900	\$0	\$174,497	\$0	\$627,766	\$7,500	\$0
Integrative Joining of Materials for Ener	\$1,888,454	\$365,000	\$150,000	\$1,027,220	\$0	\$0	\$346,234	\$0	\$0	\$0
Intelligent Maintenance Systems	\$1,837,725	\$312,999	\$0	\$1,248,000	\$0	\$0	\$82,500	\$0	\$194,226	\$0
Membrane Science, Engineering & Tec	\$996,504	\$148,000	\$153,000	\$555,000	\$0	\$0	\$140,504	\$0	\$0	\$0
Metamaterials	\$673,000	\$203,000	\$0	\$400,000	\$70,000	\$0	\$0	\$0	\$0	\$0
Net-Centric and Cloud Software and Sy	\$1,226,414	\$289,060	\$220,000	\$686,445	\$0	\$0	\$30,909	\$0	\$0	\$0
Next Generation Photovoltaics	\$1,525,998	\$410,998	\$0	\$540,000	\$0	\$0	\$0	\$0	\$0	\$575,000
Nondestructive Evaluation	\$4,365,836	\$29,000	\$0	\$595,000	\$0	\$14,552	\$775,971	\$1,931,927	\$38,750	\$980,636
Optical Wireless Applications	\$1,119,452	\$135,000	\$123,452	\$350,000	\$120,000	\$90,000	\$115,000	\$0	\$186,000	\$0
Particulate and Surfactant Systems	\$1,812,491	\$135,000	\$624,615	\$421,500	\$498,000	\$0	\$0	\$133,376	\$0	\$0
Pharmaceutical Development	\$506,267	\$120,000	\$0	\$306,667	\$37,000	\$0	\$42,600	\$0	\$0	\$0
Plasmas & Lasers in Advanced Manufa	\$1,353,000	\$183,000	\$0	\$710,000	\$460,000	\$0	\$0	\$0	\$0	\$0
Power Systems Engineering Research	\$12,281,854	\$622,000	\$1,054,430	\$2,474,583	\$15,000	\$263,600	\$1,508,923	\$5,337,118	\$981,200	\$25,000
Research in Intelligent Storage	\$1,175,000	\$75,000	\$350,000	\$750,000	\$0	\$0	\$0	\$0	\$0	\$0
Research in Storage Systems	\$526,500	\$61,500	\$0	\$465,000	\$0	\$0	\$0	\$0	\$0	\$0
Resource Recovery and Recycling	\$1,078,438	\$106,500	\$152,438	\$594,000	\$0	\$0	\$225,500	\$0	\$0	\$0
Safety, Security, Rescue Research Cen	\$860,325	\$235,000	\$50,023	\$542,156	\$0	\$0	\$33,146	\$0	\$0	\$0
Science Center for Marine Fisheries	\$531,868	\$171,868	\$0	\$300,000	\$40,000	\$0	\$20,000	\$0	\$0	\$0
Security and Software Engineering Res	\$1,510,466	\$325,000	\$0	\$708,500	\$58,338	\$0	\$418,628	\$0	\$0	\$0
Silicon Solar Consortium	\$257,500	\$132,500	\$0	\$125,000	\$0	\$0	\$0	\$0	\$0	\$0
Smart Vehicle Concepts	\$929,495	\$85,725	\$0	\$692,590	\$1,500	\$0	\$149,680	\$0	\$0	\$0
Spatiotemporal Thinking, Computing an	\$2,684,000	\$244,000	\$515,000	\$500,000	\$5,000	\$0	\$150,000	\$1,150,000	\$120,000	\$0
Surveillance Research	\$1,174,781	\$135,000	\$0	\$373,784	\$202,654	\$0	\$212,232	\$251,111	\$0	\$0
Sustainably Integrated Buildings and Sit	\$476,000	\$211,000	\$0	\$265,000	\$0	\$0	\$0	\$0	\$0	\$0
Tire Research	\$1,776,150	\$176,309	\$0	\$680,000	\$0	\$0	\$120,000	\$0	\$0	\$799,841
Unmanned Aircraft Systems	\$785,090	\$377,028	\$0	\$359,832	\$48,230	\$0	\$0	\$0	\$0	\$0
Visual and Decision Informatics	\$1,192,853	\$186,000	\$199,868	\$480,000	\$0	\$0	\$282,080	\$5,000	\$0	\$39,905
Water and Environmental Technology	\$1,536,000	\$233,000	\$250,000	\$555,000	\$170,000	\$308,000	\$0	\$0	\$0	\$20,000
Water Equipment and Policy	\$2,392,806	\$600,671	\$800,000	\$299,919	\$300,000	\$300,000	\$92,216	\$0	\$0	\$0
Wheat Genetics	\$762,500	\$162,500	\$0	\$600,000	\$0	\$0	\$0	\$0	\$0	\$0
Wood-Based Composites	\$946,454	\$406,534	\$122,025	\$279,979	\$0	\$0	\$137,916	\$0	\$0	\$0
Grand Mean	\$2,250,213	\$245,454	\$167,179	\$753,627	\$101,824	\$119,589	\$148,312	\$588,881	\$64,550	\$60,795
Grand Sum	\$148,514,058	\$16,199,986	\$11,033,840	\$49,739,382	\$6,720,389	\$7,892,852	\$9,788,614	\$38,866,166	\$4,260,327	\$4,012,502

* Report sorted Alphabetically by Center

a. The centers that are on no cost extension. No NSF/IUCRC funding received.

Table 3: 2013-2014 CAPITAL AND IN-KIND SUPPORT

Center Name	Capital and In-Kind Support ¹³							Overhead	Budget	
	Total Funding	Total Cap In-Kind	Equip-ment	Facilities	Personnel	Software	Other Support	% to ¹⁴ Mem Typical	¹⁵	¹⁶ Admin
Advanced Forestry Systems	\$9,431,140	\$1,748,346	\$421,000	\$460,000	\$428,458	\$35,000	\$403,888	0	51.5	5
Advanced Knowledge Enablement	\$14,378,850	\$1,187,850	\$774,100	\$0	\$10,000	\$403,750	\$0	0	45	20
Advanced Non-Ferrous Structural	\$1,130,000	\$185,000	\$0	\$100,000	\$85,000	\$0	\$0	10	46.4	10
Advanced Processing and Packagi	\$379,000	\$0	\$0	\$0	\$0	\$0	\$0	0	52.5	20
Advanced Vehicle & Extreme Envi	\$7,294,547	\$0	\$0	\$0	\$0	\$0	\$0	10	49	1
Arthropod Management Technolog	\$834,097	\$0	\$0	\$0	\$0	\$0	\$0	10	50	25
Berkeley Sensor & Actuator Cente	\$11,027,608	\$100,000	\$100,000	\$0	\$0	\$0	\$0	10	54.5	16
Bioenergy Research and Develop	\$150,000	\$0	\$0	\$0	\$0	\$0	\$0	10	51.5	5
Biophotonics Sensors and System	\$1,190,152	\$385,000	\$300,000	\$0	\$75,000	\$10,000	\$0	10	63.7	25.2
Broadband Wireless Access and A	\$4,433,630	\$20,000,000	\$0	\$0	\$0	\$20,000,000	\$0	10	51.5	6.5
Ceramics Composites and Optical	\$740,416	\$0	\$0	\$0	\$0	\$0	\$0	10	19	20
Child Injury Prevention Studies	\$3,200,802	\$161,250	\$23,250	\$138,000	\$0	\$0	\$0	0	67.5	10
Cloud & Autonomic Computing	\$147,944	\$0	\$0	\$0	\$0	\$0	\$0	0	49	25
Compact High-Performance Cooli	\$1,038,000	\$0	\$0	\$0	\$0	\$0	\$0	0	54	5
Configuration Analytics and Autom	\$1,125,000	\$0	\$0	\$0	\$0	\$0	\$0	10	51	10
Connection One	\$2,014,601	\$0	\$0	\$0	\$0	\$0	\$0	10	67.7	25
Cyber-Physical Systems for the H	\$360,000	\$50,000	\$50,000	\$0	\$0	\$0	\$0	10	10	12
Design of Analog/Digital Integrate	\$949,000	\$2,290,000	\$70,000	\$200,000	\$10,000	\$1,500,000	\$510,000	0	51	5.3
Dynamic Data Analytics	\$10,746,000	\$800,000	\$0	\$0	\$800,000	\$0	\$0	0	55	30
E-Design	\$2,297,500	\$3,080,200	\$46,700	\$20,000	\$47,500	\$2,746,000	\$220,000	0	59	6
Electric Vehicles: Transportation a	\$250,400	\$0	\$0	\$0	\$0	\$0	\$0	10	54	25
Electromagnetic Compatibility	\$2,255,875	\$0	\$0	\$0	\$0	\$0	\$0	0	51	10
Embedded Systems	\$842,123	\$0	\$0	\$0	\$0	\$0	\$0	10	53	34
Energy Harvesting Materials and S	\$420,704	\$15,000	\$0	\$0	\$0	\$0	\$15,000	0	59	16
Energy-Smart Electronic Systems	\$1,546,290	\$385,000	\$230,000	\$25,000	\$130,000	\$0	\$0	10	53	3
Excellence in Logistics and Distrib	\$1,463,549	\$0	\$0	\$0	\$0	\$0	\$0	10	46	7
Experimental Research in Comput	\$803,594	\$0	\$0	\$0	\$0	\$0	\$0	0	50.5	5
Freeform Optics	\$554,779	\$112,825	\$0	\$17,100	\$44,774	\$3,500	\$47,451	10	53.5	0
Friction Stir Processing	\$1,252,517	\$118,000	\$118,000	\$0	\$0	\$0	\$0	0	50	15
Grid-Connected Advanced Power	\$880,000	\$0	\$0	\$0	\$0	\$0	\$0	10	46.5	10
Health Organization Transformatio	\$1,019,825	\$304,200	\$0	\$0	\$304,200	\$0	\$0	10	47	2
High-Performance Reconfigurable	\$3,053,863	\$621,504	\$417,004	\$0	\$0	\$204,500	\$0	0	49	10
Hybrid Multicore Productivity Rese	\$2,150,000	\$1,887,000	1,584,000	\$170,000	\$13,000	\$0	\$120,000	10	50	20
Identification Technology Researc	\$6,228,381	\$35,000	\$35,000	\$0	\$0	\$0	\$0	0	56	0
Innovative Instrumentation Techno	\$748,987	\$0	\$0	\$0	\$0	\$0	\$0	10	58.6	10
Integration of Composites into Infr	\$1,991,663	\$54,500	\$15,000	\$10,000	\$25,000	\$1,000	\$3,500	0	48	25
Integrative Joining of Materials for	\$1,888,454	\$65,000	\$0	\$0	\$0	\$65,000	\$0	10	52.5	5
Intelligent Maintenance Systems	\$1,837,725	\$12,000	\$0	\$0	\$0	\$0	\$12,000	0	58.5	10
Membrane Science, Engineering &	\$996,504	\$0	\$0	\$0	\$0	\$0	\$0	6	53	16
Metamaterials	\$673,000	\$0	\$0	\$0	\$0	\$0	\$0	10	53	10
Net-Centric and Cloud Software a	\$1,226,414	\$161,290	\$60,000	\$0	\$101,290	\$0	\$0	0	48	10
Next Generation Photovoltaics	\$1,525,998	\$50,000	\$50,000	\$0	\$0	\$0	\$0	10	54.5	18
Nondestructive Evaluation	\$4,365,836	\$0	\$0	\$0	\$0	\$0	\$0	0	50	15
Optical Wireless Applications	\$1,119,452	\$525,000	\$165,000	\$160,000	\$150,000	\$50,000	\$0	10	50	15
Particulate and Surfactant System	\$1,812,491	\$12,500	\$7,500	\$0	\$0	\$0	\$5,000	0	49	10
Pharmaceutical Development	\$506,267	\$0	\$0	\$0	\$0	\$0	\$0	10	55	15
Plasmas & Lasers in Advanced M	\$1,353,000	\$93,000	\$93,000	\$0	\$0	\$0	\$0	0	58	18
Power Systems Engineering Rese	\$12,281,854	\$1,055,000	\$330,000	\$135,000	\$225,000	\$165,000	\$200,000	5.5	54	17
Research in Intelligent Storage	\$1,175,000	\$0	\$0	\$0	\$0	\$0	\$0	10	51	5
Research in Storage Systems	\$526,500	\$0	\$0	\$0	\$0	\$0	\$0	10	52	14
Resource Recovery and Recycling	\$1,078,438	\$75,000	\$70,000	\$5,000	\$0	\$0	\$0	0	58.2	17
Safety, Security, Rescue Researc	\$860,325	\$38,000	\$38,000	\$0	\$0	\$0	\$0	10	52	5
Science Center for Marine Fisherie	\$531,868	\$177,044	\$0	\$1,495	\$175,549	\$0	\$0	10	46.5	1
Security and Software Engineering	\$1,510,466	\$0	\$0	\$0	\$0	\$0	\$0	10	45	9.7
Silicon Solar Consortium	\$257,500	\$0	\$0	\$0	\$0	\$0	\$0	0	51.5	40
Smart Vehicle Concepts	\$929,495	\$0	\$0	\$0	\$0	\$0	\$0	10	52.5	13
Spatiotemporal Thinking, Computi	\$2,684,000	\$372,000	\$45,000	\$0	\$0	\$80,000	\$247,000	10	0	10
Surveillance Research	\$1,174,781	\$0	\$0	\$0	\$0	\$0	\$0	10	52.5	21
Sustainably Integrated Buildings a	\$476,000	\$1,050,000	\$0	\$0	\$50,000	\$1,000,000	\$0	10	48.5	38
Tire Research	\$1,776,150	\$2,028,500	1,500,000	\$500,000	\$3,500	\$25,000	\$0	0	10	2
Unmanned Aircraft Systems	\$785,090	\$0	\$0	\$0	\$0	\$0	\$0	0	50	13
Visual and Decision Informatics	\$1,192,853	\$0	\$0	\$0	\$0	\$0	\$0	10	43	24
Water and Environmental Technol	\$1,536,000	\$10,000	\$10,000	\$0	\$0	\$0	\$0	10	56	7
Water Equipment and Policy	\$2,392,806	\$0	\$0	\$0	\$0	\$0	\$0	10	49.5	10
Wheat Genetics	\$762,500	\$0	\$0	\$0	\$0	\$0	\$0	10	43	8.6
Wood-Based Composites	\$946,454	\$191,914	\$0	\$20,909	\$171,005	\$0	\$0	5	55	25
Grand Mean	\$2,250,213	\$597,529	\$99,281	\$29,735	\$43,171	\$398,314	\$27,028	6.01	49.63	13.58
Grand Sum	\$148,514,058	\$39,436,923	\$6,552,554	\$1,962,504	\$2,849,276	\$26,288,750	\$1,783,839	N/A	N/A	N/A

* Report sorted Alphabetically by Center

Table 4: 2013-2014 INDUSTRY MEMBERSHIP DESCRIPTORS

Center Name	2013-2014 MEMBERS			LIFETIME MEMBERS			ANNUAL FEES		
	Current Members Starting	New	Left	Starting	New	Left	Primary	Secondary	Tertiary
Advanced Forestry Systems	126	112	18	4	68	165	39	\$25,000	\$5,000
Advanced Knowledge Enablement	36	29	13	6	10	66	33	\$50,000	\$5,000
Advanced Non-Ferrous Structural Alloy	13	9	6	2	9	15	2	\$45,000	\$15,000
Advanced Processing and Packaging	10	10	0	0	11	13	2	\$35,000	\$20,000
Advanced Vehicle & Extreme Environm	33	47	0	14	11	71	49	\$75,000	\$37,500
Arthropod Management Technologies	7	7	0	0	7	7	0	\$50,000	
Berkeley Sensor & Actuator Center ^a	36	35	6	5	35	47	11	\$135,000	\$50,000
Bioenergy Research and Development	5	10	0	5	16	30	24	\$50,000	\$20,000
Biophotonics Sensors and Systems	6	7	1	2	9	11	5	\$50,000	
Broadband Wireless Access and Applic	16	16	0	0	16	16	0	\$40,000	
Ceramics Composites and Optical Mat	15	18	1	4	19	24	9	\$40,000	\$15,000
Child Injury Prevention Studies	21	20	1	0	6	23	2	\$50,000	\$25,000 \$15,000
Cloud & Autonomic Computing	2	9	0	7	13	39	22	\$35,000	
Compact High-Performance Cooling Te	16	20	1	5	14	88	47	\$30,000	
Configuration Analytics and Automatio	7	7	0	0	7	7	0	\$50,000	
Connection One	20	30	3	13	9	70	60	\$50,000	
Cyber-Physical Systems for the Hospit	6	6	0	0	6	6	0	\$50,000	
Design of Analog/Digital Integrated Cir	7	6	2	1	7	10	3	\$50,000	\$25,000
Dynamic Data Analytics	11	9	2	0	5	12	1	\$35,000	\$10,000
E-Design	33	21	15	3	9	74	48	\$30,000	
Electric Vehicles: Transportation and EI	5	8	0	3	9	11	6	\$40,000	\$20,000
Electromagnetic Compatibility	32	28	6	2	15	50	17	\$60,000	\$30,000
Embedded Systems	8	10	1	3	7	16	8	\$50,000	\$25,000 \$5,000
Energy Harvesting Materials and Syste	6	10	1	5	11	21	15	\$40,000	\$20,000
Energy-Smart Electronic Systems	20	21	2	3	15	22	4	\$50,000	\$25,000
Excellence in Logistics and Distribution	18	14	6	2	29	91	107	\$60,000	\$30,000
Experimental Research in Computer S	5	3	3	1	8	49	48	\$45,000	\$5,000
Freeform Optics	7	7	0	0	7	7	0	\$48,000	
Friction Stir Processing	18	17	1	0	20	38	35	\$35,000	\$30,000
Grid-Connected Advanced Power Elect	15	14	3	2	17	27	12	\$40,000	\$5,000
Health Organization Transformation	15	15	0	0	10	24	9	\$50,000	
High-Performance Reconfigurable Com	37	35	10	8	21	97	50	\$40,000	
Hybrid Multicore Productivity Research	14	15	0	1	14	26	11	\$40,000	\$20,000
Identification Technology Research	23	28	0	5	8	58	41	\$40,000	\$10,000
Innovative Instrumentation Technology	11	11	0	0	14	11	0	\$25,000	
Integration of Composites into Infrastru	17	18	5	6	15	38	21	\$50,000	\$40,000 \$15,000
Integrative Joining of Materials for Ener	27	27	5	5	25	34	7	\$45,000	\$25,000 \$15,000
Intelligent Maintenance Systems	44	37	19	12	25	101	84	\$40,000	\$12,000
Membrane Science, Engineering & Tec	14	10	4	0	8	15	1	\$50,000	
Metamaterials	11	7	5	1	8	13	2	\$40,000	
Net-Centric and Cloud Software and Sy	28	23	7	2	12	44	16	\$35,000	\$10,000
Next Generation Photovoltaics	11	11	3	3	6	19	8	\$50,000	
Nondestructive Evaluation	17	13	4	0	12	21	4	\$35,000	
Optical Wireless Applications	10	9	2	1	9	11	1	\$30,000	\$15,000
Particulate and Surfactant Systems	22	26	0	4	43	57	34	\$25,000	\$15,000 \$5,000
Pharmaceutical Development	7	6	1	0	4	11	3	\$40,000	\$20,000
Plasmas & Lasers in Advanced Manufa	23	19	7	3	9	49	30	\$35,000	\$10,000
Power Systems Engineering Research	36	37	1	2	38	46	10	\$50,000	\$25,000 \$25,000
Research in Intelligent Storage	15	14	1	0	8	23	8	\$50,000	\$15,000
Research in Storage Systems	10	10	0	0	10	10	0	\$50,000	\$15,000
Resource Recovery and Recycling	19	24	4	9	14	31	12	\$33,000	
Safety, Security, Rescue Research Ce	18	19	2	3	7	0	0	\$35,000	\$10,000
Science Center for Marine Fisheries	9	9	0	0	9	9	0	\$50,000	\$25,000
Security and Software Engineering Res	28	24	12	8	20	41	13	\$30,000	\$15,000 \$5,000
Silicon Solar Consortium	5	8	0	3	15	29	24	\$50,000	\$25,000 \$10,000
Smart Vehicle Concepts	17	16	5	4	14	37	20	\$40,000	\$10,000
Spatiotemporal Thinking, Computing a	10	10	0	0	10	10	0	\$45,000	
Surveillance Research	10	10	0	0	8	11	1	\$44,000	\$22,000
Sustainably Integrated Buildings and Si	7	4	3	0	4	7	0	\$50,000	
Tire Research	16	18	0	2	18	18	2	\$40,000	\$20,000
Unmanned Aircraft Systems	11	9	3	1	9	12	1	\$40,000	
Visual and Decision Informatics	16	17	0	1	17	17	1	\$30,000	
Water and Environmental Technology	29	34	1	6	33	50	21	\$30,000	\$10,000 \$3,000
Water Equipment and Policy	9	6	5	2	6	11	2	\$50,000	\$10,000
Wheat Genetics	12	0	0	0	12	12	0	\$50,000	\$20,000
Wood-Based Composites	9	11	0	2	8	12	3	\$30,000	
Grand Mean	17.83	17.42	3.05	2.82	14.06	32.44	15.89	\$44,091	\$18,988 \$10,889
Grand Sum	1177	1150	201	186	928	2141	1049		

* Report sorted Alphabetically by Center

IUCRC Structure Database, FY 2013-2014

a. For Berkeley Sensor Actuator Center, a higher primary "Collaborative Membership" fee level of \$135,000 was established that provides members with enhanced benefits and privileges.

Table 5: 2013-2014 HUMAN RESOURCES

<i>Center Name</i>	<i>RESEARCHERS</i>				<i>STUDENTS</i>			
	<i>Faculty¹⁸ Scientists</i>	<i>Administrative</i>	<i>Research Staff</i>	<i>Post Docs</i>	<i>PhD</i>	<i>Masters</i>	<i>Under-graduate</i>	
Advanced Forestry Systems	41	7	27	13	33	34	27	
Advanced Knowledge Enablement	31	2	10	0	12	20	27	
Advanced Non-Ferrous Structural Alloys	15	2	2	2	8	5	3	
Advanced Processing and Packaging Studies	13	1	3	3	2	3	1	
Advanced Vehicle & Extreme Environment Electronics	18	3	0	2	26	27	7	
Arthropod Management Technologies	6	2	0	2	5	0	0	
Berkeley Sensor & Actuator Center	13	2	1	28	97	0	29	
Bioenergy Research and Development	13	0	1	1	7	2	8	
Biophotonics Sensors and Systems	8	5	2	7	3	1	8	
Broadband Wireless Access and Applications	34	1	3	0	60	24	1	
Ceramics Composites and Optical Materials Center	9	3	2	3	14	1	14	
Child Injury Prevention Studies	18	10	12	0	2	3	17	
Cloud & Autonomic Computing	9	2	0	3	7	1	8	
Compact High-Performance Cooling Technologies Resear	12	1	8	4	23	3	2	
Configuration Analytics and Automation	6	0	3	0	4	1	0	
Connection One	23	2	6	7	31	19	2	
Cyber-Physical Systems for the Hospital Operating Room	8	3	5	1	6	2	0	
Design of Analog/Digital Integrated Circuits	10	2	0	0	17	5	4	
Dynamic Data Analytics	16	2	0	0	8	4	0	
E-Design	47	2	5	3	13	24	19	
Electric Vehicles: Transportation and Electricity Converge	5	1	2	1	8	3	1	
Electromagnetic Compatibility	9	2	2	3	15	2	3	
Embedded Systems	14	1	0	0	29	10	0	
Energy Harvesting Materials and Systems	23	3	2	2	8	1	6	
Energy-Smart Electronic Systems	12	3	1	3	20	19	4	
Excellence in Logistics and Distribution	25	1	0	0	15	8	8	
Experimental Research in Computer Systems	20	1	3	0	52	34	0	
Freeform Optics	15	3	0	0	6	1	0	
Friction Stir Processing	9	1	5	1	11	5	9	
Grid-Connected Advanced Power Electronic Systems	10	4	0	0	5	13	12	
Health Organization Transformation	19	3	2	2	22	8	21	
High-Performance Reconfigurable Computing	13	1	2	0	32	37	33	
Hybrid Multicore Productivity Research	13	2	4	2	8	6	7	
Identification Technology Research	25	6	4	5	45	17	27	
Innovative Instrumentation Technology	16	15	5	3	21	0	0	
Integration of Composites into Infrastructure	18	2	6	2	13	13	20	
Integrative Joining of Materials for Energy Applications	9	1	0	0	13	12	1	
Intelligent Maintenance Systems	4	4	2	4	18	5	3	
Membrane Science, Engineering & Technology Center	16	3	0	8	12	2	1	
Metamaterials	9	1	4	0	11	3	7	
Net-Centric and Cloud Software and Systems	26	1	1	6	26	23	4	
Next Generation Photovoltaics	11	1	1	2	9	0	7	
Nondestructive Evaluation	15	6	9	2	19	1	17	
Optical Wireless Applications	14	2	7	2	13	6	3	
Particulate and Surfactant Systems	7	5	5	6	7	2	18	
Pharmaceutical Development	8	2	1	2	11	1	2	
Plasmas & Lasers in Advanced Manufacturing	5	1	1	6	22	3	13	
Power Systems Engineering Research Center	70	3	1	6	82	40	8	
Research in Intelligent Storage	6	1	0	0	11	3	0	
Research in Storage Systems	3	1	1	0	10	3	1	
Resource Recovery and Recycling	6	1	0	2	4	2	3	
Safety, Security, Rescue Research Center	25	3	2	2	24	8	3	
Science Center for Marine Fisheries	4	2	4	0	0	1	0	
Security and Software Engineering Research Center	46	5	3	1	11	10	7	
Silicon Solar Consortium	2	0	3	0	2	1	1	
Smart Vehicle Concepts	3	1	2	4	15	5	2	
Spatiotemporal Thinking, Computing and Application	12	1	5	0	10	1	5	
Surveillance Research	8	1	0	1	5	5	1	
Sustainably Integrated Buildings and Sites	10	2	2	0	6	2	8	
Tire Research	13	1	0	2	14	6	10	
Unmanned Aircraft Systems	13	1	0	0	4	7	15	
Visual and Decision Informatics	10	6	3	0	14	1	3	
Water and Environmental Technology	17	3	2	7	11	8	12	
Water Equipment and Policy	10	1	0	2	8	5	4	
Wheat Genetics	5	1	2	3	4	0	12	
Wood-Based Composites	15	0	0	0	9	9	5	
	Grand Mean	15.12	2.45	2.86	2.59	16.56	8.05	7.64
	Grand Sum	998	162	189	171	1093	531	504

* Report sorted Alphabetically by Center

Table 6: 2013-2014 CENTER DIRECTOR DESCRIPTORS

<i>*Includes only primary center director</i>				TIME ALLOCATION				
Center Name	Rank	Tenure	Reports To	Center Admin.	Other Admin.	Re-search	Teaching	Other
Advanced Forestry Systems	Full Professor	Tenured	Department Head	10	75	5	5	5
Advanced Knowledge Enablement	Full Professor	Tenured	Director	10	10	40	20	20
Advanced Non-Ferrous Structural A	Full Professor	Tenured	Dean of College of Applied Scien	20	40	20	10	10
Advanced Processing and Packagi	Full Professor	Tenured	Department Chair	10	20	40	10	20
Advanced Vehicle & Extreme Envir	Full Professor	Tenured	Dean	15	0	50	30	5
Arthropod Management Technologi	Full Professor	Tenured	Dean of College of Agriculture an	35	10	30	15	10
Berkeley Sensor & Actuator Center	No academic rank	Non-Tenure	Professor	75	10	5	0	10
Bioenergy Research and Developm	Associate Professor	Tenured	Department Head Chemical and	5	0	50	40	5
Biophotonics Sensors and Systems	Full Professor	Tenured	Vice President and Associate Pr	0	60	20	20	0
Broadband Wireless Access and A	Full Professor	Tenured	Dean of Engineering	15	50	20	10	5
Ceramics Composites and Optical	Associate Professor	Tenured	Associate Dean of Research & G	20	15	30	25	10
Child Injury Prevention Studies	Full Professor	Tenured	Chief Scientific Officer	10	20	60	0	10
Cloud & Autonomic Computing	Full Professor	Tenured	Department Chair	5	5	75	10	5
Compact High-Performance Coolin	Full Professor	Tenured	Department Head	5	80	15	0	0
Configuration Analytics and Autom	Full Professor	Tenured	Dean	30	0	70	0	0
Connection One	Full Professor	Tenured	Department Chair	15	10	30	35	10
Cyber-Physical Systems for the Ho	Full Professor	Tenured	Professor	10	60	10	20	0
Design of Analog/Digital Integrated	Full Professor	Tenured	Head of School of EECS	25	0	25	30	20
Dynamic Data Analytics	Full Professor	Tenured	Dean	10	10	40	30	10
E-Design	Full Professor	Tenured	Dean, College of Engineering	25	50	20	0	5
Electric Vehicles: Transportation an	Full Professor	Tenured	Chairman of ECE	15	25	10	40	10
Electromagnetic Compatibility	Associate Professor	Tenured	Chairman of Electrical and Comp	35	5	15	40	5
Embedded Systems	Full Professor	Tenured	Director, School of Computing, In	15	15	40	15	15
Energy Harvesting Materials and S	Full Professor	Tenured	Associate Professor	10	24	36	30	0
Energy-Smart Electronic Systems	Full Professor	Tenured	University President	10	55	35	0	0
Excellence in Logistics and Distribu	Full Professor	Tenured	Department Head	25	10	30	35	0
Experimental Research in Compute	Full Professor	Tenured	Vice President for Research	10	10	40	30	10
Freeform Optics	Full Professor	Tenured	Director of The Institute of Optics	20	20	30	20	10
Friction Stir Processing	Full Professor	Tenured	Chair, Department of Mechanical	15	15	35	35	0
Grid-Connected Advanced Power E	Full Professor	Tenured	Electrical Engineering Departme	15	15	30	25	15
Health Organization Transformation	Associate Professor	Tenured	Dean	25	5	35	30	5
High-Performance Reconfigurable	Full Professor	Tenured	Department Chair	15	5	50	25	5
Hybrid Multicore Productivity Resea	Full Professor	Non-Tenure	Chair of Computer Science and	25	15	35	15	10
Identification Technology Research	Full Professor	Tenured	Provost	25	0	40	25	10
Innovative Instrumentation Technol	Full Professor	Tenured	Dean, College of Engineering	10	30	45	0	15
Integration of Composites into Infra	Full Professor	Tenured	Dean	4	6	50	30	10
Integrative Joining of Materials for	Full Professor	Tenured	Department Chair	25	5	33	33	4
Intelligent Maintenance Systems	Full Professor	Tenured	Department Head	50	0	20	20	10
Membrane Science, Engineering &	Full Professor	Tenured	Vice President for Research	10	5	50	30	5
Metamaterials	Associate Professor	Tenured	Department Chair	20	5	40	30	5
Net-Centric and Cloud Software an	Full Professor	Tenured	Dean, College of Engineering	15	10	45	30	0
Next Generation Photovoltaics	Full Professor	Tenured	Department Head	10	10	50	30	0
Nondestructive Evaluation	Full Professor	Tenured	Institute for Physical Research &	60	0	15	15	10
Optical Wireless Applications	Full Professor	Tenured	Department Head	10	5	45	35	5
Particulate and Surfactant Systems	Full Professor	Tenured	Dean of College of Engineering	10	15	39	18	18
Pharmaceutical Development	Full Professor	Tenured	School Chair	15	25	30	25	5
Plasmas & Lasers in Advanced Ma	Full Professor	Tenured	Department Chair and to Dean of	12	5	50	30	3
Power Systems Engineering Resea	Full Professor	Tenured	Director, School of Electric, Com	15	5	50	25	5
Research in Intelligent Storage	Full Professor	Tenured	Department Head	15	5	40	30	10
Research in Storage Systems	Full Professor	Tenured	Dean	15	20	30	35	0
Resource Recovery and Recycling	Full Professor	Tenured	Dean of Engineering	20	10	40	20	10
Safety, Security, Rescue Research	Full Professor	Tenured	Department Head	5	10	60	15	10
Science Center for Marine Fisherie	Full Professor	Tenured	Vice President for Research	25	60	15	0	0
Security and Software Engineering	Full Professor	Tenured	Department Chair	25	0	50	25	0
Silicon Solar Consortium	Associate Professor	Non-Tenure	Department Head	15	10	25	40	10
Smart Vehicle Concepts	Full Professor	Tenured	MAE Dept. Chair and College De	22	0	38	30	10
Spatiotemporal Thinking, Computin	Full Professor	Tenured	Dean and VP for Research	20	20	20	30	10
Surveillance Research	Full Professor	Tenured	Department Chair	14	14	38	24	10
Sustainably Integrated Buildings an	Associate Professor	Tenured	Chair of the ECE Department	20	0	25	50	5
Tire Research	Associate Professor	Tenured	ME Department Head	15	10	55	20	0
Unmanned Aircraft Systems	Full Professor	Tenured	Department Chair	25	35	20	10	10
Visual and Decision Informatics	Full Professor	Tenured	Vice President of Research	20	5	25	40	10
Water and Environmental Technolo	Full Professor	Tenured	Dean of College of Engineering	20	25	25	25	5
Water Equipment and Policy	Full Professor	Tenured	Dean of College of Engineering a	15	5	50	25	5
Wheat Genetics	Full Professor	Tenured	Department Head	20	0	70	10	0
Wood-Based Composites	Full Professor	Tenured	Department Head	12	13	38	37	0
			Grand Mean	18.17	16.85	35.48	22.61	6.89

* Report sorted Alphabetically by Center

Table 7: 2013-2014 CENTER OUTCOMES

Center Name:	STUDENTS RECEIVING DEGREE ²⁰			STUDENTS HIRED BY INDUSTRY ²¹			PROJECTS ²²	PUBLICATIONS ²³		
	BS Grad	MS Grad	PhD Grad	BS Hired	MS Hired	PhD Hired		w/ Ctr Research	w/ IAB Members	Present.
Advanced Forestry Systems	10	13	10	5	3	0	70	70	8	115
Advanced Knowledge Enablement	17	16	4	2	3	1	28	68	11	45
Advanced Non-Ferrous Structural Alloys	0	1	2	0	1	0	13	6	0	7
Advanced Processing and Packaging Stu	0	0	1	0	0	0	8	0	0	4
Advanced Vehicle & Extreme Environmen	0	6	5	0	0	0	33	46	6	32
Arthropod Management Technologies	0	0	0	0	0	0	6	0	0	0
Berkeley Sensor & Actuator Center	0	5	22	0	0	0	103	20	2	61
Bioenergy Research and Development	0	2	4	0	0	0	5	6	0	10
Biophotonics Sensors and Systems	0	0	0	0	0	0	6	5	0	15
Broadband Wireless Access and Applicati	0	4	3	0	0	0	9	23	0	6
Ceramics Composites and Optical Materi	0	1	2	0	0	0	12	7	0	62
Child Injury Prevention Studies	4	2	2	0	0	0	17	13	3	33
Cloud & Autonomic Computing	3	1	3	0	0	0	6	11	0	9
Compact High-Performance Cooling Tech	1	1	2	0	0	1	15	33	2	28
Configuration Analytics and Automation	0	0	0	0	1	6	6	4	0	30
Connection One	14	11	14	5	5	4	26	121	12	116
Cyber-Physical Systems for the Hospital	0	1	1	0	0	1	6	0	0	0
Design of Analog/Digital Integrated Circuit	0	2	9	0	0	4	7	48	4	31
Dynamic Data Analytics	5	7	5	0	0	1	17	10	5	18
E-Design	9	3	3	2	2	3	22	24	3	37
Electric Vehicles: Transportation and Elec	0	0	3	0	0	0	6	8	0	29
Electromagnetic Compatibility	0	5	13	0	2	9	28	54	0	5
Embedded Systems	0	5	2	0	1	1	17	25	0	43
Energy Harvesting Materials and Systems	0	0	3	0	0	0	11	36	3	36
Energy-Smart Electronic Systems	0	15	3	0	0	0	12	34	14	36
Excellence in Logistics and Distribution	3	2	1	1	0	0	16	10	0	25
Experimental Research in Computer Syst	0	16	5	0	0	0	5	0	0	0
Freeform Optics	0	1	0	0	0	0	5	1	0	3
Friction Stir Processing	7	6	1	0	1	1	11	12	2	11
Grid-Connected Advanced Power Electro	0	0	0	0	0	0	12	20	1	18
Health Organization Transformation	4	6	4	1	3	0	22	27	8	58
High-Performance Reconfigurable Compu	6	10	1	0	10	0	11	27	3	52
Hybrid Multicore Productivity Research	3	6	3	0	0	0	12	5	2	11
Identification Technology Research	8	4	7	1	0	2	35	53	0	86
Innovative Instrumentation Technology	0	1	1	0	0	0	6	15	0	5
Integration of Composites into Infrastructu	7	8	6	0	0	0	19	33	7	53
Integrative Joining of Materials for Energy	0	3	2	0	1	0	25	15	5	80
Intelligent Maintenance Systems	0	3	1	1	1	0	37	38	1	45
Membrane Science, Engineering & Techn	0	0	1	0	0	0	15	15	6	12
Metamaterials	0	0	0	0	0	0	16	15	0	15
Net-Centric and Cloud Software and Syst	4	15	6	0	5	1	8	34	13	56
Next Generation Photovoltaics	2	1	1	0	0	0	9	8	1	21
Nondestructive Evaluation	0	2	1	0	0	0	14	54	3	54
Optical Wireless Applications	3	3	4	1	1	8	5	24	5	40
Particulate and Surfactant Systems	3	2	2	0	0	0	13	18	4	67
Pharmaceutical Development	0	0	2	0	0	0	12	6	0	54
Plasmas & Lasers in Advanced Manufact	1	1	5	0	0	1	12	34	14	20
Power Systems Engineering Research Ce	13	30	37	6	13	14	82	113	47	152
Research in Intelligent Storage	0	3	1	0	3	11	13	8	3	12
Research in Storage Systems	0	3	3	0	2	0	6	5	1	9
Resource Recovery and Recycling	2	2	0	0	0	0	8	5	0	11
Safety, Security, Rescue Research Cente	1	5	8	0	0	1	21	41	2	46
Science Center for Marine Fisheries	0	0	0	0	0	0	6	0	0	4
Security and Software Engineering Resea	0	4	2	0	0	0	22	33	1	48
Silicon Solar Consortium	1	0	0	0	0	0	5	2	1	8
Smart Vehicle Concepts	1	3	4	0	1	2	5	30	0	47
Spatiotemporal Thinking, Computing and	1	2	1	0	0	0	12	16	1	16
Surveillance Research	0	0	0	0	0	0	9	9	0	24
Sustainably Integrated Buildings and Site	5	0	0	1	0	0	8	3	0	1
Tire Research	11	3	7	1	0	2	14	20	0	37
Unmanned Aircraft Systems	4	0	0	0	0	0	7	10	1	22
Visual and Decision Informatics	1	2	1	0	0	6	8	45	0	45
Water and Environmental Technology	1	2	6	6	5	5	26	19	0	34
Water Equipment and Policy	1	2	4	0	0	1	11	5	1	12
Wheat Genetics	0	0	1	0	0	0	5	0	0	0
Wood-Based Composites	2	5	1	0	0	2	16	24	0	22
Grand Mean	2.39	3.89	3.73	0.50	0.97	1.33	16.56	23.09	3.12	32.48
Grand Sum	158	257	246	33	64	88	1093	1524	206	2144

* Report sorted by Alphabetically by Center

**Table 8: 2013-2014 INTELLECTUAL PROPERTY
AND COMMERCIALIZATION EVENTS**

Table 8: Centers Reporting One or More Intellectual Property and Commercialization Event Last Fiscal Year

Intellectual Property Event	# of Centers	% of Centers
Invention Disclosures	27	41%
Patent Applications	20	30%
Software Copyrights	8	12%
Patents Granted/Derived	10	15%
Licensing Agreements	6	9%
Royalties Realized	4	6%
Spinoff Companies Formed	5	8%

Table 8: Total Number and Means of Intellectual Property and Commercialization Events Last Fiscal Year

Intellectual Property Event	Total for all Centers	Mean for All Centers
Invention Disclosures	163	2.47
Patent Applications	61	0.92
Software Copyrights	30	0.45
Patents Granted/Derived	22	0.33
Licensing Agreements	12	0.18
Royalties Realized	7	0.11
Spinoff Companies Formed	6	0.09

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 2009-2010 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 funding provided by the IUCRC program, including operating grant, self-sustaining Center funding, evaluator support, TIE awards, RUI/PUI awards, etc. "NSF OTHER" refers to funding for the Center 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 funding collected by a center from industry membership fees, including MIPRs covering membership support.
- 7) On Table 2, "INDUSTRY OTHER" refers to additional member funding (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). This includes additional support provided by members through MIPRs that is above and beyond the membership fee paid.
- 8) On Table 2, "STATE TOTAL" refers to the funding provided by state government and/or an agency or program funded by state government.
- 9) On Table 2, "UNIV. TOTAL" refers to the funding 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 funding for the Center provided by other Federal funding sources, but does NOT include funding from NSF.
- 11) On Table 2, "OTHER NON-FEDERAL AGENCY" refers to funding for the Center provided by other non-Federal funding sources, foundations, etc.
- 12) On Table 2, "OTHER FUNDING" refers to any other funding, 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 university Federally Negotiated Facilities and Administrative rate (indirect) 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 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, "PROJECTS" refers to the number of research projects funded by a) IAB member fees, b) NSF IUCRC support, or c) any other support that would not have been obtained without the existence of the Center AND the results of which are shared with ALL center members. Does NOT include project that are not shared with all Center's members. Does NOT include projects carried out by Center affiliated researchers which are unrelated to the Center AND/OR the results of which are not shared with Center members.
- 23) 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.