

Louisiana Tech University



BREEZE BULLETIN

Office of University Research (<http://research.latech.edu>)

TABLE OF CONTENTS

New Grants Awarded 2,6
 Proposals Submitted 3-5
 Southern Compass/IT jobs report . . 5
 Additional Grant Funding for
 Existing Awards 6

2012-13 TECH FRINGE RATES

Faculty/Unclassified/Post Doc: 42.82%
 Civil Service: 47.52%
 Temporary/Part-time: 9.40%
 DROP: 18.42

To download a pdf, go to http://research.latech.edu/files/documents/2012-13_latech_fringe_rates.pdf.

IN-HOUSE WORKSHOPS

- **LaTech Proposal Process** - Sept. 25 @2-3pm WT1535.

Register via e-mail to bfree@latech.edu to reserve your spot.

For a full list and description of in-house workshops, go to http://research.latech.edu/resources/training_workshops/latech_workshops.



Most scientists regarded the new streamlined peer-review process as 'quite an improvement.'

Nearly every man who develops an idea works at it up to the point where it looks impossible, and then gets discouraged. That's not the place to become discouraged.

Thomas A. Edison
 (1847-1931, American Inventor, Entrepreneur, Founder of GE)

Press Release 12-156

NSF Reports on R&D Spending by Businesses in the United States

HEALTH AND DEFENSE APPLICATIONS ACCOUNT FOR 40 PERCENT OF BUSINESS R&D

August 22, 2012

Businesses in the United States are focusing a large portion of their research and development efforts on health and defense, according to a National Science Foundation (NSF) [report](#) released today.

Of the \$290.7 billion in total R&D that was performed by businesses in the United States in 2008, 40 percent was applied to health and medical areas (\$76.1 billion) and defense areas (\$41.5 billion). More than 86 percent of the health or medical R&D performed by businesses was paid for by the reporting companies themselves. However, the federal government funded most of the defense R&D performed by companies.

R&D paid for by the companies themselves reflects company priorities and strategies. Two-thirds of the company-funded health or medical R&D was performed by companies in the pharmaceutical and medicine industry. And most of the company-funded R&D with defense applications was performed by companies in the computer and electronic products or aerospace industries.

The report also provides detail on energy, environmental protection and agricultural application areas. Data are from NSF's Business R&D and Innovation Survey.

For more information on this report, please contact Raymond Wolfe at rwolfe@nsf.gov.

Please visit NSF's [National Center for Science and Engineering Statistics](#) on the Web for more reports and other products.

-NSF-

The National Science Foundation (NSF) is an independent federal agency that supports fundamental research and education across all fields of science and engineering. In fiscal year (FY) 2012, its budget is \$7.0 billion. NSF funds reach all 50 states through grants to nearly 2,000 colleges, universities and other institutions. Each year, NSF receives over 50,000 competitive requests for funding, and makes about 11,000 new funding awards. NSF also awards nearly \$420 million in professional and service contracts yearly.

NEW GRANTS AWARDED (CONT'D ON PAGE 6)

PI/Co-PI	Title	Funding Agency	\$ Awarded
Sumeet Dua	<i>Analysis of Metagenome Samples Using Fractals</i>	BoR/INBRE/NIH	7,500
Perna Dua	<i>A Comparative Study of Feature Selection and Classification Techniques</i>	BoR/INBRE/NIH	3,750
Adarsh Radadia	<i>Point-of-Care Microelectronic Diagnostics for Early Phase Rickettsial Infections</i>	BoR/INBRE/NIH	19,000
Rebecca Giorno	<i>Role of IunH in Bacillus Anthracis Spore Germination</i>	BoR/INBRE/NIH	18,976
Angela Kennedy	<i>Carl Perkins Leadership Grant</i>	Dept. of Edu/LCTCS	20,000
May 2012 Total			\$888,038
Erez Allouche	<i>Establishment of a Trenchless Technology Electronic Reference Room</i>	La CETF	30,000
Stan Napper	<i>Cyber Discovery 2.0 and Curriculum Development</i>	Cyber Innovation Center/DHS	313,177
Mickey Cox	<i>Consequences of Net Metering on Electric Utilities</i>	SWEPCO	7,320
N.Wassiudden	<i>A Novel Dewetting and Spreading Based Moisture Susceptibility Test Method for Hot & Warm Mix Asphalt</i>	LTRC	30,000
Mike Shipp	<i>Comprehensive Center for Rehabilitation Technology</i>	LRS/DOEducation	1,307,821
David Gullatt	<i>Center for Innovative Learning & Technology (CITAL)</i>	BoR	3,500
David Gullatt	<i>Core to College</i>	BoR	4,000
Glenn Beer	<i>Ouachita MSP: 2012</i>	USDE/OPSS	12,127.80
Arun Jaganathan	<i>Advanced Ultra Wideband Radar for Accurate & Rapid Condition Assessment of Wooden Utility Poles Used in Electrical Transmission Lines ...</i>	BoR/EPSCoR/OPT-IN	37,500
David Gullatt	<i>Louisiana Center for the Blind/La. Tech</i>	State of La./PIDRIB	400,000
Glenn Beer	<i>ACT Quality Core: Accelerated Academic Achievement Initiative</i>	CACG /LOSFA	280,000
Glenn Beer	<i>Building Capacity for Sustainability of College and Career Readiness Initiatives in LA GEAR UP Schools</i>	US Dept. of Edu.	403,837
Caroline Talton	<i>Project PAT: Promoting Algebraic Thinking</i>	US Dept. of Edu.	79,732
Glenn Beer	<i>C3: Chemistry Concepts and Connections</i>	US Dept. of Edu.	76,903.50
Glenn Beer	<i>Project RIPPLE/MISE</i>	U.S. Dept. of Edu.	74,377.50
B. Ramachandran	<i>Computational Analysis and Modeling Doctoral Graduate Fellows 2012-2016</i>	BoR	200,000
Jim Palmer	<i>Superior Graduate Fellows Supporting Three Centers of Excellence in Engineering 2012-2016</i>	BoR	300,000
Terry McConathy	<i>Increasing Diversity in the Doctoral Student Populations at Louisiana</i>	BoR	190,000
Heath Tims	<i>Advanced Manufacturing and Prototyping With Computer Controlled Machining</i>	BoR	45,300
Kevin Singh	<i>Touch Screen Monitors and Webcams for Enhanced Studio Critiques</i>	BoR	37,600
Susan Roach	<i>Going Green: Enhancing the English Technical Writing Lab</i>	BoR	53,744
Mike O'Neal	<i>Integrating Robotics into the Computer Science Curriculum</i>	BoR	70,000
Tom Roberts	<i>Smart Mobile Device Forensics Laboratory</i>	BoR	51,100
Hisham Hegab	<i>PHENOMENal Micro/Nanotechnology Education at Louisiana Tech Uni-</i>	BoR	76,500
Travis Atkison	<i>Developing Effective Rogue Application Prediction Techniques Through</i>	BoR	119,025
Teresa Murray	<i>Invivo Time Course Study of Adult Neurogenesis & Adult Neural Stem Cell Transformation to Tumor Cells in the Mouse Subventricular Zone...</i>	BoR	151,493
Laurie Stoff	<i>More than Binding Men's Wounds: Wartime Nursing in Russia During the Great War</i>	BoR	34,183
June 2012			\$4,389,240.80
2011-12 YTD Total:			\$13,648,778.4

PROPOSALS SUBMITTED

FILE #	PI	Co-PI 's	TITLE	AGENCY	\$ Requested
12-263	Carpenter, Jenna	Evans/McDaniel/ Watson	Learning With Disabilities in Engineering: Equipping Students and Faculty for Success	NSF	499,985
12-264	Holmes, Julie	Cassady/Nielson/ Manning	Core to College	BoR	4,000
12-265	Gourd, Jean	Atkison, Travis	TUES: An Immersive, Projects-Based Intro- ductory Curriculum for the First Cyber Engi- neering Program in the Nation	NSF	185,043
12-266	Kennedy, Angela	Spruell, Chad	Carl Perkins Leadership Grant	LCTCS through NE LA Technical Col- lege	20,000
12-267	O'Neal, Chad	Lvov/Radadia	SNM: Nanocomposite Piezoelectric Films With Graphene Electrodes	NSF	1,499,957
12-268	McKim, Robert	Yang, C.	Mexico City Tunnel Corrosion Study	CH2M Hill	20,000
12-269	Beer, Glenn	Madden, Diane	Ouachita MSP: 2012	USDOEdu through Ouachita Parish Schools	11,728
12-270	Norris, Dave		University Center	U.S. Dept. of Com- merce Office of Economic Dev.	112,850
12-271	Murray, Teresa		In Vivo Surveillance Deep in Mouse Brain	NIH	317,482
12-272	Radadia, Adarsh		A Highly Multiplexed, Reproducible, Scala- ble Ultrananocrystalline Diamond Microarray Biosensor for Real-Time Pathogen Detec- tion	Advanced Diamond Technologies	39,997
12-273	Dai, Weizhong	Guilbeau, Eric	Modeling, Simulation & Experimental Valida- tion for Thermoelectric DNA Sequencing Method	NSF	281,933
12-274	Bell, Edward	Bostick, Laura	Louisiana Tech University Teachers of Blind Students	USDoEdu, Office of Special Education & Rehabilitative Services	1,249,815
12-275	Jaganathan, Arun	Allouche, Erez	Fiber Optic Seal Leak Detectors for Hazard- ous Material Pipelines	Intelligent Optical Systems, Inc.	24,997
12-276	O'Neal, Chad		Growth & Characterization of Graphene Films for Advanced Electronics & Sensors	AFRL	50,000
12-277	Jackson, Paul		Evaluation of Herbicides for the Propagation and Establishment of Herbaceous Plants Indigenous to the Ground-Layer Community of the Longleaf Pine Ecosystem	USDA	24,000
12-278	Allouche, Erez	Cudy/Dighton	Development & Demonstration of a Cast-In- Place-Fibers Technology	CenturyLink	50,020
12-279	Gourd, Jean		A Cryptologic Method for Preventing Unau- thorized Outbound Network Traffic via Au- thenticating Network Devices	USAF	75,000
12-280	Genov, Dentcho	Simicevic, Neven	Surface Plasmon Polariton Diode: Toward Thz Optoelectronics	AFRL	50,000
12-281	Ramachandran, Ramu		GTL Catalyst Development	Jupiter Fuels	400,609
12-282	Jones, Steven		NIH R15	NIH	323,744

PROPOSALS SUBMITTED (CONT'D FROM PAGE 3 . . .)

FILE #	PI	Co-PI 's	TITLE	AGENCY	\$
12-283	Dai, Weizhong		Travel Augmentation for a Dart-2 Award (Moxley)	NASA-EPSCoR-BoR	2,320
12-284	O'Neal, Chad		MEMS-Based Piezoelectric Microphone Arrays on Flexible Substrates	Army/Radiance	49,500
12-285	Wilson, Chester		Marking of Components for Avoidance of Counterfeit	Mda/SBIR	30,000
12-286	Wilson, Chester		Cost-Effective Technologies for Fabrication of Pie/Aerobot	NAVY/SBIR	30,000
12-287	Gourd, Jean		Secure Mobile Interfaces for Business Systems/Praeses, LLC	NAVY/SBIR	36,611
12-288	Crews, Niel		DART2 Augmentation - Thermal Microreactor for Reduced Gravity Biology	LASPACE	4,641
12-289	Beer, Glenn		Supplemental Services in Support of the ACT Quality Core: Accelerated Academic Achievement Initiative	BoR/DOEdu	431,946
13-001	Allouche, Erez		Geopolymer Concrete Mix Design, Testing & Oversight	National Security Technologies, LLC	82,000
13-002	Wick, Collin D.		CAREER: Computational Studies of Ion and Acid-Base Dissociation Reactions at Aqueous Interfaces	NSF	502,684
13-003	Mainardi, Daniela		Bifunctional Nanocatalysts in Mesoporous Silica for Steam Reforming Reactions	DOD	44,613
13-004	Giorno, Becky		Roles of Spore Specific Proteins in Germination and Pathogenicity of Clostridium Difficile	LBRN/INBRE	310,000
13-005	O'Neal, Patrick		Quality Control in Nano-Medicine Towards Early-Stage Cancer Treatment	LBRN/INBRE	210,000
13-006	Hindmarsh, Patrick		Using Combination Antifungal Drug Treatment to Identify Stress Response in Candida Albicans	LBRN/INBRE	310,000
13-007	Genov, Dentcho		CAREER: Inhomogeneous Metal-Dielectric Composite Materials for Enhanced Photovoltaic Devices	NSF	400,000
13-008	McCollum, Heather	Yates/Rutledge	Parent Academy	Lincoln Health Foundation	60,637
13-009	Sherer, Eric		Calibration and Validation of a Predictive Model for Risk of Colorectal Cancer at Follow-up Colonoscopy	LBRN/INBRE	
13-010	Wasiudden, Nazimuddin		CAREER: Investigation of Dewetting & Spreading Mechanisms at Asphalt-Aggregate Interface for Moisture Damage	NSF	408,735
13-011	Radadia, Adarsh		Point-of-Care Microelectronic Diagnostics for Early Phase Rickettsial Infections Using On-Chip Dielectrophoretic Sample Purification and nano-Diamond Microelectrode Array-Based Detection	LBRN/INBRE	250,000
13-012	Allouche, Erez		Testing of Geopolymer Binders in Rocket Plume Environments at NASA Stennis Space Center	NASA Stennis	20,000
13-013	Ramachandran, Ramu		Interim Funding for Catalyst Development (Aug-Sept 2012)	Madden Contracting	49,670
13-014	Que, Long		Development of IR Nanosensors Based on CNT-Cus Nanohybrids	AFRL	20,000

PROPOSALS SUBMITTED (CONT'D FROM PAGE 4 . . .)

FILE #	PI	Co-PI 's	TITLE	AGENCY	\$
13-015	Weiss, Leland	Jaganathan/ Murray	Thermal Control Coatings Research for Structures	ERDC	561,159
13-016	Allouche, Erez	Alam, Shaurav	Pickle Jar Test of Reactamine 760 and Reactamine 760 HB	Carboline Company	17,000
13-017	Basinger, Dawn	Gleason, Melanie	Literacy Development: Puppet Style	Entergy	27,210
13-018	O'Neal, Patrick	Evans, Katie	Real-Time Optical Quality Control for In Vivo Auroshell Cancer Therapeutics	NIH	304,675
13-019	Allouche, Erez	Alam, Shaurav	Experimental Examination of Partial Compaction Reaming & Assessment of the Associated Reduce Drilling Fluid Usage	Charles Machine Works, Inc.	38,796
13-020	Allouche, Erez	Alam, Shaurav	Green Book Pickle Jar Test Protocol for Sherwin-Williams' Coating Systems	The Sherwin Williams Company	17,000
13-021	Merchant, David		First National Bank Bienville Parish 3	Louisiana Workforce Commission	37,063
13-022	Keith-Vincent, Lindsey		Professional Development Contract for Services Through the MSP Partnership	Ouachita Parish School System	1,135
13-023	Mhire, Jeremy		NICERC Research Grant	Cyber Innovation Center/US DoE	91,865
13-024	Weiss, Leland	Lvov, Yuri	Novel Phase Change Insulation for Energy Efficiency in Structures	NSF	
13-025	Allouche, Erez	Alam, Shaurav	Evaluating the Compliance of an Innovative Liner with ASTM F 2207	Silverlining	30,195
13-026	Wick, Collin D.		Development of Models and Methods to Investigate Reactions at Interfaces	DoEnergy	750,048
13-027	Murray, Teresa		AEMB 2012 Broader Impacts Educational Session	NSF	19,000
13-028	Schillinger, Don	Keith-Vincent, Lindsey	Supplemental Services in Support of the ACT Quality Core: Accelerated Academic Achievement Initiative	DOE/BoR	446,243

Southern Compass Policies Board

Looking for Jobs? Look to IT in 2012 and Beyond

The Information Technology and Innovation Foundation – August 2, 2012

This report dispels the notion that the best days for IT jobs have passed with the bursting of the dot-com bubble in 2000 and the practice of off-shoring today. From 2001 to 2011, a decade characterized by recessions and jobless recoveries, over 742,000 new IT jobs were created. IT employment grew more than 125 times faster than employment as a whole, which grew by only 0.2 percent. In addition, despite the shift of some IT jobs overseas during this period, over 300,000 jobs were created, many of them higher-paying than those lost. Looking to the future, the adoption of IT in new platforms promises to keep generating jobs and innovation.

Download a pdf of this report at <http://www2.itif.org/2012-jobs-it.pdf>.

NEW GRANTS AWARDED (CONT'D FROM PAGE 2)

PI/Co-PI	Title	Funding Agency	\$ Awarded
Erez Allouche	<i>Geopolymer Concrete Mix Design, Testing & Oversight</i>	Dept. of Energy/NST	82,000
Dave Merchant	<i>Green Clinic Consortium 2</i>	LWC/IWTP	223,638.88
Erez Allouche	<i>Testing of Geopolymer Binder in Rocket Plume Environments at NASA Stennis Space Center</i>	NASA	20,000
Kathleen Johnston	<i>Parity Violation Electron Scattering Measurements at Jefferson Lab</i>	NSF	124,821
Tommy Grafton	<i>Project Northland - Claiborne Parish</i>	DHH	103,950
Erez Allouche	<i>Pickle Jar Test of Reactamine 760 and Reactamine 760 HB</i>	Carboline Company	17,000
Teresa Murray	<i>Invivo Time Course Study of Adult Neurogenesis & Adult Neural Stem Cell Transformation to Tumor Cells in the Mouse Subventricular Zone...</i>	NIH/LSU	60,000
July 2012			\$631,407.88
Tommy Grafton	<i>Project Northland - Claiborne Parish</i>	DHH	500,256.
Frank Igou	<i>Louisiana State Police Commission Promotional Testing Phase II</i>	LSUS	15,000
August 2012			\$515,526.00
			2012-13 YTD Total: \$1,146,663.88

ADDITIONAL GRANT FUNDING FOR EXISTING AWARDS

- J. Carpenter, PARTNERSHIPS FOR ADAPTATION, IMPLEMENTATION, AND DISSEMINATION (PAID): CREATING A CULTURE OF SUCCESS FOR WOMEN IN ENGINEERING AND SCIENCE, NSF \$191,808;
- S. Dua, MODES OF ADAPTATION, RESISTANCE, AND SURVIVAL FOR LIFE INHABITING A FREEZE DRIED RADIATION BATHED , NASA /LSU \$19,031;
- L. Weiss, CAREER: AMBIENT THERMAL ENERGY HARVESTING FOR POWER PRODUCTION, NSF, \$77,823;
- S. Wang, MICROFLUIDICS-MEDIATED DELIVERY OF BIOMOLECULE PROBES FOR STEM CELLS AND CANCER CELLS, NIH \$105,854;
- P. O'Neal, LOUISIANA TECH RAPD SENIOR DESIGN PROGRAM, NSF \$24,998;
- A. Paun, SHF: SMALL: COLLABORATIVE RESEARCH: COMPUTING WITH CELLS-THE NEURON CASE, NSF \$66,954;
- H. McCollum, PARENTS' ACADEMY AND PARENTAL HEALTH & EDUCATIONAL SUPPORT NETWORK, Lincoln Health Foundation \$33,152;
- H. Haberman, INNOVATIVE DIABETES SELF-MANAGEMENT INTERVENTION THROUGH TECHNOLOGY, Board of Regents, \$40,000;
- D. Genov, ARTIFICIAL OPTICAL MATERIALS FOR MOLDING THE FLOW OF LIGHT, Board of Regents, \$43,811;
- J. Feng, GLUTATHIONYLATION PROFILING IN A TRANSGENIC MOUISE MODEL OF ALZHEIMER'S DISEASE USING A MICROFLUIDIC ELECTROPHORESIS CHIP: A NOVEL APPROACH TO AD SCREENING, Board of Regents, \$46,700;
- D. Cahoy, STATISTICAL METHODS FOR FRACTIONAL BIRTH-DEATH PROCESSES, BoR, \$38,661;
- M. Paun, DNA IMAGE SEGMENTATION METHODS AND STATISTICAL MODELING, BoR, \$37,810;
- Y. Voziyanov, TAILOR-MADE VARIANTS OF SITE SPECIFIC RECOMBINASES AS TOOLS FOR GENOME ENGINEERING, NIH, \$235,725.

* * * * *