

Louisiana Tech University



# BREEZE BULLETIN

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

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## 2012-13 TECH FRINGE RATES

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

Download the pdf chart: [http://research.latech.edu/files/documents/2012-13\\_latech\\_fringe\\_rates.pdf](http://research.latech.edu/files/documents/2012-13_latech_fringe_rates.pdf).

## LATECH IN-HOUSE WORKSHOPS

- **NSF Fastlane Workshop - April 16 , 2-3pm WT1535**

Please register via e-mail to [bfree@latech.edu](mailto: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](http://research.latech.edu/resources/training_workshops/latech_workshops).

## CONFLICT OF INTEREST TRAINING

LaTech faculty who are planning to submit research proposals to federal agencies are required to take the Conflict of Interest training through CITI. There is no cost for this mandatory on-line course and it is open to all LaTech faculty. Please contact Susan Black in University Research for more information: 318-257-5075 or [sblack@latech.edu](mailto:sblack@latech.edu).

*A great many worries can be diminished by realizing the unimportance of the matter which is causing anxiety.*

Bertrand Russell

(1872-1970, British philosopher, mathematician, essayist)

## FACULTY EARLY CAREER DEVELOPMENT (CAREER) PROGRAM

### The Faculty Early Career Development (CAREER) Program at the National Science Foundation

Jenna Carpenter and Ramu Ramachandran

Louisiana Tech University

April 8, 2013

The “Synopsis” section of the current NSF solicitation for CAREER proposals (NSF 11-690) says the following:

“*CAREER*: The Faculty Early Career Development (CAREER) Program is a Foundation-wide activity that offers the National Science Foundation's most prestigious awards in support of junior faculty who exemplify the role of teacher-scholars through outstanding research, excellent education and the integration of education and research within the context of the mission of their organizations. Such activities should build a firm foundation for a lifetime of leadership in integrating education and research.”

US citizens and permanent residents who are awarded CAREER grants are also eligible for consideration for an additional honor:

“*PECASE*: Each year NSF selects nominees for the Presidential Early Career Awards for Scientists and Engineers (PECASE) from among the most meritorious recent CAREER awardees. Selection for this award is based on two important criteria: 1) innovative research at the frontiers of science and technology that is relevant to the mission of the sponsoring organization or agency, and 2) community service demonstrated through scientific leadership, education or community outreach. These awards foster innovative developments in science and technology, increase awareness of careers in science and engineering, give recognition to the scientific missions of the participating agencies, enhance connections between fundamental research and national goals, and highlight the importance of science and technology for the Nation’s future. Individuals cannot apply for PECASE. These awards are initiated by the participating federal agencies. At NSF, up to twenty nominees for this award are selected each year from among the PECASE-eligible CAREER awardees who are most likely to become the leaders of academic research and education in the twenty-first century. The White House Office of Science and Technology Policy makes the final selection and announcement of the awardees.”

An eligible participant may submit a CAREER proposal up to three times.

Although competition for any NSF grant is quite fierce, there are a few steps a prospective applicant might take in order to increase the chances of success. The College of Engineering & Science has registered for a webinar by Lucy Deckard which will go over many of these steps. The



## NEW GRANTS AWARDED

PI/Co-PI	Title	Funding Agency	\$ Awarded
Paul Jackson	<i>Evaluation of Herbicides for the Propagation and Establishment of Herbaceous Plants Indigenous to the Ground-Layer Community of the Longleaf Pine Ecosystem</i>	USDA/Auburn	24,000
Aziz Saber	<i>Highway for Life Demonstration Project LA511 (70th Street)</i>	LTRC	89,609
Sandra Zivanovic	<i>Research on Graphene Electrode for Plasmonic Solar Cell Application</i>	BoR/Pfund	10,000
Shengnian Wang	<i>Regulation DNA Conformation and Dynamics With Hybrid Field Microfluidics</i>	BoR/Pfund	10,000
Weizong Dai	<i>Computational Model and Experimental Verification for the Development of Drug Eluting Stent Coatings for Arterial Pharmacokinetics</i>	BoR/Pfund	10,000
Brandon Moore	<i>Histological Characterization of the Adult American Alligator Phallus</i>	BoR/Pfund	10,000
Lindsey Vincent	<i>Project RIPPLE/MISE</i>	USDE/BoR	54,300
<b>January 2013 Total</b>			<b>\$345,752</b>
Tanya Sims	<i>Increasing Breast Cancer Awareness Through Service Learning</i>	Susan G. Komen for the Cure	495
Arun Jaganathan	<i>Development of a Robust Drill Head Integrated Cross Bore Warning System for Horizontal Directional Drilling (HDD)</i>	Charles Machine Works	85,024
Yuri Lvov	<i>Insulation and Energy Storage Utilizing Phase Change Materials in Heat-</i>	NASA/LURA	6,000
<b>February 2013 Total</b>			<b>\$91,519</b>
Lindsey Vincent	<i>Lincoln Parish MSP</i>	USDE/Lincoln Parish Schools	914
Erez Allouche	<i>Mechanical Testing of Composite Polymer Matrices</i>	LMK Technologies	8,662
Adarsh Radadia	<i>Characterizing the Bio-Graphene Interface Using Biomolecular Field Effect Transistors</i>	BoR/LSU	34,000
Adarsh Radadia	<i>A Highly Multiplexed Scalable Ultrananocrystalline Diamond Microarray Sensor for Point of Use Biodetection</i>	NIH/Advanced Diamond Technolo-	51,000
Stan Napper	<i>ORNL Support for Consortium Participation</i>	US Dept. of Energy	10,000
Pam Moore	<i>Carl Perkins Carryover</i>	US Dept. Education	1,700
Mark Guinn	<i>KAB Man</i>		2,000
<b>March 2013 Total</b>			<b>\$10,276</b>
			<b>2012-13 YTD Total: \$3,666,225</b>

## ADDITIONAL GRANT FUNDING FOR EXISTING AWARDS

S. Jones, REU SITE: UNDERGRADUATE RESEARCH IN MICRO/NANOENGINEERING, NSF \$100,481;

N.Crews, THERMAL MICRO-REACTOR FOR REDUCED GRAVITY BIOLOGY, BoR \$2,000;

E.Allouche, GEOPOLYMERIZATION POTENTIAL, Cleco Power, LLC \$\$20,000;

S.Wang, SCALABLE NANOMANUFACTURING OF NANOWIRE-BASE SENSING SYSTEMS FROM INTEGRATING FLOW-GUIDED ASSEMBLY AND SYNTHESIS, NSF \$99,607;

R.Ramachandran, GRADUATE FELLOWS IN COMPUTATIONAL ANALYSIS AND MODELING 2011, BoR \$50,000;

J.Palmer, GRADUATE FELLOWS IN ENGINEERING 2011-15, BoR \$50,000.

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## PROPOSALS SUBMITTED

FILE #	PI	Co-PI 's	TITLE	AGENCY	\$ Requested
13-162	Iasemidis, Leon		Analysis of Brain and Heart Dynamics for Identification and Prediction of Physiological and Behavioral Changes	NASA EPSCoR	1,410,000
13-163	Atkison, Travis		TWC: Small: Auto-Segmentation Framework for Advanced Metering Infrastructure Malicious Node Isolation	NSF	470,944
13-164	Strimbu, Bogdan	Hou, Songming	Identification and Measurement of Elements of Terrestrial Ecosystems Hidden by Tree Canopy Using Stereo Images, LIDAR and Multispectral Data Fusion	NASA/EPSCoR	0
13-165	Crews, Niel	Hall/Orr	The Louisiana Clearinghouse Initiative for a Sustainable Academic Experience (CISSTEM)	NASA	500,000
13-167	Sims, Tanya		Increasing Breast Cancer Awareness Through Service Learning	Northeast Central La. Affiliate of Susan G. Komen for the Cure	604
13-168	Derosa, Pedro		GSRA Graduate Student Research Assistance/Josh Brown	LaSPACE/NASA	5,000
13-169	Karim, Md		TWC: Small: Sheepness Adaptive Feature Selection in Behavioral Biometrics	NSF	305,110
13-170	Wasiuddin, Nazimuddin		Field and Laboratory Investigation of Fog Seal and it's Performance Measures	Caddo Parish	50,000
13-171	Allouche, Erez	Kupwade, Kunal	Neutron Scattering Studies to Examine the Effect of Activator to Binder Ratio on Geopolymer Concretes	LaEPSCoR/LINK	8,000
13-172	Null, Randy		Cooperative Research and Development Into Microwave Electroluminescence	Navy-CRADA	0
13-173	Allouche, Erez	Alam, Shaurav	The Assess-and-Fix Approach Using NDE to Help Select Pipe Renewal Methods	HDR Engineering	15,000
13-174	Crews, Niel		Evaluation of an Experimental Scintillator Material on a High-Altitude Balloon Payload	LaSPACE/NASA	9,514
13-175	Lvov, Yuri		Novel High Performance Long-lasting Antibacterial Composite System	NIH	352,905
13-176	Selmic, Rastko		Adaptable Intelligent Critical-Control System	NASA STTR	30,000
13-177	Jaganathan, Arun		Analysis of Flow Characteristics Within a Vortex Drop Structure	IPEX, Inc.	18,037
13-178	Radadia, Adarsh		Point-of-Care Microelectronic Diagnostics for Early Phase Rickettsial Infections	LBRN/NIH	90,000
13-179	Saber, Aziz	Allouche, Erez	LRFD Minimum Flexural Reinforcement Requirements	NCHRP	549,979
13-180	Hollins, Bryant		Monitoring Oxidative Byproducts as Biomarkers for Type 2 Diabetes Progression	American Diabetes Association	309,407
13-181	Weiss, Leland		Novel Detection Methods and Countermeasures for H2S Toxicity	NIH	75,000
13-182	Wang, Jay	Patterson, William	Sustainability Study of the Louisiana Coastal Wetlands with the Protection and Restoration Strategies Being Implemented	NSF	569,546

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

FILE #	PI	Co-PI 's	TITLE	AGENCY	\$
13-183	Moore, Brandon	Murray, Teresa	Structural and Functional Evolution of the Male Phallus in the Turtle - Archosaur Lineage	NSF	0
13-184	Wilson, Chester		Bulk Nanomanufactured Graphene Based Composites for Aerospace EMP and HPM Hardening	American Strategic Innovations	30,000
13-185	Orr, Marisa		Expanding Access to and Participation in the Multiple-Institution Database for Investigating Engineering Longitudinal Development	NSF	30,374
13-186	Maness, Terri		Preliminary Proposal: SG: Immunological Memory in a Long-lived Wild Bird	NSF/DEB	0
13-187	Weiss, Leland		Novel Lab on Chip Sensor Development for H2S Detection	PAC/LSU	0
13-188	Edwards, Thea		Preliminary Proposal: Chemical Ecology of Phytogestagens	NSF	0
13-189	Weiss, Leland	Jaganathan/Murray, E.	Novel Materials for Advanced Thermal Management and Scavenging	NASA	0
13-190	Strimbu, Bogdan	Ross/Patterson	Water Quality Structural Benchmarks for Landscape Management Strategies in Areas With Multiple Timberland Owners	USDA/AFRI	0
13-191	Wilson, Chester	Scoggin, Dan	Piezoelectric Polymer Gaskets for Improved Cathodic Protection of Louisiana Infrastructure	LTRC	30,000
13-192	Crews, Niel		DART2: Augmentation II - Parabolic Flight Campaign for Thermal Microreactor	LaSPACE/NASA	2,000
13-193	Que, Long		Fabrication, Characterization and Optimization of Nanostructured Aluminum Oxide (NAO) Substrates for Fluorescence Biodetection	NSF	309,167
13-194	Lusby, Aaron		Agricultural Business Enhancement Project	USDA NIFA	102,820
13-195	Null, Randy		(U) Joint and Coalition Warfighting (JWC)/ Training Readiness and Strategy	DOD	1,827,644
13-196	Saber, Aziz		Next Generation Prestressed Concrete Beams	LTRC	29,996
13-197	McKim, Rob	Wasiudden/Saber/Wang/Allouche	Participating as a Member in a Consortium Led by Univ. of Oklahoma for Regional University Transportation Center (UTC) Program Grants	DOT	274,008
13-198	Bishop, Thomas		Enhancing the ICM Webserver: a Prototype Computational Core Activity	LBRN/NIH	18,926
13-199	Carwile, Guy		HABS Drawings: David Flesh House	La. Office of Culture, Recreation & Tourism, Historic Preservation	8,791
13-200	Iasemidis, Leon		Interictal Localization of the Epileptogenic Focus from Electromagnetic Recordings in Patients with Neocortical Epilepsy and Non-Lesional MRI	NIH	1,888,888
13-201	Wilson, Chester		Nanostructured Photomultiplier Tube Components for Increased Quantum Efficiency	DNDO	1,099,999
13-202	Wilson, Chester		Rare Earth Loaded Halloysite Nanotubes for Fluorescent Optical Frequency Shift Neutron Dosimetry	DNDO	1,099,999

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

FILE #	PI	Co-PI 's	TITLE	AGENCY	\$
13-205	Keith-Vincent, Lindsey	Madden/Crews	NASA SOI: Summer STEM College and Career Planning and Snack-Building at SciTEC	NASA	24,977
13-206	Keith-Vincent, Lindsey	Owens, Reggie	Storytelling: My Story, My Dream, My Plan: LOSFA/LA GEARUP STP	LOSFA	95,909
13-207	Keith-Vincent, Lindsey	Lyons, Jordan	Soaring through the Skies with STEM: LOSFA/LA GEAR UP STEM STP	LOSFA	95,982
13-208	Hindmarsh, Patrick		Role of Antifungal Drugs on Hyphal Development in Candida Albicans	LBRN/NIH	18,418
13-209	Heiden, Kathleen	Chen/Erickson	Healthy Reflections: Developing Positive Self-Image Among Female Adolescents	Lincoln Health Foundation	52,620
13-210	Keith-Vincent, Lindsey	Schilling/Schillinger	Logistical Support for Statewide Summer Transition Programs Funded by LOSFA/ LaGEARUP	LOSFA	316,995
13-211	Napper, Stan		ORNL Support for Consortium Participation	ORNL	10,000
13-212	Hollins, Bryant		Developing a Microfluidic Device for the Enrichment of Oxidized Protein Biomarkers in Disease	NIH	150,000
13-213	Keith-Vincent, Lindsey	Crews, Niel	Reaching Beyond our Limits with STEM: LOSFA/LA GEAR UP	LOFSA	95,991
13-214	Allouche, Erez		Re-Inspection of 3M Pipe Test Bed	3M	2,499
13-215	Schilling, Tammy		LaTech/LA GEAR UP Sports STARS Summer Transition program	LOFSA - LA GEAR UP	95,826
13-216	Basinger, Dawn	Crittenden/Schillinger	STEM-Plus: Louisiana Tech University's Noyce Scholarship Program for Secondary Teachers	NSF	800,000
13-217	Basinger, Dawn	Crittenden, Kelly	STEM: Louisiana Tech University's Scholars/ Teachers	NSF	300,000
13-218	Orr, Marisa		Developing Community and Capacity for Studying Student Longitudinal Data	NSF	78,763
13-219	Dua, Prerna		Rule-based Data Mining for Knowledge Discovery in Alzheimer's Disease Using Microarray Databases	LBRN/NIH	112,500
13-220	Jones, Steve		Interaction Between Positive and Negative Feedback in Platelet Adhesion	NIH	354,965
13-221	Manning, Libby	Kimbell-Lopez, K.	Powerful Instruction through Interactive Read Alouds, Literacy Stations & Workshops	LaSIP	151,932
13-222	Weiss, Leland	Hall, David	RCN-SEES: The Education-Research-Industry for Energy Sustainability (ERIES) Network	NSF	499,485
13-223	Allouche, Erez	McKim,/Kipwade	Practical Condition Assessment and Failure Probability Analysis of Small Diameter Ductile Iron Pipe	CSIR/Water RF	60,000
13-224	Keith-Vincent, Lindsey		Lincoln Parish MSP	Lincoln Parish School Board	914
13-225	Keith-Vincent, Lindsey	Deese,/Madden	C3 Year 2; Chemistry Concepts and Connections	LaSIP	198,012
13-226	Phoha, Vir		Louisiana Biomedical Research Network - Mentor	LBRN/NIH	107,795

## PROPOSALS SUBMITTED (CONT'D FROM PAGE 5 . . .)

FILE #	PI	Co-PI 's	TITLE	AGENCY	\$
13-227	Dua, Sumeet		Louisiana Biomedical Research Network - Admin.	LBRN/NIH	34,875
13-228	Keith-Vincent, Lindsey	Madden, Diane	MISE RIPPLE Sub-grant through SUBR	LaSIP	55,674
13-229	Talton, Carolyn	Keith-Vincent/Patterson	Project PAT: Promoting Algebraic Thinking	LaSIP	195,322
13-230	Maness, Terri		Immunological Memory in a Long-lived Wild Bird	Wake Forest University	20,000
13-231	Napper, Stan		Computational Study of Surface Interaction Between peptides and Graphitic Surfaces	Clarkson/DOD	1,375,000
13-232	Allouche, Erez	Lvov, Yuri	Mechanical Testing of Composite Polymer Matrices	LMK Technologies	8,662
13-233	Bell, Edward	Bostick, Laura	Louisiana Tech University Teachers of Blind Students	US Dept. of Education	1,249,925
13-234	Keith-Vincent, Lindsey	Madden/Crews	NASA EPDN Response to RFI	NASA	0
13-235	Moore, Pam		Carl Perkins Carryover	NLTC/US Dept. of Education	1,700
13-236	Allouche, Erez		Experimental Investigation of Selected Pipe-Soil Phenomena During and in the Aftermath of HDD Installations	Underground Solutions	44,469
13-237	Madden, Diane	Keith-Vincent, Lindsey	LEEC Project Way	Louisiana Environmental Education Commission	2,148
13-238	Wang, Shengnian	Wang, Shengnian	Novel Hybrid Catalysts on Mesoporous Carbon/Zeolites for direct Synthesis of Gasoline Range Hydrocarbons	ACS Petroleum Research Fund	100,000
13-239	Allouche, Erez	Jaganathan, Arun	Development and Testing of a Lateral Detector for Water Main Rehabilitation	Sanexen Environmental Services, Inc.	59,500
13-240	Phoha, Vir	O'Neal/Karim	Design, Development, Testing and Refinement of a Suite of Biometric Modalities for Inclusion in an Active Authentication System	DARPA	1,797,409
13-241	Selmic, Rastko	Selmic, Rastko	LaSPACE GSRA Ramazani	LaSPACE/NASA	5,000
13-242	Mills, David		LaSPACE GSRA Vandenberg - Drug Releasing Anti-Infective Sutures	LaSPACE/NASA	5,000
13-243	Mills, David		LaSPACE GSRA Boyer - Drug Infused Nano-coatings	LaSPACE/NASA	5,000
13-244	Crews, Niel		Spatial Mapping of Genetic Response to Radiation Using MEMS and Microfluidics	NASA/Inspires	0
13-245	Allouche, Erez		Evaluation of Geopolymerization Potential in Large Scale Commercial Applications of AEP Fly Ash Stock Piles	AEP Foundation	250,000
13-246	Kim, Yeonsoo		Effect of Cinnamon on Inflammation Biomarkers in Overweight or Obese Patients with Type 2 Diabetes	Academy of Nutrition and Dietetics	5,000
13-247	Allouche, Erez	Eklund, Sven	Low-cost Innovative 'Geo-Reef' Structures for coastal Restoration and Environmental Monitoring	Coastal Protection & Restoration Authority and the Water Institute of	0

## FACULTY CAREER PROGRAM ... (CONT'D FROM PAGE 1)

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webinar will be broadcast on Thursday, April 18, 1:00-3:00 PM Central Time, and can be viewed by going to IfM 201. Our registration allows us to access the webinar slides and handouts online for 30 more days.

One of us (Ramu Ramachandran) maintains a collection of useful resources for preparing CAREER proposals. Please send an e-mail to [ramu@latech.edu](mailto:ramu@latech.edu) if you are considering a submission and would like access to these resources.

Both of us have been involved in mentoring junior faculty for a number of years, and we have guided many of them through the process of planning, preparing, revising, and submitting CAREER proposals. A few pieces of advice we may offer from past experiences are:

- Review the solicitation in detail. The current solicitation can be accessed at [http://www.nsf.gov/publications/pub\\_summ.jsp?WT.z\\_pims\\_id=503214&ods\\_key=nsf11690](http://www.nsf.gov/publications/pub_summ.jsp?WT.z_pims_id=503214&ods_key=nsf11690).

- Make sure your education plan cannot be rejected on the basis of current scholarship – seek reviews from various faculty who are experts in STEM education. An overly ambitious education plan can be dismissed as being unrealistic for someone who must also teach classes and conduct research.

- Make your proposal readable – get help if necessary. What we write is almost always perfectly comprehensible to us. However, another set of eyes may help us find unconscious assumptions or leaps of logic that we missed.

- Format your proposal to be visually pleasing – get help if necessary. Making a proposal visually pleasing, with figures, text-boxes, and white spaces, even at the expense of squeezing in a few more words on to each page, will almost always help rather than hurt.

- Suggest reviewers on Fastlane – pick people who know you but have no conflict of interest and will not view you as a threat to their own research program.

- Draft the support letter for your Department Head – don't be shy about tooting your own horn. The letter needs to make it clear that the Department Head understands enough about the research to say that it fits within the scope and mission of the unit and there is nobody better-suited to provide those words than you. Lucy Deckard webinar handouts will usually include a sample letter. Contact Dr. Ramachandran for a sample letter from the webinar.

It would be greatly helpful to have someone you trust review the proposal and provide in-depth criticism before you submit the proposal. However, this means your proposal must be finished early. It is recommended that you have it ready for review at least one month before the deadline (see below) in order to give them a couple of weeks to review your proposal and yourself a couple of weeks to make the suggested changes before submission to NSF.

### NSF PROGRAM GUIDELINES

Solicitation 11-690

#### DUE DATES

Full Proposal Deadline Date: July 22, 2013  
BIO, CISE, EHR, OCI

Full Proposal Deadline Date: July 23, 2013  
ENG

Full Proposal Deadline Date: July 24, 2013  
GEO, MPS, SBE, OPP

All proposals are due by the deadline date of the appropriate Directorate or Office selected in the cover sheet. For proposals that are to be co-reviewed between two or more programs in Directorates or Offices with different due dates, the deadline for the primary organization applies.

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