

John A. Fry, President, Drexel University, Philadelphia

*Written Testimony for NYC Field Hearing: The Importance of the Northeast Corridor
House Committee on Transportation and Infrastructure, Subcommittee on Railroads*

Good morning. My name is John Fry, and I am the president of Drexel University, located in Philadelphia's University City neighborhood, directly adjacent to Amtrak's 30th Street Station on the Northeast Corridor.

Previously I was executive vice president at the University of Pennsylvania in the same neighborhood. While I was there, I was also founding chair of the University City District, a business improvement district located in the midst of one of the richest intellectual ecosystems in the nation.

In the intervening years, I was president of Franklin & Marshall College in Lancaster, Pa. During my tenure, Franklin & Marshall was the lead partner in the Northwest Gateway Project, a 75 million dollar, 75 acre brownfield transformation of industrial and railroad sites for educational, medical and corporate use, which included working closely with the Norfolk Southern railroad to completely relocate a freight rail yard.

I give you this background only to establish that I have experience, and a deep interest, in how urban economic development and transportation intersect. And I want to thank you for inviting me to testify on the enormous importance of the Northeast Corridor. My testimony will focus on the incredible development potential in the built and raw land assets existing today around the Corridor's major urban rail stations and facilities.

The Northeast Corridor stretches along the 450 miles from Washington to Boston, plus about the same number of miles along three branch lines. Amtrak alone carried a record 11.4 million passengers on the Corridor in 2012. Most critically, the Northeast Corridor passes through a series of major rail stations in the heart of our urban centers. The top five stations on the Corridor by annual ridership (passengers on and off) are:

New York Penn Station, 9,493,414

Washington Union Station, 5,013,991

Philadelphia 30th Street Station, 4,068,540

Boston, 1,447,501

Baltimore Penn Station, 1,028,909

New York, Washington and Philadelphia are the three busiest stations in the nation. In fact, seven of the top ten stations in America are on the Northeast Corridor. Some 17 percent of the nation's population lives in the Northeast and is served by Corridor. The region produces 20 percent of the U.S. GDP, and is expected to grow by 15 million residents in the next quarter century.

It's fair to say that this is the epicenter of American rail travel. It's also the epicenter of sustained urban living in the nation, and there's no coincidence there.

Today we are witnessing the rebirth of our urban cores, something that seemed impossible for a number of decades. There are a number of demographic and social trends underlying this transformation.

First, the millennial generation—which stretches roughly from today's 30-year-olds, through the students we're educating now at Drexel and other universities, down through today's middle schoolers—is showing a strong preference to work, live and socialize in urban versus suburban or rural environments. If it's urban, it's hot, including schools, employers and entertainment. Some of the anecdotal evidence for this includes the growing preference for urban colleges and universities, the subjects of popular culture and, surprisingly, a delay in securing drivers' licenses and purchasing cars from adolescent years to young adulthood.

Second, aging baby boomers whose children are grown are downsizing to cities for convenience, for culture and for the overall social environment of city life. These two demographic trends are creating new demand for products and services in cities, and in turn, opportunities for both commercial and residential real estate development. Employers must now consider whether to relocate office pods or entire corporate centers from the suburbs to the cities in order to access young talent and retain their senior personnel, and retail and service firms recognize that they must have significant urban offerings.

These shifts are coming at a time when our highway system and major airports near urban centers are stretching beyond their capacity, and essentially are unable to expand service. Most would agree that building a new major highway or airport in the Northeast region is not an attractive or even a viable option.

Fortunately, the Northeast Corridor rail service is a largely untapped asset that can be leveraged to provide enhanced transportation capacity, and to take advantage of these societal and infrastructure trends. There is no other transportation system that runs through the heart

of the largest concentration of American population and yet can produce considerable returns with relatively simple and reasonable investment.

The potential of this asset, and in particular our urban rail hubs, extends beyond improved transportation infrastructure, to commercial and residential development and long-term economic growth. That's prompting some really interesting ideas about how to tap into these opportunities.

Each community with a major rail facility has unique characteristics that can propel the best-fit development for the local and regional economy. Here in New York at Hudson Yards, it's a 14-acre mixed-use project on or near the river, providing the opportunity to create an entirely new neighborhood—modern, livable and sustainable—in one of the world's densest and most vibrant and popular cities, over a rail yard. Back in Philadelphia, we're capitalizing on our outstanding higher education and healthcare concentration to spark the development of another great transit-oriented neighborhood, which I'll describe in a moment. And similar opportunities exist throughout the Northeast Corridor.

Amtrak, to its great credit, is undertaking a series of studies to envision the future of their stations, including how they complement the fabric of the mostly urban neighborhoods in which they sit. What has become the flagship study, so to speak, is the master plan completed last year for Union Station study in Washington D.C. with which many of you are familiar. There are similar initiatives underway in Baltimore; in Boston; here in New York City, of course, with Hudson Yards; and in Philadelphia, where Amtrak has undertaken a master planning process. In fact, at Drexel University we're proud to be their lead partner in the effort.

The development opportunities that exist along the Northeast Corridor can be a big boon to Amtrak and the eight commuter operators that share the tracks, and by extension to the taxpayers who fund their budgets. The value that Amtrak and governmental owners can create by jointly developing air rights and adjacent parcels and creating improved station experiences is very significant. Let me say plainly that if each station inspires a compelling and strategic vision, it will drive urban development and create financial resources for Amtrak and local, state and federal governments to reinvest in Corridor operations. This can improve the level of service and the overall experience of the growing urban population.

Those opportunities sometimes seem out of reach because of the limited financial resources available to Amtrak, the other rail operators and federal and state governments. The solution to unlocking significant economic value for these entities is public-private partnerships, not just

with corporate partners but with anchor urban institutions, particularly research universities and healthcare systems.

That's the model inspiring Drexel's partnership with Amtrak and other stakeholders in Philadelphia. I'd like to describe our efforts briefly, just as an example of some of the forces that are driving transit-oriented urban development projects.

Bridging the blocks between Drexel's University City Campus and 30th Street Station, Drexel has acquired and is planning extensive development on more than 12 acres of poorly utilized land. The station at 30th Street is the nation's third busiest, serving more than four million passengers each year. But for years, a few buildings of various uses—a printing plant, Philadelphia's parking authority, government archives, offices, eventually some Drexel programs—shared these parcels of land with an expanse of parking lots.

I sometimes say we're fortunate to have this land, but it's as much foresight as it is fortune. Even in the years when commercial interest lagged and the value of rail transit was not part of the public conversation, it was clear that these were incredibly important parcels, and previous administrations and mine have diligently assembled them, at considerable cost to Drexel.

Now, with economic and demographic trends looking favorably and on urban growth, and with our institution in a position to anchor a major new development, we've undertaken a mixed-use, live/learn/work development known as Drexel's Innovation Neighborhood. The Innovation Neighborhood is the cornerstone of the comprehensive Campus Master Plan we developed in 2012, and we are building it around several core principles.

The first principle is to co-locate Drexel's growing enterprise of translational research with corporate partners who can help realize the commercial and quality-of-life impact of that research. Our University has developed real strength in translational, or "use-inspired," research, which is aimed at meeting real-world challenges with market-ready solutions and technologies, on a timeframe that's significantly shorter than traditional basic research. This type of research thrives when commercial partners are deeply involved, with an eye to licensing or entrepreneurship. We're in discussion with a number of partners to join us as tenants in the Innovation Neighborhood. Looking ahead several years, we don't think it's a stretch to have an environment as conducive to groundbreaking research and high-tech business and jobs as Cambridge, Research Triangle Park or Silicon Valley.

The second core principle of the Innovation Neighborhood is to integrate development with the academic and campus life of the University. For example, Drexel is world renowned for our co-

operative education program, where we partner with businesses regionally and worldwide to place our students in full-time, paid professional experiences integrated with their classroom learning. We're developing a Customizable Drexel Co-op for Innovation Neighborhood tenants in which they can design a student co-op position and set curricular requirements for that position so that they get the best-fit employee, not just for the term of the co-op but potentially for a full-time job postgraduation.

The third core principle is to take advantage of the proximity of America's greatest transportation asset, the Northeast Corridor. In truth, this is one of the foundations for the project. Imagine the impact for businesses, or for the global academic partners we expect to locate their American base here, of being literally at the nerve center of the Eastern Seaboard, midway between the financial and government centers of the nation (and potentially less than an hour from each when true high-speed rail becomes a reality). Then, imagine the impact for Philadelphia when visitors arrive at the city's most convenient transportation hub and disembark right into a brand-new neighborhood dedicated to learning, to innovation and to entrepreneurship.

We're excited to begin this project, and we expect to make a major impact with the real estate we own. But the true transformational opportunity around 30th Street is the air rights over the old Penn Coach Yards, now owned by Amtrak and SEPTA, the regional rail operator. This site alone includes more than 100 acres. It's Philadelphia's own Hudson Yards, from the waterfront location on the Schuylkill River to the opportunity to knit together amazing and diverse neighborhoods, including the magnificent Parkway, home to the Philadelphia Museum of Art, the Barnes Foundation, the Franklin Institute and the Academy of Natural Sciences, which recently became a subsidiary of Drexel University.

The air rights will be one of the key dimensions of the master planning process Amtrak will undertake with Drexel, the city, the Pennsylvania Department of Transportation and a host of other stakeholders. This, of course, is a project measured in decades rather than years. But the time is right to start the work, and begin similar conversations that can happen, and in fact are happening, all along the Northeast Corridor.

The Innovation Neighborhood is how our University, and our city, has responded to the opportunity for urban renewal presented by rail transportation. There are similar, yet unique, opportunities in every hub on the corridor. Whether it's in Philadelphia, Washington, Boston or Baltimore or even Lancaster, these ideas represent a bold new vision for our urban cores. And the wider the range of partners involved, the better—from rail operators to real estate developers, to business and retail owners, to regional economic development groups and local,

state and federal governments, to anchor community institutions including universities, hospitals, museums and more.

We are witnessing the rebirth of transportation-oriented development in this nation, not to create demand but to meet the new urban demand with existing assets. I know we're entering a new era where urban train stations are once again a centerpiece not only of travel but of commerce and learning. These stations have great existing value, which we must unleash to create funds to invest in a reliable, comfortable and affordable rail system serving the 17 percent of Americans who live on the Northeast Corridor.

Let us not fail to utilize our assets to the fullest. Let us be seen as the generation that rebirthed the rail system for the next 150 years.

Thank you.

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
Truth in Testimony Disclosure

Pursuant to clause 2(g)(5) of Rule XI of the Rules of the House of Representatives, in the case of a witness appearing in a nongovernmental capacity, a written statement of proposed testimony shall include: (1) a curriculum vitae; and (2) a disclosure of the amount and source (by agency and program) of each Federal grant (or subgrant thereof) or contract (or subcontract thereof) received during the current fiscal year or either of the two previous fiscal years by the witness or by an entity represented by the witness. Such statements, with appropriate redaction to protect the privacy of the witness, shall be made publicly available in electronic form not later than one day after the witness appears.

(1) Name:

John Fry

(2) Other than yourself, name of entity you are representing:

Drexel University, Philadelphia

(3) Are you testifying on behalf of an entity other than a Government (federal, state, local) entity?

☒ YES

If yes, please provide the information requested below and attach your curriculum vitae.

☐ NO

(4) Please list the amount and source (by agency and program) of each Federal grant (or subgrant thereof) or contract (or subcontract thereof) received during the current fiscal year or either of the two previous fiscal years by you or by the entity you are representing:

Signature

J.A. Fry

Date

6/5/13

Drexel University Federal Awards Funding Report

Fiscal Year 2012 to Fiscal Year to Date 2013

Agency for Healthcare Research and Quality

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Barriers and Facilitators to Implementation and Adoption of EHR in Home Care	293,909	1R21HS021008-01
	293,909	

Air Force Office of Scientific Research

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Computational Model for Electrode Erosion by High-Pressure Moving Arcs	30,026	FA9550-12-C-0045
	30,026	

Army Research Lab

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Multiscale Synthesis, Modeling and Design of High Performance Polymer Systems	780,885	W911NF-06-2-0013
	780,885	

Army Research Office

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Microbiorobots for Manipulation and Sensing	381,361	W911NF-11-1-0490
Symmetry mismatched heterostructures: New routes to bandwidth control in oxides	180,000	W911NF-12-1-0132
Smart Core-Shell Nanowire Architectures for Multifunctional Nanscaled Devices	200,000	W911NF-08-1-0067
Ab initio design of noncentrosymmetric metals: crystal engineering in oxide heterostructures	180,000	W911NF-12-1-0133
Instrumentation for Electronic Transport Measurements and Device Characterization of Oxide Heterostructures	247,552	W911NF-11-1-0283
Autoignition Chemistry of Surrogate Fuel Components in an Engine Environment	289,983	W911NF-11-1-0412
"Workshop on Future Directions for Emergent Materials Discoveries at Oxide Heterointerfaces by Design"	18,100	W911NF-12-1-0171
	1,496,996	

Centers for Disease Control

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Evaluation of Cancer Prevention and Control and Other Chronic Disease Programs(PA0000)	34,829	SAP#4000015984
Evaluation of Cancer Prevention and Control and Other Chronic Disease Programs(WISEWOMEN)	25,000	SAP#4000015984



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Federal Awards Funding Report
Fiscal Year 2012 to Fiscal Year to Date 2013
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Centers for Disease Control

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Evaluation of Cancer Prevention and Control and Other Chronic Disease Programs(CRC)	50,000	SAP#4000015984
Communities Putting Prevention to Work	13,779	1020526/U58DP002633
Centers for Autism & Developmental Disabilities Epidemiology (CADDRE): A Case Cohort Study	24,000	1U10DD000183 - Mod7
Investigation of a Polycythemia Vera Cluster in Northeast Pennsylvania	499,000	1R01EH000640-01
	646,608	

Defense Advanced Research Project Agency

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
THOR: Tactical Heterogeneous Ontology Representation	186,000	N66001-12-C-4052
E-MIDDAS - Enhanced-Mobile Integrated Diagnostic and Data Analysis System	89,293	Award Ltr Dtd 04/27/2012
Adversarial Linguistic Analysis	198,877	N11AP20024/D11AP00281 - 002
Fundamental Physics and Engineering of Nanosecond-Pulsed Nonequilibrium Microplasma	300,000	FA9550-11-1-0280
Seizing the third dimension in correlated oxide thin films: Cation-ordering strategies toward absolute atomic control	150,000	N66001-12-1-4224
	924,170	

Defense Threat Reduction Agency (DTRA)

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
An Imino Sugar Glucosidase Inhibitor that is Effective Against Multiple Hemorrhagic Fever Viruses of Bioterror Concern	1,599,373	HDTRA1-10-C-0068
Imino sugar glucosidase inhibitor that is effective against multiple hemorrhagic fever viruses of bioterror concern	1,503,892	HDTRA1-10-C-0068
	3,103,265	

Department of Health and Human Services

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Philadelphia Ujima Coalition for a Healthier Community - Phase 2	599,996	CCEWH111020-01-00
	599,996	

Environmental Protection Agency

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Lightweight Green Roof Water Retention System	75,000	SU-83506601-0
Periphyton Analysis - Kansas City	4,144	EP-12-7-000229/PR-R7-12-00641
Waste to Fuel: Design of a Landfill A:gae Bioreactor	14,999	SU83508101
	94,143	



Federal Aviation Administration

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
FAA Task 7: Development and Validation of Enhanced AGENTFLY Simulation Platform with ATC Agent	298,321	DTFAC-12-A-80003
Rotorcraft Health and Utilization Monitoring Systems research in support of programs, such as Continued Airworthiness and Systems Safety	158,998	Cooperative Agreement 13-G-002
OTA Task 6: Curation/Stewardship of Technical Data	250,000	DTFAC-12-A-80003/Task Order#0006
TASK 5 DTFAC-12-A-80003, Advanced fNIR Data Reduction and Data Analysis	31,803	DTFAC-12-A-80003
TASK 2 DTEAC-12-A-80003	50,000	DTFAC-12-A-80003
TASK 3 DTEAC-12-A-80003 - UAS Environment Study	199,995	DTFAC-12-A-80003
Program Management Task under FAA Next Gen OTA #DTFACT-12-A-80003	100,000	DTFAC-12-A-80003-001
	1,089,117	

Federal Emergency Management Agency (FEMA)

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Understanding Culture: Assessing Firefighter Safety Climate	999,978	EMW-2011-FP-00069
	999,978	

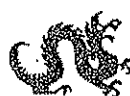
Health Resources and Services Administration

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
HIV Early Intervention Services Program, EGSA ends 6/30/2012	917,582	H76HA00179-14-01
Living Public Health: Educating the Future Public Health Workforce	110,670	1To8HP22425-01-00
Scholarships for Disadvantaged Students Continuing the Tradition of Access and Quality for Graduate Couple and Family Therapy, Drexel University	600,000	1To8HP25223-01-00
Part D Grants for Coordinated HIV Services	350,000	H12HA24847-01-00
Advanced education for nurse anesthetists to extend access to care	16,561	1A22HP24497-01-00
Traineeships for Urban Challenges: Urban Solutions	48,675	A03HP24236
Advanced Education Nursing Traineeship (AENT) Program	88,378	2A10HP00210-12-00
HIV Early Intervention Services Program	955,582	5 H76HA00179-15-00
Pennsylvania/District of Columbia Nursing Education Technology Collaborative (PADCNETC)	299,963	1 U1KHP09542-01-00
Scholarships for Disadvantaged Students Continuing the Tradition of Access and Quality for Graduate Physician Assistant, Drexel University	645,000	1To8HP25222-01-00
	4,032,411	

Idaho National Laboratory

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Advanced Damage Tolerant Ceramics: Candidates for Nuclear Structural Applications	36,178	DE-AC07-05ID4517, No. 09-005/DE-AC07-05ID4517
	36,178	

Institute of Museum and Library Services



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Institute of Museum and Library Services

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Digging into Metadata	124,855	LG-00-12-0457-12
Improving Search, Sensemaking, Learning and Social Tagging Through a Universal Appliance for Query Expansion and Meaningful Concept Displays	413,378	LG-06-11-0332-11
L21-Programs to Build Institutional Capacity	345,270	RE-05-12-0052-12
Supplement (CVDI): Codefest: Getting Value from Data	20,000	LG-00-11-0355-11
CVDI: Cooperative Agreement between IMLS and Drexel University in support of the Center for Visual and Decision Informatics	60,000	LG-00-11-0355-11
Helping Libraries to Harness the Power of Social Searching	378,014	LG-06-11-0261-11
	1,341,517	

Jet Propulsion Laboratory

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
SpIES: The Spitzer-IRAC Equatorial Survey	270,077	NNN12AA01C
	270,077	

Lawrence Berkeley National Laboratory

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
New Layered Nanolaminates for use in Lithium Battery Anodes	650,845	NO. 6951370/DE-AC02-05CH11231
	650,845	

NASA (Goddard Space Flight Center)

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Development and Modification of Numerical Algorithms for 1D Hydrodynamic and 3D Magnetohydrodynamics Adaptive-Mesh Refinement Codes	37,555	NNX09AQ67G
	37,555	

NASA Ames Research Center

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
NextGenAA: Integrated model checking and simulation of NextGen authority and autonomy	643,213	NNA13AB02C/4200463702
	643,213	

National Aeronautics and Space Administration

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
The Ultimate Multiwavelength Quasar Survey	138,315	NNX12AI49G, NNX12AI49G 02
Improvement of Numerical Algorithms for the 1D Hydrodynamic code, ARGOS	69,463	NNX12AP65G



National Aeronautics and Space Administration

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
NASA Pennsylvania Space Grant Consortium	15,000	4498-DU-NASA-K74H
GSRP--Collin Stabler	60,000	NNX11AN07H
	282,778	

National Cancer Institute

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Identification of Altered Glycan and Glycoproteins in Viral Induced Liver Cancer	512,260	1 R01 CA120206-01A1 Revised, 1 R01 CA120206-07, 2 R01 CA120206-06A1
ECOG-ACRIN CCOP Research Base Grant	4,304,215	2U10CA037403-27
Eastern Cooperative Oncology Group Chair Office YR 13	629,400	5U10CA086802-13 REVISED
Medidata Rave	1,499,758	5U10CA086802-13
ECOG-Supp YR 13	2,561,235	3U10CA086802-13S1
HTLV-1 and Cellular Factors in Neuroinflammatory Disease	309,046	2 R01 CA054559-18A1
	9,815,914	

National Heart, Lung, and Blood Institute

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Modeling of pathogenic breathing pattern dysregulation in cardiopulmonary disease	560,500	1R33HL087379-01A1
	560,500	

National Institute for Occupational Safety and Health

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Near Miss Narratives From the Fire Service: A Bayesian Analysis	150,407	1R03OH09984-01A1, 1R03OH09984-02
	150,407	

National Institute of Allergy and Infectious Diseases

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Development of a Novel Drug Candidate that Inhibits Hepatitis B. Virus Covalently Closed Circular DNA Establishment	578,037	1R01AI094474-01
Long-acting, self administered HIV therapy with the CCR5 antibody PRO 140	5,626,606	5U01AI095085-03, 7U01AI095085-02
Define the Role of Dendritic Cells in HTLV-1 Associated Neuroinflammatory Disease	36,989	1R01AI077414-01A2
Spinal Cord Injury, Plasticity and Transplant Mediated Repair	106,994	5P01NS055976-05 REVISED, 5P01NS055976-05-REVISED
	6,348,626	

National Institute of Child Health and Human Development



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National Institute of Child Health and Human Development

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
AKU Global Network Research Unit	150,000 150,000	5 U01 HD 040607-11S1

National Institute of Diabetes Digestive and Kidney Diseases

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Sensory Pathways for Conditioned Stimulus Detection During Avoidance Behavior	28,791	5R01NS059036-05 REVISED
Test of Nutritional Interventions to Enhance Weight Loss Maintenance	646,209 675,000	1R01DK080909-01A1

National Institute of General Medical Sciences

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Structure-Based Antagonism of HIV-1 Envelope Function in Cell Entry	2,254,332	2 P01 GM056550-16S1, 3P01 GM056550-16S2, 5P01GM056550-16
Studies of the Swi1-Swi3 Replication Fork Protection Complex	25,755 2,280,087	3R01 GM077604-05S1

National Institute of Mental Health

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Antipsychotic Mechanisms of mGluR Agonists in the MK-801 Animal Model of Schizophrenia	726,537	1R01MH085666-05, 5R01MH085666-04
Self-regulatory Control and Rating: A Neuroimaging Study of Bulimia Nervosa	42,232 768,769	1F31MH097406-01A1

National Institute of Neurological Disorders and Stroke

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Sensory Pathways for Conditioned Stimulus Detection During Avoidance Behavior	259,116	5R01NS059036-05
Analysis of Neuronal Signaling Pathways Following Interferon Stimulation	56,400	1F31NS076202-01A1
Excitatory Network Oscillations in Somatosensory and Motor Areas of Neocortex	311,408	5 R01 NS059882-05-REVISED, 5R01NS059882-04-REVISED, 5R01NS059882-05
Multielectrode Recording in Spinal Cord during Locomotion and Rehabilitation after SCI	662,418	1R01NS072651-02, 5R01NS072651-03
Neurobotics, Modularity, and Function in SCI and Normal Rats	313,032	5R01 NS054894-05, 5R01NS054894-REVISED
Neurotransplantation and Training to Promote Recovery of Chronic SCI Cats	377,310 1,979,684	1R01NS074406-01A1



National Institute of Standards and Technology

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Workshop: Frontiers of In Situ Transmission Electron Microscopy	19,800	70NANB12H260
Tools for Evaluating Fault Detection and Diagnostic Methods for HVAC Secondary Systems of a Net Zero Building	99,425	60NANB10D243
	119,225	

National Institute on Drug Abuse

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Prescription Drugs Misuse and Risky Sexual Behaviors Among YMSM in Philadelphia	52,902	1R36DA034543-01
Locus Coeruleus Function and Methylphenidate Action	664,178	5R01DA017960-08, 5R01DA017960-09
Hypocretin/Orexin Regulation of Dopamine Signaling and Cocaine Reinforcement	333,210	1R01DA031900-01A1
Identification of inhibitors of RAD54, An Important DNA Repair Protein	76,091	1R01DA033981-01A1, 1R01DA033981-02
Long-Acting HIV Therapy for Injection Drug Users	40,314	5R01DA029663-04 REVISED
	1,166,695	

National Institutes of Health

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Neurotransplantation and Training to Promote Recovery of Chronic SCI Cats	354,437	5R01NS074406-02
Role of Nutrient Sensor O-GlcNAc Transferase in Regulating Cancer	501,979	1R01CA155413-02, 1R01CA155413-02S1, 1R01CA155413-03
Coronavirus Modulation of Cellular MicroRNAs in the Liver: Role in Hepatitis	424,875	1R21DK089314-01A1, 1R21DK089314-02
Immunity of Aged Mice After Lifelong Repeated Live or Killed Influenza Vaccines	424,875	1R21AG041510-02, 1R21AG041510-10
New Role for a Conserved Plasmodium Transcription Factor	424,875	R21 AI096848-01A1
Houle Core D: Spinal Cord Injury, Plasticity and Transplant Mediated Repair	46,523	2P01NS055976-06A1
Phosphorothioate Oligonucleotides as Microbicides against HIV Transmission	464,128	4R33AI082680-03 REVISED
Molecular Mechanism of Innate Immunity Control of HBV Replication	190,575	1R21AI088424-01
Development of RAD52 Inhibitors to Induce Synthetic Lethality of BRCA2-Deficient Cells	73,388	1R03MH097512-01
Presynaptic Fragile X Proteins	249,000	4R00MH090237-03
Hypocretin/Orexin Modulation of Reward and Addiction Processes	322,164	5K01DA025279-06, 7K01DA025279-05
Social-Structural Stressors, Resilience, and Black Men's Sexual Risk Behaviors	783,310	1R01MH100022-01
Store-operated calcium channels in neuropathic pain	418,116	1R21NS077330-01A1
Eastern Cooperation Oncology Group Chair's Office 5U10 CA086802-14	2,483,142	5U10CA086802-14
Streamlining the Path to Success in Biomedical Senior Design	83,200	1R25EB013038-01A1, 1R25EB013038-02
Weight Suppression, Dieting and Bulimia Nervosa: A Biobehavioral Study	713,754	1R01MH095982-01A1



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National Institutes of Health

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Functional and structural characterization of spliceosomal cyclophilins	477,186	4R00GM094293-03
Molecular Pathways Targeted by Potent Antimalarial Pyrazoles	928,481	1R01A098413-01A1
Approaches to Computing Diffusion Rates in Proteins Using Transition Path Theory	373,887	1R01GM100472-02
Targeting the DNA Damage Response Pathway for the Treatment of HSV Esophagitis	94,464	1F30DK094612-01A1, 1F30DK094612-02
Houle Core E: Spinal Cord Injury, Plasticity and Transplant Mediated Repair	46,523	2P01NS055976-06A1
Neural basis of active avoidance behavior	386,250	1R01MH096817-01A1
Novel Models for Longevity Research	424,875	1R21 AG039799- 01A1
Liver Cancer and the Role of Protein Hyper-Fucosylation	364,642	1R01CA136607-04
Twiss 1: Spinal Cord Injury, Plasticity and Transplant Mediated Repair	254,540	2P01NS055976-06A1
Regulation of Microtubule-based Membrane Traffic by Septin GTPases	584,338	1R01GM097664-01, 1R01GM097664-02
Glycan Biomarkers of Prostate Cancer in Prostatic Fluids	85,000	7R01CA135087-04/ MUSC12-071
Role of Sensory Feedback in Locomotor Recovery after Spinal Cord Injury	682,344	1R01EB012855-02
Fischer 2: Spinal Cord Injury, Plasticity and Transplant Mediated Repair	262,120	2P01NS055976-06A1
Acceptance-based behavioral treatment for obesity: Maintenance and mechanisms	591,903	1R01DK095069-01A1
Lemay 4: Spinal Cord Injury, Plasticity and Transplant Mediated Repair	262,414	2P01NS055976-06A1
Mechanics and Performance of Traceable UHMWPE Implants	1,056,390	2R01AR047904-09
Houle Core C: Spinal Cord Injury, Plasticity and Transplant Mediated Repair	34,514	2P01NS055976-06A1
Opening Doors for Diverse Populations to Science Education and Health Disparities Research	695,698	1R25MD006792-01, 1R25MD006792-02
Multiple Myeloma Consortium Study of Occupational Exposures and Family History	231,750	1R21ES021592-01A1
Houle Core F: Spinal Cord Injury, Plasticity and Transplant Mediated Repair	25,359	2P01NS055976-06A1
Role of microRNAs in Coronavirus-Induced Lethal Encephalitis	193,125	1R21AI088423-01A1
Identification of the Gene for Scleroderma in the Tsk/2 Mouse Strain: Implications for Human Scleroderma Pathogenesis and Subset Distinctions	532,091	1R01AR061384-01, 1R01AR061384-02
Modeling HTLV-1 Infection and Cellular Immune Response in HLA-A2-Transgenic Mice	231,750	1R21AI093172-02, 1R21AI093172-02 Revised
Engineering A Multifunctional Injectable Scaffold for Spinal Cord Repair	39,610	5R21NS061307-02-REVISED
Neighborhood Design and Obesity in Older Women	166,919	7R01AG028254-04
Mitochondrial Functions in Malaria Parasites	425,186	2R01AI028398-23
HBx regulation of miRNA-mediated mRNA silencing in HCC development	40,217	1F31CA171712-01 revised
Brain Reorganization after Spinal Cord Injury	331,209	5R01NS057419-04
Optimal Derivation of Murine Embryonic Distal Airway Stem Cells	27,493	Agreement dated 01/26/2011, Sponsor # 019911, Grant # R01- HL104268-01
Environment, The Perinatal Epigenome and Risk for Autism and Related Disorder	18,540	1R01ES017646
Effects of opiates on neurons and their impact on HIV neuropathology	328,313	1R01DA032444-01A1
Hepatitis B virus X protein modulation of calcium signaling in HCC development	40,217	1F31CA171850-01



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Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Wear, Inflammation and Clinical Performance of Total Disc Replacement	576,066	1R01AR056264-01A2 REVISED, 5R01AR056264-03
Sensory pathways for stimulus detection during behavior	337,969	NS059036-06
The role of cocaine-induced changes in OMPFC neurophysiology in cocaine addiction	104,560	7R01DA26942-3
The Effects of Vocal Music Therapy on Core Outcomes in Chronic Pain Management: A Pilot Study	77,250	1R03NR013551-01
Houle 3: Spinal Cord Injury, Plasticity and Transplant Mediated Repair	255,122	2P01NS055976-06A1
Microtubule Dynamics and Axon Growth	384,035	2R56NS028785-25
Houle Core A: Spinal Cord Injury, Plasticity and Transplant Mediated Repair	34,415	2P01NS055976-06A1
Houle Core B: Spinal Cord Injury, Plasticity and Transplant Mediated Repair	50,398	2P01NS055976-06A1
Design of broadband transimpedance amplifier and assembly of optical receiver	15,000	HHSN271201100507P
Comprehensive NeuroAIDS Core Center-12101215 and Coeus Life 1265	99,658	390360-04400-02
HIV gp120 and Prefrontal Cortical Function	405,563	1R21MH097623-01, 1R21MH097623-02
Aging and Place: Neighborhoods and Health in a World Growing Older	30,000	1R12AG039913-01A1
Addendum: R21: A Paper-Digital Interface for Time-Critical Information Management	25,033	30001387-12-03/1R21LM011320-01A1
Pathology-directed combination therapy for pediatric TBI	276,982	5R01HD061963-04
Analyzing Neural Stem Cell Clonal Development	418,837	7R01NS076709-02
Environmental and Acceptance-Based Innovations for Weight Loss Maintenance	1,092,537	1R01DK092374-01A1, 1R01DK092374-02
Psychological Effects of Injuries in Urban Black Men: A Disparate Health Issue(NIH R01 subaward)	22,072	560145
CRCNS: Organization of the Locomotor CPG in the Rodent Spinal Cord	135,188	67362-9896
HIV-1 gp120 Conformational Transitions in Activation and Antagonism	189,540	1R21AI093248-02
Mechanisms of Injury and Acute Repair of Axons in TBI	302,820	5R01NS065017-03
Functional characterization of hsa-mir-939 as a novel regulator of pain	231,750	1R21NS082991-01
Chimeric Virucides Based on a Novel Theory of Viral Metastability	338,429	5R01AI84117-04
Astrocyte Senescence in HIV-associated Neurocognitive Disorders	47,232	1F30AG043307-01
Magnetic Targeting of Stents with Endothelial Cells for Prevention of Restenosis	386,250	1R01HL107771-02
Impact of opioids and HIV-1 Tat genetic variants on the blood brain barrier	20,000	1P30MH092177-01A1
Comprehensive NeuroAIDS Core Center	200,359	ADVANCE ACCOUNT - 390360-04400-02
miR-155 Regulation of Cellular Susceptibility to HIV-1 Infection	231,750	1R21AI098549-01A1
Multiscale Model of Neural Control of Breathing	569,099	5R01NS069220-03
Optical Technologies and Molecular Imaging for Cervical Neoplasia	2,431,163	5P01CA082710-10
Excitation Contraction Coupling in Bladder Smooth Muscle	321,034	1R01DK085734-01
High Specificity HIV-1 Markers Predictive of Neuro-AIDS	688,845	5R01DA019807-08
Aberrantly secreted glycoproteins as markers of liver cancer	293,548	1U01CA168856-01
	28,788,193	

National Oceanic and Atmospheric Administration



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National Oceanic and Atmospheric Administration

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Northeast Urban Regional Integrated Science Assessment	85,000 85,000	NA10OAR4310212

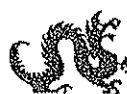
National Science Foundation

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Approaches to Computing Diffusion Rates in Proteins Using Transition Path Theory	396,133	1R01GM100472-01
NEESR: Enhancement of Seismic Performance and Design of Partially Grouted Reinforced Masonry Buildings	116,610	Contract # 30037642
CAREER: Integrated Assessments of the Impacts of Decentralized Land Use and Water Management Practices in Urban Ecosystems	195,977	CBET-1150994
Collaborative Research: POGIL for Climate Change Courses	133,307	DUE-1044344
CPS: Synergy: Collaborative Research: GOAL: SMARTER - Smart Manager for Adaptive and Real-Time decisions in building clusters	400,000	AWARD ID 1239247
Collaborative Research: Development of Anti-fouling Electrochemical Membranes for Water Treatment	145,009	CBET-1158990
Collaborative Research: Online Collaboration to Understand Preservice Teachers' Developing MKT	92,973	DUE-1141049
CAREER: Designing an Information Savvy Society: Assessable Participatory Information Environments	150,681	IIS-1253302
Year 2: Collaborative Research: I/UCRC Phase 1: Center for Visual and Decision Informatics (CVDI)	55,000	IIP-1160960
Capacity Building: Development and Dissemination of the Drexel University Cybersecurity Program	888,491	DUE-1241631
SHF-Small: Collaborative Research: Automating the Detection of Architecture-Level "Bad Smells"	196,245	CCF-1116980
REU Supplement: PIRE: Humanoids - Universally Accessible Infrastructures to Advance Capabilities	16,000	OISE-0730206
AHSS: Development of Novel Finite Element Simulation Tools That Implement Crystal Plasticity Constitutive Theories Using an Efficient Spectral Framework	215,000	CMMI-0727931
REU Site: Computing for Power and Energy: The Old, The New and The Renewable	360,000	CNS-1004936
DISSERTATION RESEARCH: Patterns, causes, and consequences of gut microbial community variation across fish	14,987	DEB-1210695
Confined Self Assembly of Fully Conjugated Rod-Rod Diblock Copolymers in Nanofibers	127,886	CMMI-1144376, CMMI-1144376 - 01
Collaborative Research: Efficient Surface-Based Numerical Methods for Interfacial Flows in 3D Fluids	249,217	DMS-1016267
NUE: Nanomanufacturing for Energy and Biomedical Engineering	199,400	EEC-1138240
Establishing a Research Collaboration between Cognitive Scientists and Engineering and Engineering Technology Faculty: Integrating Creativity into Undergraduate Course Projects	146,956	EEC-1240253
Supporting the Emergence of a Professional Teaching Community Through Collective Knowledge-building Based on Assessment and Feedback of Students Mathematical Thinking	2,083,101	DRL-1222355
Integrating Biomechanical Engineering Research and Design in a Co-Operative Education Curriculum	199,196	DUE-1141186
Planning Grant for Unmanned Aircraft Systems Site NSF I/UCRC	13,779	IIP-1238280



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Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Collaborative Research: Determination of Ni-Fe-Cr Species Dependent Transport Through Control of Temperature, Irradiation, and Grain Size	144,000	DMR-1105681
CAREER: The Role of Grain Boundary Character in Corrosion Behavior: Linking Atomic Scale Interfacial Structure to Precipitation and Failure Mechanisms	400,000	CMMI-1150807
Collaborative Research: CSBR: Natural History Collections: Georeferencing U.S. Fish Collections: a community-based model to georeferencing natural history collections	50,195	DBI-1203053
Seismic Response of Concrete Gravity Dams Subjected to Spatially Variable Excitations	259,932	CNNI-1129396
CAREER: Towards HCI Theory for Technical and Gender Identity: Promoting Girls Computer Programming in Schools	100,940	IIS-1253465
Insight and Resting-State Brain Activity	200,649	BCS-1125596
Workshop on Cloud Robotics and Real-Time Big Data	44,854	Advance
NEB: Meta-Capacitance and Spatially Periodic Electronic Devices (MC-SPEED)	1,700,000	DMR-1124696
Integrating High Speed Computer Numerical Control Machining, Precision Metrology & Machine Tool Calibration Systems Into Engineering Technology Curricula	199,992	DUE-1141087
Fundamental Studies of the Thermoacoustic Effect: Interaction of Acoustic Waves with Viscous Fluids	11,999	CBET-0853959, CBET-0853959, CBET-1243130
REU Supplement for DataNet	30,758	S-37407
Pacific Atmospheric Sulfur Experiment (PASE)	1,952,150	AGS-1201486, ATM-0627227
Topics in Geometric and Multiscale Numerical Methods	230,825	DMS-1115915
Construction and Characterization of VariWave Antennas	16,930	IIP-113508
Multi-scale Study of Coupled Reaction and Wetting in Droplet Spreading	160,000	DMR-1104835
Degenerate Dispersive Effects in Partial and Lattice Differential Equations	139,597	DMS-1105635
CAREER: The Integration of Sensing, Control, and Mechanics in Multi-Fin Swimming - a Biological Model for Systems with Distributed Sensing, Actuation, and Tunable Plant Properties	420,235	CMMI-1150681
Executive Leadership in Academic Technology and Engineering (ELATE)	49,925	CBET-1213464
CAREER: Octahedral Control of Electronic Properties in Semiconducting Perovskite Heterostructures	96,240	DMR-1151649
Collaborative Research II: From Middle School to Industry: Vertical Integration to Inspire Interest in Computational Thinking	332,942	CNS-0939059
Gender and Science Proficiency for English Language Learners (G-SPILL)	57,476	HRD-1036658
Radio-Loud Quasars: What, When, Where, Why and How	168,310	AST-1108798
EAGER: Collaborative Research: Shear Dependent Reaction Kinetics in Particulate Electrochemical Energy Storage	42,000	CBET-1318341
2012 NSF CISE CAREER Workshop	49,938	IIS-1227966
Collaborative Research: GOALI: Acrylic Resins Optimal Product and Process Design Through Combined Use of Chemical Quantum Calculations and Spectroscopic Methods	112,569	CBET-1160169
Collaborative Research: Spatial Analytical Framework for Examining Community Risk Issues Over Space and Time	11,805	BL-4826908-DU
Toward a Context Adaptive Theory of the Relationship Between Structural Fluidity and Virtual Organization Performance	399,944	OCI-1221254
HCC: Small: Collaborative Research: Assessing Technology Requirements for Preventing Teamwork Error in Safety-Critical Settings	86,112	Prime# IIS-0915871/ Subaward#4584
RAPID: Sustainable Stormwater Technologies	161,527	CBET-1010131



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Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Collaborative Research: Comparative Developmental Analysis of Brain Architecture in Social Wasps	169,195	IOS-1209072
CAREER: Engineering and Integration of Polymer Electronic Materials for Alternative Energies	41,000	CBET-0846245
Collaborative Research: Transport and Separation through Virus-Structured Nanoporous Membranes	79,973	CBET-1264958
CAREER: Multi-Scale Study of Transport Phenomena in Printable Electronics for Enhanced Microstructure and Properties	26,233	CBET-1242436, CBET-1249212
Collaborative Research: GOALL: Design of Chemically Self-Regulated, Acrylic Coatings Processes through Iterative Use of Chemical Quantum Calculations and Spectroscopic Methods	2,000	CBET-0932882
CAREER: Interfaces and Their Effect on Charge Transfer in Extremely Thin Absorber Solar Cells	160,000	CBET-0846464
CAREER: New Water-Soluble Ligands and Transition Metal Complexes For Enzyme Modeling and Catalysis	29,534	CHE-0846383
Collaborative Research: The M8.0 Pisco Peru Earthquake-A Benchmark Ground Failure Event for Remote Sensing and Data Archiving	119,297	CMMI-0928737
I-Corps: Assessment of Commercial Viability of Electrochemical Flow Capacitors for Grid Scale Energy Storage	50,000	IIP1242519
Greater Philadelphia Region Louis Stokes Alliance for Minority Participation - Philadelphia AMP Initiative (Senior Level Alliance)	110,866	HRD-0903924
Axonal Microtubules Cut and Run	180,000	0841245
Student Travel for PerMIS 2012	14,244	IIS-1230469
Collaborative Research: Inferring Bacterial Roles in the Evolution of Tropic Level Across a Community of Ants	327,370	DEB-1050360
Privacy Analytics for Users in a Big Data World	93,964	CNS-1253418
RET in Engineering and Computer Science Site for Machine Learning, Big Data and Computer Science Principles	499,989	CNS-1301171
CAREER: Biochemical and biomechanical interactions within the endothelial cell - basement membrane co-regulatory unit	32,691	CBET-0846751
Workshop: ACM Group 2012 Conference Doctoral Research Consortium	20,316	IIS-1228614
Inquiry-based Laboratories for Engaging Creative and Performing Arts Students in STEM	25,000	DRI-0733284
HCC: Medium: Collaborative Research: Improved Control and Sensory Feedback for Neuroprosthetics	86,553	IIS-1064871, IIS-1064871
TTP: Medium: Securing the Wireless Philadelphia Network	1,080,445	AWARD ID 1228847
Detection and amplification of DNA at near room temperature	339,984	CBET - 1159841
Collaborative Research: NSF I/U CRC Center for the Visual and Decision Informatics (CVDI)	55,000	IIP-1160960
Nanofiber-based Novel Electrode Architecture for Li-Air Batteries	362,457	CBET-1236466
SHF: Medium: Collaborative Research: An Economics-based Framework for Quantitatively Assessing Software Modularization Decision	132,882	1065189
Collaborative Proposal: Career Enhancement of Academic Women in Earthquake Engineering	191,332	CMMI-1141421
Collaborative Research: Spatial Cluster Detection Based on Contiguity and Relative Contiguity	179,543	SES-1154316
Reconfigurable Antenna-based Enhancement of Dynamic Spectrum Access Algorithms	340,000	CNS-1147838
Antioxidant Depletion Mechanisms in Polyethylene-Clay Nanocomposites	6,000	CMMI-1136206



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Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Improving Analysis of Microbial Mixtures through Sparse Reconstruction and Statistical Inference	666,322	DMS-1120622
Collaborative WiMAX Infrastructure with Temple University	100,000	CNS-1138949
GRAToL REU Supplement: Research Experience for Undergraduate on Assembling the Green Algal Tree of Life Project (GRAToL, NSF 1036478)	6,250	DEB-1036478
Collaborative Research: GOALI: Synergistic Improvement of Process Safety and Product Quality Using Alarm Databases	158,772	CBET-1066461
Greater Philadelphia Region LSAMP Bridge to the Doctorate (Cohort X) Project	987,000	HRD-1249177
Computer-Supported Math Discourse Among Teachers and Students	804,914	DRL-1118773
Graduate Research Fellowship	52,650	DGE-1002809
Probability and Analysis	25,500	DMS-1140747
Supplement: I/UCRC Phase I: Center for the Visual and Decision Informatics (CVDI) -REV Supplement #235767	8,000	IIP-1160960
Greater Philadelphia Region LSAMP Bridge to the Doctorate (Cohort IX) Project	987,000	HRD-1139870
Collaborative Research: Baseline Survey of the Lower Xingu River Rapids, Brazil: a Highly Diverse, Globally Unique, and Immediately Imperiled Ecosystem	156,443	DEB-1257813
Planning Grant: openITML - Scaffolded Web Development Toolkit to Support Elementary Computational Literacy	8,000	CNS-1152094
REU Supplement for Career: Interfaces and Their Effect on Electron Transport	5,000	CBET-1138739
Collaborative Research: Optimal Design and Operation of Dye Sensitized Solar Cells Using an Integrated Strategy Involving First-Principles Modeling and Simulation, Synthesis, and Characterization	260,705	CBET-1236180
CSBR: Natural History Collections: Digital Imaging of Molluscan Type Specimens at the ANSP	355,328	DBI-1203605
CAREER: A New Paradigm in Control and Coordination of Robot Teams in Geophysical Flows	249,999	IIS-1253917
EAGER Proposal for Research in STEM Learning: Design and Development a Digital Play-based Platform to achieve Projective Reflective for 21st Century Learning.	50,000	DRL-1250243
Hybrid Wireless Network-on-Chips	400,000	AWARD ID 1232164
CAREER: Supporting Fast-Response Medical Teams Through Interactive Information Displays	77,765	IIS-1253285
REU: Enhancing the Life Cycle of Plastic Pipes Through Nano-reinforcement	6,000	AWARD 1030783
Closed-loop Deep Brain Stimulation, Synchrony Breaking and Chimera State	164,996	DMS-1226180
NIST-Drexel Collaborative Study on Metal/Oxide Interfacial Magnetism	16,655	CMMI-1031403
Non Invasive Ultrasound Assisted Delivery of Drug Loaded Intact Liposomes: A Combined Experimental and Modeling Approach	330,035	CBET-1064802
ASYMMETRIC NANOPARTICLES FOR INKJET PRINTING	250,001	CMMI-1200385
Collaborative: OpenFE - Developing Faculty Expertise and Creating Learning Materials for Humanitarian Free and Open Source Software	289,512	DUE-1225708
EAGER: Ensemble Design of Resource-Aware Control Strategies for Multi-Agent Robotic Systems	107,999	CNS-1143941, CNS-1229215
IPA - NSF CMMI-SMM Program Director	377,520	CMMI 1118569
Photoexcited Carrier Dynamics in Oxide Semiconductors for Photovoltaics	380,000	ECCS-1201957



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Project Title	Amount Obligated To Date	Sponsor Award Number(s)
CAREER: Highly-Ordered Electrode/Catalyst Assembly in Proton Exchange Membrane Fuel Cells for Enhanced Catalyst Utilization	85,612	CBET-1150528
Synthesis and Processing of Electroactive Polymers in Nanostructured Energy Devices	118,939	CBET-1264487
EAGER/Collaborative Research: Solid Freedom Fabrication of a Conceptual Artificial Photosynthesis Device	100,118	CMMI-1141815
Fundamentals of Interfaces and Related Losses in PEM Fuel Cells: Theoretical and Experimental Studies	7,500	CBET-1066623
Catalyzing New International Collaborations: Collaborating to Create Smart, Adaptive and Sustainable Built Infrastructure	32,130	OISE-1132960
Mathematical Analysis of Synchronization in Complex Networks	139,835	DMS-1109367
Direct Reconstruction Methods for Optical Tomography and Related Inverse Problems	239,997	DMS-0018858
CAREER: Enhancing the Precision of the Double Chooz Experiment By Calibration with an Articulated Robotic Arm	114,746	PHY-0748544
Collaborative Research: International: US-Brazil - From Local to Global Multi-Robot Systems for Large Scale Cooperative Tasks	73,671	OISE-1131011
On the fly free energy parameterization using temperature accelerated molecular dynamics	283,710	DMR-1207389
Changes in Salt Marsh Morphology Due to Hurricane Sandy	168,619	DEB-131951
Collaborative Project Ensemble: Enriching Communities and Collections to Support Education in Computing	20,024	DUE-0840721
RET: Research Experience for Teacher on Assembling the Green Algal Tree of Life Project (GrAToL NSF 1036478)	12,000	DEB-1036478
Collaborative Research: Improving Software Design Education Through Architecture Review	68,444	DUE-1140752
CRI II-NEW: MM-SISTR - Infrastructure for Enabling Mobile-Manipulation Unmanned Aerial Vehicle (MM-UAV) Research and Design	649,999	CNS-1205490
Collaborative Research :Smart Power Distribution System Curriculum: Multi-Institution Demonstration and Deployment	259,111	1226126
RAPID: Aerial Imaging and Ground-based Surveys for Post-Disaster Assessment of Areas Affected by Hurricane Sandy	50,000	AWARD ID 1313863
Understanding the chromatin remodeling factor kismet in glutamatergic neuron development and function	175,000	advance
Collaborative Project: Ensemble: Enriching Communities and Collections to Support Education in Computing	104,964	DUE-0840721
Collaborative Research: Social Diffusion in Online Media for Reaching Hidden Communities	126,402	SES-1111023
Supplement: CVDI Request for REU Supplement #235767	16,000	IIP-1160960
CE21 Planning Grant: Open HTML-Scaffolded Web Development Toolkit to Support Elementary Computational	199,991	CNS-1152094
Hypothesis-driven Computational Genomics: Engaging Students in Lab Protocols and Bioinformatics via Inquiry	199,993	DUE-1245632
MRI: Acquisition of a Soot-Particle Aerosol Mass Spectrometer, for the Measurement of Particulate Chemical Composition	467,925	AWARD 1229298
RAPID: Supporting Haitian Infrastructure Reconstruction Decisions with Local Knowledge	199,854	CBET-1032184
	29,980,610	



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National Security Agency

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Face Reconstruction	159,481	GS330_13_DRE05-000
	159,481	

Naval Air Systems Command (NAVAIR)

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Senior Design, NavAir Systems Command, AUTOMATED NETWORKED TRANSPORT SWARM (ANTS) HARDWARE	11,499	Award dtd 2/9/2012, N68335-12-P-0180
Senior Design, NavAir Systems Command	5,499	AWARD DTED 03/29/2012
	16,998	

Oak Ridge National Laboratory

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Fluid Interface Reactions, Structures, and Transport (FIRST) Center	141,680	4000085877/Prime # DE-AC05-00OR22725
Energy Frontier Research Center for Fluid Interface Reactions, Structures, and Transports (EFRC-FIRST)	38,057	4000085877/Prime # DE-AC05-00OR22725
	179,737	

Oak Ridge National Laboratory/Dept of Energy

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Fluid Interface Reactions, Structures, and Transport (FIRST) Center - Preparation and Delivery of Carbon Materials	18,216	4000086424/Prime# DE-AC05-00OR22725
	18,216	

Office of Naval Research

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Vertical Charge Ordering Transistors Enabled by Structurally Couple Heteroninterfaces	641,894	N00014-11-1-0664
Control Scheme Limit Identification for Shipboard Power Systems - Formulation and Related Issues	350,000	N00014-10-1-0195
Effects of Stress, Composition, and Interface Type on B-Phase Precipitation in Al-Mg Alloys	114,999	N00014-12-1-0505
Novel Mechanism for Conductivity Modulation in Complex Oxide Heterostructures	225,000	N00014-11-1-0109
Physically-Based Statistical Approaches to Radiometric Scene Understanding	92,045	N000141110099
Collaborative Robots in Geophysical Flows: Understanding How Local Measurements Imply Global Structures	322,826	N00014-12-1-1019, N00014-12-1-109
In Situ TEM Studies of Coupled Device Structures Under DC Bias: Towards a Quantitative Understanding of Strain-Mediated Mechanisms	150,456	N00014-11-1-0296
Simulation Methods for Design of Networked Power Electronics and Information Systems	55,365	10-1795/N00014-10-1-0625
ULI: Magnetoelectric Nanostructures for Magnetic Field Sensing	75,000	N00014-11-1-0370



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Project Title	Amount Obligated To Date	Sponsor Award Number(s)
DRC-Hubo - Leveraging a 7-Hubo Infrastructure and Unified Algorithmic Framework for the DARPA Robotics Challenge	770,339	N65236-12-1-1005
Novel Acoustics-based Framework for SHM of Navy Assets	40,000	N00014-13-1-0143
Fish fins as multifunctional propulsive and sensory systems for autonomous operations in the complex underwater environment	220,635	1155AJ
Below-Deck Electromagnetic Characterization for RF Wireless Network Operation, Phase III	100,000	N00014-13-1-0312
Below-Deck Electromagnetic Environment Characterization for RF Wireless Network Operation	231,000	N00014-12-1-0262
	3,389,559	

Other Federal Pass Thru

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Epigenetic Changes Associated with Neurodegenerative Diseases	87,309	1R01NS078283-01
Microbiology & Wound Healing Evaluations of Plasma Technology	19,296	66543C
Fusing Green Energy into Manufacturing Education	150,000	P031S120131
Central Control of Mobility in Aging	31,836	9-526-5549 / 1R01-AG036921-01A1
Overhead-Performance Tradeoffs in Distributed Wireless Networks: A Unifying Framework, Fundamental Limits, and Practical Controllers	272,688	FA9550-12-1-0086
Single molecule DNA mapping for DNA and CNV analysis	224,687	R01HG005946
IL1R Signaling and Immune Deviation in EAE	147,658	1R01NS069628-01
Philadelphia Regional Noyce Partnership	35,160	46940-01 / DUE-1136323
Evaluating coastal wetland vulnerability to sea level rise in Pennsylvania	15,587	4721-ANS-NOAA-0061
Spiral: Scalable and Performance Portable Domain-Specific Control System Synthesis	139,535	1150112-292646
Using X-rays to Test for Black Hole Mass Biases	74,996	AR3-14009X
Towards Optimization of Macrocognitive Processes: Automating Analysis of the Emergence of Leadership in Ad Hoc Teams	165,189	N00014-11-1-0221
Improved DNA Vaccines	125,733	551404
Centers for Autism and Developmental Disabilities Research and Epidemiology (CADDRE) : Study to Explore Early Development (SEED) II	47,303	U01DD000746
NAVY YARD NETWORK OPERATIONS CENTER: An innovative energy management, workforce development and education opportunity for Greater Philadelphia	36,305	DE-EE0004261
Neural Basis of Generalized Quantifiers	14,120	5-R01-NS-044266-07, 558437
Axonal Transport Deficits During Hereditary Spastic Paraplegia	60,834	2010-00275-01-03
Using Spatial Visualization Training to Enhance Retention in Engineering	2,500	AWARD LTR DTD 08/20/12
Eating for Life: Dietary Behaviors Among Long Term Cancer Survivors (Subcontract w/JHU)	38,651	1R21CA152789-01A1
NASA Pennsylvania Space Grant Consortium: Affiliate Proposal	22,500	4498-DU-NASA-K&4H, NNX10AK74H
Subcontract Drexel University: Johns Hopkins University U. S. Army Medical Research	102,716	W81XWH-0700451
CROCUS: Cross Cultural Training for US and EU Union Students	38,982	56404A P4012 7802 211
Research Workshop: Greening of Cities	6,669	CMMI-1249672
Improving outcome measurement for medical rehabilitation clinical trials	10,881	5R24HD065688-03
Retraining Neurocognitive Mechanisms of Cancer Risk Behavior	24,998	560241



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Other Federal Pass Thru

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Development and Validation of Autism Case Conf NCS Form 8	1,093,186	HHSN27520080000033C
Childhood Stress: A Qualitative Analysis of the Intergenerational Circumstances of Child Hunger	82,754	3048108673-12-659
Magnesium and the Metabolic Syndrome TRIAL	26,000	5-R21-DK-078368-02
Pennsylvania Public Health Training Center	215,000	0021302 (122012-1)
DATANET (Subcontract from UNC)	200,000	5-37142
Center for Integrative Approaches to Health Disparities (CIAHD) - Environmental Rev	305,968	3002185790
Executive Control in Parkinson's Disease	9,330	PO 2784359
Reverse Piezoelectric Behavior and Dynamics of Piezoelectric Ceramics	80,238	#2001706125
Characterization of phytoplankton functional taxonomic groups in relation to juvenile hard clam production in the Barnegat Bay - Little Egg Harbor	7,872	CE98212311-2,3/#4796
Program Evaluation of Physical Therapy in Schools	113,219	R324A110204
Novel Approaches to Predict Energy Expenditure & Physical Activity Levels in Preschoolers	68,846	101247752/R01DK085163
RAPID: Understanding Sudden Hydro-Climatic Changes and Exploring Sustainable Solutions in the Enriquillo Closed Water Basin (Southwest Hispaniola)	20,131	40C90-A
Using Driving Simulators to Measure and Improve Teen Driving Behavior	41,414	R49CE01507
Portion Control Lifestyle Change to Decrease Obesity in Persons With Disabilities	32,468	36061-04770-02
Enhanced wound healing using topically administered nanoparticle encapsulated siRNA	77,894	9-526-6901
CASA: Assist in the On-going Effort to Model the Forecaster Warning Decision Process	42,964	EEC-0313747/04-002341 Loo
The impact of uncertainty in genome-wide testing for autism spectrum disorder	14,000	1R21-HG006560-01
Development of Detailed and Reduced Kinetic Mechanisms for Surrogates of Petroleum-Derived and Synthetic Jet Fuels: Phase II	251,086	FA9550-11-1-0217
Evaluating an Intervention Affecting Black Men's Structural and Behavioral HIV Risk	351,881	32208431
Fission Product Transport in TRISO Particle Layers under Operating and Off-Normal Conditions	199,986	Sub#3001805462/Battelle Contract# 00103195
Optimizing ELQs for Treatment and Prevention of Malaria	127,515	1R56AI100569-01
High SFDR Fiber-optic Link	274,810	2247
Cortical Norepinephrine and Adolescent Executive Function	71,474	PZ11044 / MH087921(Prime)
Nutrition Outreach in Philadelphia Public Schools	1,760,444	advance
Commitment Contracts for Health-Behavior Change	35,844	R21AG02051
Artificial Oxide Heterostructures with Tunable Band Gap	40,000	253388
Center for Integrative Approaches to Health Disparities (CIAHD)	200,000	3002467248
	7,660,457	

Philadelphia Veterans Affairs Medical Center

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Using Adipose-Derived Stem Cells to Treat Spinal Cord Injury	270,689	Letter dated 10/01/2011, Letter dated 11/04/2009
	270,689	



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Sandia National Laboratories

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Drexel University-Sandia National Laboratories Contract for "Developing and Understanding Advanced Corrosion Resistant Coatings for the Acquisition, Transport, and Storage of Petrochemicals, etc."	27,503	1188070
	27,503	

U.S. Army

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Materials in Extreme Dynamic Environments (MEDE) Collaborative Research Alliance (CRA)	87,149	29613
ACIN-Phase XII Agent Feasibility	425,000	DAAB07-01-9-L504
ACIN-Phase XII Agent Feasibility Task 12.5/7A -Overlays for Group Communications on Heterogeneous Networks (Groupwise)	100,000	DAAB07-01-9-L504
Design and Prototype System	200,000	DAAB07-01-9-L504
C2MINCS Using WIMAX (C2MAX)	200,000	DAAB07-01-9-L504
Independent Software Assurance of the Army Research Labs (ARL)	92,185	W15P7T-06-9-P011/0033
Determination of Germination and Microhabitat Requirements and Role of Disturbance on Knieskern's Beaked rush (Rhynchospora knieskernii) at Warren Grove Range, New Jersey	122,499	W9126G-11-2-0041
DURIP: Laser Sources for Characterization of Functional Oxide Materials	198,978	W911NF-11-1-0375
	1,425,811	

U.S. Army Communications-Electronics Command (CECOM)

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
SRC ACIN Subcontract	1,477,540	W15P7T-06-9-P011-0034
ACS P011 TO#36 Prototype Development of a Network Integration Evaluation (NIE) Lab-based Risk Reduction (LBRR) Capability	1,275,000	W15P7T-06-9-P011-Task Order No. 0036
	2,752,540	

U.S. Army Medical Research Acquisition Activity

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Warren Grove Bombing Range Integrated Natural Resources Management Plan	302,996	DAMD17-02-2-0045, F9WTFEV1144G001
	302,996	

U.S. Army Research, Development and Engineering Command

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Nanocrystalline MAX/Mg Composites with Exceptional Properties	179,714	W911NF-11-1-0525
Networks with directional antennas	130,000	DAAB07-01-9-L504
ACIN 11 Cognitive Networking	200,000	DAAB07-01-9-L504
	509,714	

U.S. Department of Agriculture



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U.S. Department of Agriculture

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Distributed On-Farm Bioenergy, Biofuels and Biochemicals (FarmBio3) Development and Production via Integrated Catalytic Thermolysis yr 1 rev	139,241	59-1935-3-002
Identification of phenotypic characteristics affecting enhanced survivability associated with ground turkey salmonella outbreak strains	18,000	58-1935-2-321
Prevalence, Levels, and Subtypes of Listeria Monocytogenes in Higher Risk Foods	757,295	1935-41420-012-158, 58-1935-0-090
LCA of Pyrolysis Oils and Biochar	10,000	58-1935-0-083
Uruguay ECPA project	6,556	58-3148-2-140
FSIS Prevalence and Levels of Listerial Monocytogenes in Ready-to-eat Retail meat and Poultry	185,000	
	1,116,092	

U.S. Department of Education

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
GAANN for Renewable Energy Technologies and Infrastructure Networks (RETAIN)	177,688	P200A100117-12
GAANN BIOMSE: Innovative Biomaterials	177,688	P200A120103
GAANN: Drexel Research and Education in Advanced Materials (GAANN-DREAM) 213030	133,266	P200A100134-12
Engineers as Global Leaders in Energy Sustainability (EAGLES)	113,985	P116J100037
GAANN: Interdisciplinary Training in Mechanical Engineering and Science	131,925	P200A100145
Rhode Island Gear up Evaluation	161,396	Contract Dated 10/19/2011
GAANN: Drexel Research and Education in Advanced Materials (GAANN-DREAM)	131,925	P200A100134
GAANN for Renewable Energy Technologies and Infrastructure Networks (RETAIN)	175,900	P200A100117
GAANN: Graduate Fellowships in Education with a Focus on the National Academy of Engineering Grand Challenges	133,266	P200A120253
Economic Analysis of the Contributions of Immigrant Professionals	100,000	Contract Dated 9/8/2011
GAANN 2012: Bioinformatics of Infectious Diseases	177,688	P200A120161
Engineers as Global Leaders in Energy Sustainability (EAGLES)	126,427	P116J100037-12
	1,741,154	

U.S. Department of Energy

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Greater Philadelphia Regional Innovation Cluster for Energy Efficient Buildings	336,561	DE-EE0004261
Silicon Carbide Derived Carbons: Experiments and Modeling	300,000	DE-FG02-07ER46473
Linking the CoDependence of Grain Boundary Structure and Density to Defect Evolution Mechanisms During Radiation Damage	300,001	DE-SC0008274
Experimental Neutrino Physics	126,000	DE-SC0007988
Plasmon-Enhanced Photovoltaics: Energy and Charge Transfer in Coupled Nanoassemblies	119,914	DE-SC0006922
Year Two Activities of The Greater Philadelphia Regional Innovation Cluster for Energy Efficient Buildings	35,180	DE-EE0004261
Former Pantex Worker Medical Surveillance Program	270,000	DE-FC01-06EH06003
	1,487,656	



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U.S. Department of Health and Human Services

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
EMSC Targeted Issue Grants	20,759 20,759	1H34MC19351-02-00

U.S. Department of Homeland Security

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
National Fire Fighter Near-Miss Reporting System	120,000	Agreement Dated 8/16/11
Fellowship Program in Microbial Risk Assessment for Built Environment	300,000 420,000	2008-ST-104-000014

U.S. Department of Justice

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Real Crime in Virtual Worlds	121,813	DRAX-DREXEL-2011-01
Improving Intervention Services for Violently Injured Victims	500,000	2011-VF-GX-K019
Educating Stakeholders About Crimes Committed Using Handheld Devices	275,902	DRAX-DREXEL-2011-02
A place-based, planning approach to public safety and community development in Mantua.	26,400 924,115	2012-AJ-BX-0003

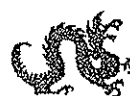
U.S. Fish and Wildlife Service

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
Conservation of the Critically Endangered Pennant's Red Colobus on Bioko Island, Equatorial Guinea	16,500	F11AP00284 replaced 96200-1G248
The Effect of Open Marsh Water Management Flooding (OMWM) & Accretion in Coastal Wetlands	17,144	F11AC00274
Conservation of Bioko Island's Endangered Amphibians, Arlequinus Krebsi and Didynamipus Sjos	10,609 44,253	F11AP00338 replaced 96200-1-G279

U.S. Navy

Project Title	Amount Obligated To Date	Sponsor Award Number(s)
"Innovative Approaches to the Development of Zinc-Oxide (ZnO) Nanowire Technologies for Advancing Full-Spectrum Photonic Sensing"	37,500 37,500	N68335-11-C-0040/ PO#41867-101510-05

University Total 122,727,606



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JOHN ANDERSON FRY



Education

- 1982-1986 **NEW YORK UNIVERSITY STERN SCHOOL** **NEW YORK, NY**
OF BUSINESS
Master's in Business Administration
- 1978-1982 **LAFAYETTE COLLEGE** **EASTON, PA**
Bachelor of Arts in American Civilization. Recipient of the George Wharton Pepper Prize, highest honor awarded to a graduating senior. Served as President of the Student Government and Head Resident Advisor. Selected as a McKelvy Scholar. Member of the Board of Trustees from 1997-2002, and currently serving a second term as Trustee. Awarded an Honorary Degree, Doctor of Humane Letters, in 2008.

Work Experience

- 2010-Present **DREXEL UNIVERSITY** **PHILADLEPHIA, PA**
President and Chief Executive Officer
President, Philadelphia Health & Education Corporation (College of Medicine)
Chairman, Drexel eLearning

Founded in 1891 in Philadelphia, Drexel is a comprehensive urban research university ranked among the top 100 in the nation. With approximately 26,000 students, Drexel is America's 14th largest private university and is one of Philadelphia's top 10 employers, and a major engine for economic development in the region.

- 2002-2010 **FRANKLIN & MARSHALL COLLEGE** **LANCASTER, PA**
President
Founded in 1787, Franklin & Marshall College is one of the nation's most selective private liberal arts colleges with a strong academic profile and a group of students drawn from across the nation and around the world. Franklin & Marshall enrolls approximately 2,200 students, and offers 40 majors in the Humanities, Arts, Social Sciences and Natural Sciences.

Responsible for creating and implementing successive strategic plans to strengthen the College's national profile and attract new resources. Led initiatives to increase admissions selectivity to record levels; to recreate the residential environment; to substantially enhance the College's fundraising capacity; and to fund and execute critical capital projects, including a new interdisciplinary life sciences building, a new center and renovated building for programs in business, government and public policy, and centers to support international programs, creative writing, and Jewish life. Also responsible for developing and managing relationships with local business partners and area residents through creation of a business improvement district, an economic innovation zone, acquisition and development of brownfields sites, and creating public/private partnerships to stimulate investments in community revitalization.

- 1995-2002 **UNIVERSITY OF PENNSYLVANIA** **PHILADELPHIA, PA**
Executive Vice President
Chief operating officer of the University responsible for all matters related to finance, investments, human resources, facilities and real estate, public safety, information systems and computing, auxiliary enterprises, research administration, technology transfer, corporate relations, internal audit and regulatory compliance. Also responsible for developing and executing a nationally-recognized neighborhood revitalization strategy in West Philadelphia. Primary university liaison to the University of Pennsylvania Health System, and a member of the Health System's Executive Committee.
- 1991-1995 **COOPERS & LYBRAND** **NEW YORK, NY**
Partner-in-Charge, National Higher Education and Not-for-Profit Consulting Practice, September 1994
Partner, December 1993
Managing Associate, March 1991 to November 1993
Responsible for developing a higher education and not-for-profit management consulting practice on the East Coast and later nationally. Focus on strategic planning, organizational restructuring, productivity improvement, and financial management. Primary responsibility for managing relationships with major university and not-for-profit clients at the board and presidential levels.
- 1984-1991 **KPMG PEAT MARWICK** **NEW YORK, NY**
Senior Manager, June 1989 to February 1991
Manager, June 1988 to May 1989
Senior Consultant, June 1986 to May 1988
Consultant, June 1984 to May 1986
Functional specialties in strategic planning and organizational and financial restructuring. Additional experience in financial analysis and facilities planning. Client base primarily major research universities, multi-campus public university systems, private colleges and large not-for-profits. Responsible for managing complex projects and teams of professional and support staff.
- 1982-1984 **PEAT, MARWICK, MITCHELL & CO.** **NEW YORK, NY**
PLACE Program
Chosen to participate in a joint program sponsored by the "Big Eight" accounting firms and New York University's Stern School of Business. Attended graduate school during evenings and weekends and served as a staff accountant with responsibility for nonprofit and commercial clients.

Current Board Activities – Nonprofit

ACADEMY OF NATURAL SCIENCES OF DREXEL UNIVERSITY

Member of the Board of Directors

BEN FRANKLIN TECHNOLOGY DEVELOPMENT AUTHORITY

Member of the Board of Directors

GREATER PHILADELPHIA CHAMBER OF COMMERCE

Member of the Executive Committee of the Board of Directors

LAFAYETTE COLLEGE

Member of the Board of Trustees; Member of Educational Policy Committee

PENNSYLVANIA ACADEMY OF THE FINE ARTS

Member of the Board of Trustees

PHILADELPHIA SCHOOL PARTNERSHIP

Member of the Board of Directors

SELECT GREATER PHILADELPHIA

Member of the Board of Directors

THE SHIPLEY SCHOOL

Member of the Board of Trustees

US SQUASH

Member of the Board of Directors

Current Board Activities - Corporate

COMMUNITY HEALTH SYSTEMS

Member of the Board of Directors; Member of the Audit Committee and Corporate Governance Committee

DELAWARE INVESTMENTS

Member of the Board of Directors; Member of the Investment Committee and the Audit Committee

MILTON HERSHEY SCHOOL BOARD OF MANAGERS / THE HERSHEY TRUST CORPORATION

Member of the Board of Managers/ Member of the Board of Trustees

Previous Board and Professional Activities (selected)

BENJAMIN FRANKLIN TERCENTENARY COMMISSION (2004-2007)

Appointed by President George W. Bush

GOVERNOR'S TRANSITION TEAM, COMMONWEALTH OF PENNSYLVANIA (2003)

Co-Chair of the Team, Appointed by Governor-elect Edward G. Rendell

GREATER PHILADELPHIA TOURISM MARKETING CORPORATION (2000-2002)

Member of the Board of Directors

HAVERFORD SCHOOL (2005-2011)

Member of the Board of Trustees

JAMES STREET IMPROVEMENT DISTRICT (2003-2008)

Founding Chair; Five-Term Chair of Board of Directors

LANCASTER COUNTRY DAY SCHOOL (2002-2010)

President of the Board of Trustees

LANCASTER GENERAL HOSPITAL (2002-2010)

Member of the Board of Directors

NATIONAL COLLEGIATE ATHLETIC ASSOCIATION (2003-2009)

Two-Term Chair of Division III President's Council; Member of the NCAA Executive Committee

PHILADELPHIA INDUSTRIAL DEVELOPMENT CORPORATION (1999-2002)

Member of the Board of Directors

UNIVERSITY CITY DISTRICT (1997-2002)

Founding Chair; Five-Term Chair of Board of Directors