

Worcester Polytechnic Institute
Report of Proposals Submitted
August 2009

Primary Department	Principal Investigator	CoPI(s)	Project Title	Sponsor	Prime Sponsor	Program Type	Amount Requested	Cost Sharing	VUCS	Proposal Code
Biology S/R	Dilorio, Alexander Anthony		E. coli Yield Optimization	Virdante Pharmaceuticals, Inc.		Other	29,277			10039
	Subtotal: 1						29,277			
Civil Eng S/R	Mallick, Rajib B.		Roadway Power Systems (RPS)	Novotech Inc.	US Dept. of Energy	Research	142,406		9,378	10048
	Mathisen, Paul P	John Andrew Bergendahl, John C. MacDonald, Mingjiang Tao, Hong Susan Zhou	MRI-R2 - Acquisition of Instrumentation for the Characterization of Inorganic Chemicals in Aqueous Environments	National Science Foundation		Equipment	393,341			10043
	Subtotal: 2						535,747		9,378	
Computer Science S/R	Heffernan, Neil	Joseph E Beck, Arthur C. Heinricher, Irina Mitrea, Leena M. Razzaq	The DATA ASSIST Project: Data-Driven Assessment and Teaching through Acces to the ASSISTments System	National Science Foundation		Research	12,497,178		51,824	10050
	Heffernan, Neil		National Center for Cognitive and Mathematics Instruction (NCCMI)	WestEd	US Dept. of Education	Research	494,715		48,482	10051
	Ruiz, Carolina		III: Medium: Collaborative Research: Discovery of Time-Frequency Signatures in Human Sleep Data	National Science Foundation		Research	334,451		36,076	10052
	Sarkozy, Gabor N		III: Medium: Collaborative Research: Graph Theory and Network Data Mining	National Science Foundation		Research	415,317			10053
	Wills, Craig E	Mark L. Claypool, James Kevin Doyle, Matthew Oliver Ward	Development of a User-Centered Measurement Platform	National Science Foundation		Equipment	391,580		61,468	10038
	Subtotal: 5						14,133,241		197,850	
ECE S/R	Huang, Xinming		CAREER: Reinventing FPGA with Three-Dimentional (3D) Coarse-Grained Reconfigurable Architecture for Mobile Applications	National Science Foundation		Research	400,639		71,687	10045
	Klein, Andrew G	Xinming Huang, Ali S. Rangwala	Exploiting Signal Processing to Enable a Low-cost 3D Velocity Sensor for Non-Isothermal Turbulent Flows	NASA		Research	359,955		17,227	10042
	Subtotal: 2						760,594		88,914	
Fire Protection S/R	Rangwala, Ali S.		Development of a Ground Based Adjustable Buoyancy Flammability Testing Apparatus	Combustion Science & Engineering, Inc.	NASA	Research	135,770		18,437	10047
	Subtotal: 1						135,770		18,437	
Humanities S/R	Robertson, Thomas B		Developing International Development: American Technological Transfer Programs in Nepal 1952 - 1980	National Science Foundation		Research	226,892			10027

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	Subtotal: 1						226,892			
IGSD - S/R	Carrera, Fabio		Uscript: A Crowdsourced Emergent System for the Cumulative Transcription of Historical Manuscripts	National Endowment for the Humanities		Research	349,308			10035
	Carrera, Fabio		Monitoring Climate Change through Native American Photographs	NASA		Research	319,640			10036
	Subtotal: 2						668,948			
ME S/R	Tryggvason, Gretar		Engineering Leaders	National Academy of Engineering	National Science Foundation	Training/Education	2,500			10059
	Van de Ven, James D		Flywheel-Accumulator Compact Energy Storage	US Dept. of Energy		Research	451,777	116,180		10046
	Subtotal: 2						454,277	116,180		
Management S/R	Loiacono, Eleanor T.	Soussan Djamabi, Yitzhak Mendelson, Bengisu Tulu	Decision Making: The Role of Affect and Its Management in the Use of Information Systems (IS) During Emergencies	National Science Foundation		Research	647,738		63,327	10040
	Subtotal: 1						647,738		63,327	
Math S/R	Tilley, Burt S		Development of Mathematical Models for Short- and Long-Time Performance of Residential Closed-Loop Ground Source Heat Pumps	Department of Energy		Research	265,610	66,608		10041
	Subtotal: 1						265,610	66,608		
Physics S/R	Ram-Mohan, L.R.	Gretar Tryggvason, Homer F. Walker	MRI-R2: Acquisition of a High-Performance Computer Cluster for Research, Education, and Training	National Science Foundation		Equipment	1,050,198			10037
	Subtotal: 1						1,050,198			
Social Science S/R	Gobert, Janice		Emerging Learning Objectives: A New Paradigm for Educational Research	University of Toronto	National Science Foundation	Research	99,992			10049
	Skorinko, Jeanine		Seeing and Judging: How Perspective-Taking Influences Jurors	National Science Foundation		Research	273,941			10044
	Subtotal: 2						373,933			
	Total: 21						19,282,225	182,788	377,906	

**Worcester Polytechnic Institute
Proposals Submitted by Department (FY 2010)**

Date: August 2009

2009-2010

	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Cumulative
Biology and Biotechnology		1 29,277											1 29,277
Biomedical Engineering													0 0
Bioengineering Institute													0 0
Civil and Envir Engr	1 183,939	2 535,747											3 719,686
Chemistry and Biochemistry	1 1,012,906												1 1,012,906
Chemical Engineering	4 2,009,150												4 2,009,150
Computer Science	3 383,012	5 14,133,241											8 14,516,253
Electrical and Computer Engr	4 2,113,052	2 760,394											6 2,873,446
Fire Protection Engineering	5 2,487,002	1 135,770											6 2,622,772
Humanities and Arts		1 226,892											1 226,892
Interdisciplinary and Global	6 1,670,592	2 668,948											8 2,339,540
Mathematical Science	1 15,000	1 265,610											2 280,610
Mechanical Engineering	8 2,642,000	2 454,277											10 3,096,277
Management		1 647,738											1 647,738
Social Science & Policy Studies	3 1,029,080	2 373,933											5 1,403,013
Physics	1 511,472	1 1,050,198											2 1,561,670
Other	3 73,187												3 73,187
SUBTOTALS	40 \$14,130,392	21 \$19,282,025	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	61 \$33,412,417
Add: Earmarks													0 0
TOTALS	40 \$14,130,392	21 \$19,282,025	0 \$0	31 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	61 \$33,412,417

10/9/2009

10/13/2009

**Worcester Polytechnic Institute
Proposals Submitted by Department (FY 2009)**

Date: **August 2009**

Fiscal Year: **2008-2009**

	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Cumulative
Biology and Biotechnology	4	4											8
	3,883,528	1,472,774											5,356,302
Biomedical Engineering	2												2
	579,137												579,137
Bioengineering Institute		1											1
		150,000											150,000
Civil and Envir Engr	1												1
	139,951												139,951
Chemistry and Biochemistry	1												1
	786,119												786,119
Chemical Engineering													0
													0
Computer Science	2	2											4
	637,144	659,904											1,297,048
Electrical and Computer Engr	5	3											8
	1,773,802	462,867											2,236,669
Fire Protection Engineering	2	1											3
	515,135	313,261											828,396
Humanities and Arts	1	1											2
	417,540	221,355											638,895
Interdisciplinary and Global	1	3											4
	6,500	376,678											383,178
Mathematical Science													0
													0
Mechanical Engineering		6											6
		3,311,403											3,311,403
Management													0
													0
Social Science & Policy Studies		2											2
		252,848											252,848
Physics	1	1											2
	275,628	285,366											560,994
Other	1												1
	9,109												9,109
SUBTOTALS	21	24	0	0	0	0	0	0	0	0	0	0	45
	\$9,023,593	\$7,506,456	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$16,530,049
Add: Earmarks													0
													0
TOTALS	21	24	0	0	0	0	0	0	0	0	0	0	45
	\$9,023,593	\$7,506,456	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$16,530,049

09/30/09 kr

Worcester Polytechnic Institute
Proposals Submitted by Department (12 Month Report Through August 2009)

Date: **August 2009**

Fiscal Year: **2009-2010**

10/9/2009

	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Cumulative
Biology and Biotechnology		3	2	4		6	2		5	2		1	25
		5,821,979	16,402	196,923		6,892,954	702,176		5,074,700	261,293		29,277	18,995,704
Biomedical Engineering	2	1		1	2	1	1	1	4	2			15
	420,394	215,960		531,276	62,341	5,000	29,974	18,568	567,501	5,015,701			6,866,715
Bioengineering Institute		2						1					3
		915,453						431,344					1,346,797
Civil and Envir Engr	2	3	2	1	1	1	4	1	3	3	1	2	24
	386,053	698,446	204,834	26,953	128,771	174,968	1,500,157	399,935	414,045	1,308,800	183,939	535,747	5,962,648
Chemistry and Biochemistrv	1	1	4				2	1	1		1		11
	264,205	100,000	501,565				449,506	284,071	399,880		1,012,906		3,012,133
Chemical Engineering	1	1	1	2	1	2	3	2	2	1	4		20
	6,114	19,007,473	5,000	74,092	198,870	38,602	133,805	44,200	255,492	192,916	2,009,150		21,965,714
Computer Science	2	4	3	6	2	3	1	4	5	5	3	5	43
	103,394	5,564,501	634,933	2,048,867	392,415	1,384,115	69,814	1,291,859	3,586,615	3,051,165	383,012	14,133,243	32,643,933
Electrical and Computer Engr	5	4	3	5	2	3	4	2	5	2	4	2	41
	1,100,678	862,504	905,138	340,113	139,962	764,366	1,458,178	63,675	1,090,647	292,271	2,113,052	760,394	9,890,978
Fire Protection Engineering	4				1	2	1		3		5	1	17
	584,811				570,762	375,395	195,827		577,331		2,487,002	135,770	4,926,898
Humanities and Arts		1										1	2
		215,333										226,892	442,225
Interdisciplinary and Global					2	1			2		6	2	13
					236,272	86,299			215,218		1,670,592	668,947	2,877,328
Mathematical Science	1	4	3	1	1	2	2	1	1	1	1	1	19
	265,000	2,744,300	217,773	408,590	99,523	1,959,819	173,434	295,268	199,496	2,595,809	15,000	265,610	9,239,622
Mechanical Engineering	15	7	2	3	3	3	8	2	8	4	8	2	65
	2,470,816	2,278,277	383,522	598,653	774,891	1,135,112	2,366,278	504,054	2,394,523	1,066,816	2,642,000	454,277	17,069,219
Management					1				1	1		1	4
					50,000				185,755	59,991		647,737	943,483
Social Science & Policy Studies								1			3	2	6
								287,568			1,029,080	373,933	1,690,581
Physics	1		4			1	1		1	1	1	1	11
	299,950		823,605			15,430	6,250		46,250	54,827	511,472	1,050,198	2,807,982
Other	2		2				1				3		8
	103,852		379,911				18,000				73,187		574,950
SUBTOTALS	36	31	26	23	16	25	30	16	41	22	40	21	327
	\$6,005,267	\$38,424,226	\$4,072,683	\$4,225,467	\$2,653,807	\$12,832,060	\$7,103,399	\$3,620,542	\$15,007,453	\$13,899,589	\$14,130,392	\$19,282,025	\$141,256,910
Add: Earmarks									1				1
									2,204,950				2,204,950
TOTALS	36	31	26	23	16	25	30	16	42	22	40	21	328
	\$6,005,267	\$38,424,226	\$4,072,683	\$4,225,467	\$2,653,807	\$12,832,060	\$7,103,399	\$3,620,542	\$17,212,403	\$13,899,589	\$14,130,392	\$19,282,025	\$143,461,860

Worcester Polytechnic Institute
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August 2009

Primary Department	Principal Investigator	CoPI(s)	Project Title	Sponsor	Prime Sponsor	Amount Awarded	Cost Sharing	VUCS	Award Type	Program Type	Proposal Code
Biology S/R	Dominko, Tanja		De-differentiating Adult Human Fibroblasts into Stem Like Cells Using Defined Conditions	National Institute of Health		104,069	0	8,751	Initial	Research	08074S1
	Subtotal: 1					104,069	0	8,751			
Biomedical S/R	Billiar, Kristen	Marsha W. Rolle	REU Site: Integrated Bioengineering Research, Education, and Outreach Experiences for Females and Underrepresented Minorities at WPI	National Science Foundation		98,738	0		Continuation	Training/Education	05023CR1
	Sotak, Christopher Howard		MR Signal Amplification for Receptor Imaging	UMass Memorial Medical Center	Department of Health and Human Services	61,940	0		Continuation	Research	07151
	Subtotal: 2					160,678	0				
Chem Eng S/R	Wilcox, Jennifer L		Alloy Design for Optimal Hydrogen Separation	US Army		49,862	0		Continuation	Research	06207
	Wilcox, Jennifer L		Alloy Design for Optimal Hydrogen Separation	US Army		12,455	0		Continuation	Research	06207
	Camesano, Terri Anne		SGER: Inactivation of Bacillus Spores Using Antimicrobial Peptides	National Science Foundation		39,000	0		Supplement	Research	08151
	Camesano, Terri Anne		SGER: Inactivation of Bacillus Spores Using Antimicrobial Peptides	National Science Foundation		39,000	0	9,332	Supplement	Training/Education	08151S1
	Subtotal: 4					140,317	0	9,332			
Computer Science S/R	Ward, Matthew Oliver	Elke A Rundensteiner	III-COR-Small: Managing Discoveries in Visual Analytics	National Science Foundation		153,871	31,360		Continuation	Research	08101
	Mani, Murali		SGER: Towards a Generic Provenance Metadata Management System	National Science Foundation		120,326	0		Initial	Research	09099
	Subtotal: 2					274,197	31,360				
ECE S/R	Wygliniski, Alexander		IEEE DySPAN 2010 Student Travel Grant	National Science Foundation		10,000	0		Initial	Conference/Travel	09206
	Duckworth, R. James	David Cyganski, Kathy Ann Notarianni	Fire-Ground Environment Sensor System (FESS)	Federal Emergency Mangement Agency		1,000,000	0		Initial	Research	09194
	Subtotal: 2					1,010,000	0				
Fire Protection S/R	Dembsey, Nicholas A.		Development of Guidelines for Obtaining Material Parameters for Input into Fire Models	NIST		199,940	0	17,897	Continuation	Research	08025
	Rangwala, Ali S.	John C. MacDonald	Experimental Determination of Portable Gasoline Container Vapor Phase Flammability	ASTM		89,170	0		Initial	Research	09068
	Subtotal: 2					289,110	0	17,897			

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IGSD - S/R	Vaz, Richard Francis		WPI Project Center at MIT Lincoln Laboratory	MIT Lincoln Laboratory	US Air Force	68,795	0		Initial	Research	10022
	Tuler, Seth		Professional Development Fellowship on Socio-Technical Factors That Enable Institutions to Anticipate, Recognize, and Respond to Failures in Stewardship of Contaminated Sites	National Science Foundation		86,299	0		Initial	Training/Education	09180
	Subtotal: 2					155,094	0				
K-12 Outreach	Cyr, Martha		The Massachusetts Technician Education Collaborative (Mass-Tec)	Quinsigamond Community College		9,000	0		Continuation	Training/Education	08053
	Cyr, Martha		Massachusetts Mathematics Science Partnership Continuation	Dept. of Education (MA)	US Dept. of Education	23,687	0		Continuation	Training/Education	06178C3
	Subtotal: 2					32,687	0				
ME S/R	Tryggvason, Gretar		Collaborative Research: Fuel Droplet Disruption under Locally Supersonic Conditions	National Science Foundation		50,000	0		Initial	Research	09056
	Subtotal: 1					50,000	0				
Management S/R	Zeng, Amy Z.	Yiming Rong, Jennifer Rudolph	U.S. China Link Initiative at WPI	US Dept. of Education		92,411	149,640		Initial	Training/Education	09238
	Subtotal: 1					92,411	149,640				
	Total: 19					2,308,563	181,000	35,980			

**Worcester Polytechnic Institute
Awards Received by Department (FY 2010)**

Date: **August 2009**

Fiscal Year: **2009-2010**

	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Cumulative
Biology and Biotechnology	1 293,402	1 104,069											2 397,471
Biomedical Engineering	3 611,164	2 160,678											5 771,842
Bioengineering Institute													0 0
Civil and Envir Engr	1 157,747												1 157,747
Chemistry and Biochemistrv	1 245,382												1 245,382
Chemical Engineering	2 229,770	4 140,317											6 370,087
Computer Science	3 78,000	2 274,197											5 352,197
Electrical and Computer Engr	2 146,000	2 1,010,000											4 1,156,000
Fire Protection Engineering	3 578,885	2 289,110											5 867,995
Humanities and Arts													0 0
Interdisciplinary and Global		2 155,094											2 155,094
Mathematical Science	2 165,634												2 165,634
Mechanical Engineering	1 20,000	1 50,000											2 70,000
Management		1 92,411											1 92,411
Social Science & Policy Studies													0 0
Physics													0 0
Other	1 40,500	2 32,687											3 73,187
SUBTOTALS	20 \$2,566,484	19 \$2,308,563	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	39 \$4,875,047
Add: Earmarks													0 \$0
TOTALS	20 \$2,566,484	19 \$2,308,563	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	39 \$4,875,047

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Biology and Biotechnology	1 293,745	2 21,269											3 315,014
Biomedical Engineering	2 164,980	1 2,000											3 166,980
Bioengineering Institute		1 150,000											1 150,000
Civil and Envir Engr													0 0
Chemistry and Biochemistry	1 169,933												1 169,933
Chemical Engineering	2 278,341												2 278,341
Computer Science	3 777,475	4 514,681											7 1,292,156
Electrical and Computer Engr		3 343,814											3 343,814
Fire Protection Engineering	3 247,099												3 247,099
Humanities and Arts													0 0
Interdisciplinary and Global Studies		2 42,475											2 42,475
Mathematical Science		2 361,037											2 361,037
Mechanical Engineering	3 132,367												3 132,367
Management		1 7,000											1 7,000
Social Science & Policy Studies													0 0
Physics		1 233,194											1 233,194
Other													0 0
SUBTOTALS	15 \$2,063,940	17 \$1,675,470	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	32 \$3,739,410
Add: Earmarks													0 \$0
TOTALS	15 \$2,063,940	17 \$1,675,470	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	0 \$0	32 \$3,739,410

Worcester Polytechnic Institute
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Date: **August 2009**

Fiscal Year: **2009-2010**

	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Cumulative
Biology and Biotechnology	1 12,289				2 18,784	2 137,425					1 293,402	1 104,069	7 565,969
Biomedical Engineering		1 16,488	2 130,000			1 27,202	1 219,526			2 220,661	3 611,164	2 160,678	12 1,385,719
Bioengineering Institute					1 29,924								1 29,924
Civil and Envir Engr		1 42,000								2 197,954	1 157,747		4 397,701
Chemistry and Biochemistry				1 51,565			3 535,553			2 37,973	1 245,382		7 870,473
Chemical Engineering	1 128,000	1 6,114			1 29,924		1 218,032		2 402,803		2 229,770	4 140,317	12 1,154,960
Computer Science						1 393,496	2 28,649	1 413,914	3 148,797	3 571,825	3 78,000	2 274,197	15 1,908,878
Electrical and Computer Engr	4 648,209	4 279,616	2 311,696	4 142,224	1 79,962	2 53,900		2 12,000	1 50,524	2 103,151	2 146,000	2 1,010,000	26 2,837,282
Fire Protection Engineering				1 15,843				2 230,080			3 578,885	2 289,110	8 1,113,918
Humanities and Arts													0 0
Interdisciplinary and Global							1 137,749					2 155,094	3 292,843
Mathematical Science						1 30,935	2 411,750		1 83,214		2 165,634		6 691,533
Mechanical Engineering	4 199,600	3 83,400	1 4,642	1 30,000	1 10,000	4 203,381	3 276,600	2 613,727	2 168,950	2 125,990	1 20,000	1 50,000	25 1,786,290
Management	1 749,985	1 42,592										1 92,411	3 884,988
Social Science & Policy Studies										1 311,662			1 311,662
Physics	1 53,594			1 33,302				1 7,715		2 61,077			5 155,688
Other	1 9,000	2 124,852	1 66,000			1 9,109	2 120,411	1 18,000			1 40,500	2 32,687	11 420,559
SUBTOTALS	13 \$1,800,677	13 \$595,062	6 \$512,338	8 \$272,934	6 \$168,594	12 \$855,448	15 \$1,948,270	9 \$1,295,436	9 \$854,288	16 \$1,630,293	20 \$2,566,484	19 \$2,308,563	146 \$14,808,387
Add: Earmarks													0 \$0
TOTALS	13 \$1,800,677	13 \$595,062	6 \$512,338	8 \$272,934	6 \$168,594	12 \$855,448	15 \$1,948,270	9 \$1,295,436	9 \$854,288	16 \$1,630,293	20 \$2,566,484	19 \$2,308,563	146 \$14,808,387