

Worcester Polytechnic Institute
Report of Proposals Submitted
July 2009

Primary Department	Principal Investigator	CoPI(s)	Project Title	Sponsor	Prime Sponsor	Program Type	Amount Requested	Cost Sharing	VUCS	Proposal Code
Chem Eng S/R	Camesano, Terri Anne		Collaborative Research: Bacterial DNA Protection from Stress Response by a Novel Histidine Kinase	National Science Foundation		Research	481,470		43,070	10008
	Datta, Ravindra	Yi Hua Ma	Supported Molten-Metal Membrane (SMMM) for Hydrogen Separation	Department of Energy		Research	996,564	249,858		09278
	Ma, Yi Hua		Composite Pd and Pd Alloy Porous Stainless Steel Membranes for Hydrogen Production and Process Intensification	Department of Energy		Research	57,074		4,185	06192S1
	Zhou, Hong Susan		CAREER: Combining Aptamer Technique and Nanotechnology for Integrated Bioseparation/Preconcentration and Biosensing	National Science Foundation		Research	474,042		49,632	10026
	Subtotal: 4						2,009,150	249,858	96,887	
Chemistry S/R	Dempski, Robert E.		The Molecular Determinants which Differentiate Ion Channels and Ion Pumps	National Science Foundation		Research	1,012,906		53,366	10011
	Subtotal: 1						1,012,906		53,366	
Civil Eng S/R	LePage, Suzanne	Isa Bar-On, John Andrew Bergendahl, Sharon Deffely, Frederick L. Hart, Paul P Mathisen, Oscar Xavier Quint	Clean Energy Engineering & Management Education Program	Massachusetts Clean Energy Center	Commonwealth of Massachusetts	Other	183,939			10010
Computer Science S/R	Guttman, Joshua D	Daniel J. Dougherty	TC: EAGER: Measuring Architectures for Resilient Security (MARS)	National Science Foundation		Research	292,012		32,144	10029
	Rundensteiner, Elke A		Dynamic Application and Model Updating System (DYNAMUS)	Charles River Analytics Inc.	US Army	Research	75,000			10003
	Ward, Matthew Oliver	Elke A Rundensteiner	III-COR-Small: Managing Discoveries in Visual Analytics	National Science Foundation		Training/Education	16,000			08101S2
	Subtotal: 3						383,012		32,144	

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ECE S/R	Klein, Andrew G	Donald R Brown	Doubling the Energy Efficiency of Wireless Communication Systems Through Cooperative Transmission and Optimal Transceiver Design	Department of Energy		Research	197,318	50,788		10016
	Klein, Andrew G		Adaptive Algorithms and Theory for Exploiting Frequency Selectivity in Distributed Half-Duplex Relay Networks	US Air Force		Research	321,038		29,564	10030
	Pahlavan, Kaveh	Allen Henry Levesque, Sergey N Makarov, Ning Yang	RF Propagation Measurement and Modeling for Wireless Body Area Networking	NIST		Research	1,170,293		58,839	10028
	Wygliński, Alexander		CAREER: Enabling Dynamic Spectrum Access in Distributed Wireless Networks	National Science Foundation		Research	424,403		51,566	10012
	Subtotal: 4						2,113,052	50,788	139,969	
Fire Protection S/R	Dembsey, Nicholas A.		Collaborative Applied Fire Research: Contract to Provide Services for Flame Spread Research and Development Phase II	ARUP Norht America Limited		Research	23,940			08157S1
	Meacham, Brian Jay	Nicholas A. Dembsey	Investigation of Fire and Structural Collapse at Faculty of Architecture Building, Technical University at Delft	University of Texas at Austin	NIST	Research	435,011		29,419	10004
	Meacham, Brian Jay	Nicholas A. Dembsey	Integrated Approach to Performance-Based Design for Earthquake and Post-Earthquake Fire	NIST		Research	1,484,041		56,196	10006
	Meacham, Brian Jay		Study of Occupant Existing Movement in Large Assembly Buildings	ARUP Norht America Limited	NIST	Research	274,947		38,262	10005
	Rangwala, Ali S.		An Analysis of Fire Performance Ratings of Large Scale Storage Commodities	Univ. of Cal. San Diego	NIST	Research	269,063		23,681	10007
	Subtotal: 5						2,487,002		147,558	
IGSD - S/R	Carrera, Fabio		UScript: A Crowdsourced Emergent System for the Cumulative Transcription of Historical Manuscripts	National Endowment for the Humanities		Research	351,591			10020

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	Carrera, Fabio		INTEROP:An Autonomous Agent Platform for Municipal Interoperability and Interactive Decision-making through Tangible Interfaces	National Science Foundation		Research	680,734			10025
	Carrera, Fabio		Promoting Interactive Community-Based Decision Making to Optimize Municipal Water Resource Management	National Science Foundation		Research	297,161			10033
	DiBiasio, David		Cooperative with Consumer Product Safety Commission	Consumer Product Safety Comm.		Training/Education	6,500			10034
	Krueger, Robert	Jeanine D. Plummer, Ingrid K Shockey	The Sustainability of Urban Green Infrastructure: An Exploration of Green Infrastructure from an Interdisciplinary Perspective	National Science Foundation		Research	265,811			10002
	Vaz, Richard Francis		WPI Project Center at MIT Lincoln Laboratory	MIT Lincoln Laboratory	US Air Force	Research	68,795			10022
	Subtotal: 6						1,670,592			
K-12 Outreach	Cyr, Martha		Massachusetts Mathematics Science Partnership Continuation	Dept. of Education (MA)	US Dept. of Education	Training/Education	23,687			06178C3
	Cyr, Martha		The Massachusetts Technician Education Collavorative (Mass-Tec)	Quinsigamond Community College	National Science Foundation	Training/Education	9,000			08053S2
	Subtotal: 2						32,687			
ME S/R	Apelian, Diran	Richard D. Sisson	Cost Effective Net Shape Manufacturing of Gears and Bearing for Wind Energy Systems	Northern Illinois University-Naperville Campus	Department of Energy	Research	594,000	66,000		10021
	Backman, Daniel G		Support to Naval Surface Warfare Center to Develop an AIM System for a Naval Aluminum Application	US Navy		Research	21,566			10017
	Blandino, John J.	Nikolaos A. Gatsonis	Life Estimation of a One-Eighth Inch Hollow Cathode using a Combined Experimental and Modeling Approach	Busek Company, Inc.	NASA	Research	62,487			10031
	Hussein, Islam		CAREER: Decentralized Data Gathering and Flow Control in Large-Scale Mobile Sensor Networks	National Science Foundation		Research	427,354		48,482	10014
	Lados, Diana		CAREER: On the Engineering of Light Metals for Enhanced Dynamic Properties and Fatigue Performance	National Science Foundation		Research	497,857		52,090	10013

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	Lados, Diana		Low Energy Powder Metallurgy	Boston Silicon Materials, LLC	Department of Energy	Research	99,729			10023
	Liang, Jianyu		CAREER: Advancing Nanotechnology Research and Education for Sustainable Energy Sources	National Science Foundation		Research	527,122		20,899	10018
	Van de Ven, James D		Integrated Flywheel-Accumulator for Compact Energy Storage	National Science Foundation		Research	411,885		50,024	10032
	Subtotal: 8						2,642,000	66,000	171,495	
Math S/R	Nandram, Balgobin		Statistical Multi-source Predictive Models and Error Estimates	National Institute of Statistical Sciences		Other	15,000			10024
	Subtotal: 1						15,000			
Physics S/R	Phillies, George D.J.		Molecular Dynamics Simulations of Supercooled Liquids	National Science Foundation		Research	511,472			10001
	Subtotal: 1						511,472			
Provost's Office	McGimpsey, W. Grant		Graduate Research Fellowships: Scott Rockwell	National Science Foundation		Training/Education	40,500	9,678		07193CR1
	Subtotal: 1						40,500	9,678		
Social Science S/R	Baker, Ryan Shaun		Empirical Research: Emerging Research: Robust and Efficient Learning: Modeling and Remediating Students' Domain Knowledge	Carnegie Mellon University	National Science Foundation	Research	161,781			10009
	Skorinko, Jeanine		CAREER: Seeing Yourself in the Eyes of Others: The Antecedents and Consequences of Social Tuning	National Science Foundation		Research	523,372			10015
	Skorinko, Jeanine		The Culture of Social Tuning	National Science Foundation		Research	343,927			10019
	Subtotal: 3						1,029,080			
	Total: 40						14,130,392	376,324	641,419	