

Louisiana Tech University



BREEZE BULLETIN

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

Blessed is the person who sees the need, recognizes the responsibility, and actively becomes the answer.

William A. Ward

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SAVE THE DATES!! LATECH IN-HOUSE WORKSHOPS

There are still seats available in the workshops below. Contact Beth Free at 318-257-5075 or via email: bfree@latech.edu to reserve:

- **Research & Project Planning** – **March 23 2-3pm, WT 1535 Conf. Rm.** Helpful information on starting and successfully pursuing research ideas.
- **Research Compliance** – **April 20 2-3pm WT 1535 Conf. Rm.** An overview of procedures for getting Institutional Review Board approvals for projects involving Human Use, Animal Use and potential Biohazards.

More information can also be found at: http://research.latech.edu/resources/resource_links/louisiana_tech_workshops to view a more complete list of workshops and current scheduling dates and times. Contact Beth Free at 257-5075 or bfree@latech.edu.

**Have a safe & happy
Easter!**

**Tech closure:
April 2 - April 5**



RECOVERY ACT INVESTMENT IN LOUISIANA TO EXPAND BROADBAND ACCESS, ECONOMY

FOR IMMEDIATE RELEASE
Friday, March 5, 2010

News Media Contact:
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SECRETARY LOCKE AND SENATOR LANDRIEU ANNOUNCE RECOVERY ACT INVESTMENT IN LOUISIANA TO EXPAND BROADBAND INTERNET ACCESS AND ECONOMIC OPPORTUNITIES

WASHINGTON – U.S. Commerce Secretary Gary Locke today, joined by Senator Mary Landrieu, announced an \$80 million American Recovery and Reinvestment Act (Recovery Act) investment to help bridge the technological divide, boost economic growth, create jobs, and improve education and healthcare in Louisiana. The grant will bring high-speed Internet access to more than 80 community anchor institutions – including universities, K-12 schools, libraries, healthcare facilities – and lay the groundwork for bringing affordable broadband service to thousands of homes and businesses in the region.

The Louisiana Broadband Alliance, collaboration among six state agencies, plans to deploy more than 900 miles of fiber-optic network to expand broadband Internet service in some of the most economically distressed regions of Louisiana. The new network intends to provide direct connections for more than 80 community anchor institutions including universities, K-12 schools, libraries, and healthcare facilities. The 3,488-square-mile service area includes 12 impoverished parishes targeted by the state's Louisiana Delta Initiative and a separate five-parish area that is home to four federally-recognized American Indian Tribes. The new network would connect to the Louisiana Optical Network Initiative (LONI), a more than 1,600 mile fiber-optic network that connects Louisiana and Mississippi research universities to National LambdaRail and Internet2.

"This critical investment will expand computer and high-speed Internet service access to Louisiana residents most in need, helping to make them full participants in today's 21st century information economy, said Locke. "We are giving the people of Louisiana new tools to educate themselves, to promote their businesses and to create more opportunities for their families and their community."

Earlier this week, Secretary Locke announced a \$1.4 million grant to the Deaf Action Center of Louisiana to provide on-demand, cost-effective sign language interpretation at community anchor institutions such as hospitals, courts, public safety agencies, shelters, schools and libraries.

The Department of Commerce's National Telecommunications and Information Administration's (NTIA) Broadband Technology Opportunities Program (BTOP), funded by the Recovery Act, provides grants to support the deployment of broadband infrastructure, enhance and expand public computer centers, and encourage sustainable adoption of broadband service.

"Today, we have taken a big leap in our efforts to expand high-speed internet to throughout rural Louisiana, including the Delta parishes in the Northeast part of our state," Senator Landrieu said. "Creating jobs and spurring rural small business growth, these new funds will increase broadband capacity at our homes, schools, and hospitals to advance education,

NEW GRANTS AWARDED

PI/Co-PI	Title	Funding Agency	\$ Awarded
Crews/Wilson	<i>Microfluidic Analysis of Real-time DNA Degradation</i>	LaSPACE/NASA	15,470
Vir Phoha	<i>Obfuscating and Deobfuscating Intent in Computer Programs</i>	BoR/DOD	198,001
Chester Wilson	<i>MRS/Whitney Ukpai</i>	LaSPACE/NASA	5,000
Erez Allouche	<i>Evaluating the Geopolymerization Potential and Commercial Applica-</i>	Cleco	25,000
December 2009			338,541
Sidney Sit	<i>Modification of Fibroblast-embedded Scaffolds by Electrokinetic Treat-</i>	BoR/NSF	10,000
Beer/Keith-Vincent/ Madden	<i>STEM Camp for Blind Students</i>	La. Center for the Blind	3,192.60
Andrei Paun	<i>A New Segmentation Method for the DNA Arrays Images</i>	BoR/NSF	10,000
Allouche/Jaganathan/ Simicevic	<i>ARRA: Acquisition of a Laboratory for Innovations in Microwave Applica- tions for Damage Prevention, Condition Assessment...</i>	NSF	384,960
Katie Evans	<i>Modeling Challenges for Control of Aeroelastic Wing Unmanned Aerial Vehicles</i>	BoR/NASA	10,000
January 2010			418,152.60
Long Que	<i>Fabrication of Silicon-Based Micropipettes for Giga-Seal Patch-Clamp</i>	BoR/NSF	10,000
Eric Guilbeau	<i>Thermoelectric Method for Sequencing DNA</i>	BoR/NSF	10,000
Dentcho Genov	<i>Optical Attractors and Continuous Index Photon Traps</i>	BoR/NSF	10,000
Dylan Dillaway	<i>Mechanistic Underpinnings of the Temperature Response of Leaf Dark</i>	BoR/NSF	10,000
Parker/Gullatt	<i>Louisiana School Turnaround Specialist Program</i>	BoR	17,000
David Gullatt	<i>SREB Training Module</i>	BoR	5,000
Angela Kennedy	<i>2009-10 Carl Perkins Carry-Over Grant</i>	LCTC/USDE	3,263
Beer/Madden	<i>LIGO Workshop for Teachers: Grades 3-4</i>	LaSIP/NSF	29,521
Henry Cardenas	<i>Air Bag Development Literature Review</i>	Impact BioDynamics	11,158
Md Karim	<i>A Composite Scheme for Detection & Disruption of Botnets</i>	Air Force	83,198
Sheets/Igou/Beer	<i>Planning Grant for GEAR UP Evaluation</i>	BoR/DOE	24,000
Laurie Stoff	<i>Celebrating Women Making History: LEH Outreach Grant</i>	LEH/NEH	2,135
O'Neal/Davis	<i>NSF ADVANCE: Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers</i>	BoR/NSF	4,942
Niel Crews	<i>Partnership for Interdisciplinary Research in Microfluidic Technologies</i>	LaSPACE/NASA	57,448
Simmons/Rea	<i>Gulf South Summit Travel Grant</i>	ULS	1,384
Ramona Guin	<i>ULS Serves Travel Grant to Present Oral Presentation at Gulf South</i>	ULS	1,436
Shirley Payne	<i>ULS Serves Travel Grant to Present Oral Presentation at Gulf South</i>	ULS	872
Gibson/Grozdzits	<i>Louisiana Forest Products Development Center at Louisiana Tech Uni-</i>	LSU	49,500
February 2010			330,858
Scott Gold	<i>High Power CsH2PO4-BITIVOX Membranes for Fuel Cells for Military</i>	UT/DOD	30,000
Paul Crook	<i>The Grapes of Wrath, Theatrical Production</i>	La. Div. Arts	5,069
Beer/Schilling	<i>Louisiana College Access and Mentoring Programs for Success</i>	LaSIP/DOEdu	414,165
March 2010			449,234
YTD 09-10 Total:			\$11,955,766

NSF Responsible Conduct in Research (RCR) Training and Certification:

In compliance with the National Science Foundation Mandate implementing Section 7009 of the America Competes Act that all students (undergraduate, graduate, and post-doc) conducting research in NSF proposals receive RCR training, Louisiana Tech University is providing a link to CITI-RCR training modules: <https://www.citiprogram.org/rcrpage.asp> (copy & paste link into browser). Students will be required to provide a copy of their certificate(s) of completion in the discipline specific area(s) prior to conducting NSF funded research. For more information, contact the Office of University Research 318-257-5075.

PROPOSALS SUBMITTED

FILE #	PI	Co-PI 's	TITLE	AGENCY	\$ Requested
10-178	Hou, Songming		Shape Reconstruction & Classification Using the Response Matrix	NSF	164,681
10-179	Strimbu, Bogdan		Optimal Harvest Scheduling to Integrate Traditionally Non-merchantable Forest Products	Wood Supply Research Institute	70,062
10-180	Ramsey, Paul		Preliminary Assessments of Environmental Security in Serbia by Data-Mining Audiovisual Archives	International Research Exchange/IREX	
10-181	McKim, Robert	Allouche/ Mathews	TO 58 - Rehab vs. Replace Decision Making -Task 6	Battelle	31,967
10-182	Wilson, Chester	Davis/ Ramachandran	Nanostructured Carbon Dioxide Reduction Catalyst for Production of Synthetic Diesel	DoD/Navy	7,500,000
10-183	Wilson, Chester	McDonald, John	Fischer-Tropsch Nanocatalyst	NSF	56,372
10-184	Kaajakari, Ville	Bergeron, Noah	Nano-Fabricated Polymer for Energy Harvesting	NSF	56,372
10-185	O'Neal, Patrick		TBD	Walter H. Coulter Foundation	180,000
10-186	Carpenter, Jenna		gse.Space: An Online Professional Networking Community for Gener-in-Science-and-Engineering Professionals	NSF/GSE	135,616
10-187	Gold, Scott		High Power CsH ₂ PO ₄ -BITIVOX Membranes for Fuel Cells for Military Applications	DEPSCoR	30,000
10-188	Hou, Songming		Shape Reconstruction & Classification Using the Response Matrix	NSF	162,944
10-189	Kennedy, Gary		EPA EE Headquarter Grant	EPA	85,107
10-190	Paun, Andrei		SHF: Small Collaborative Research Membrane Systems - Modeling & Simulation of Cellular Processes	NSF	227,000
10-191	Phoha, Vir		Algorithms & Foundations for Robust Intelligence in Urban Surveillance Using Situation A Ware Autonomous Sensor Networks	NSF	487,878
10-192	Paun, Andrei	DeCoster, Mark	SHF: Small Computing with Brain Cells	NSF	500,000
10-193	Liu, Don		Comprehensive Model for Intensive Particles-Fluid Interactions at Various Reynolds Numbers	NSF	202,593
10-194	Beer, Glenn		Continuation of La Tech Hosting of the NASA ERC	NASA	0
10-195	Choi, Ben		Developing a Society of Computers	NSF	162,810
10-196	Wyatt, Kathy		Enterprises Integrating Everyday Ingenuity	USDA	199,956
10-197	Wilson, Chester		Phase II Capacitive Fabric	Radiance Technologies	400,000

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

FILE #	PI	Co-PI 's	TITLE	AGENCY	\$
10-198	Beer, Glenn	Madden/ Talton	Ouachita Parish/Louisiana Tech MSP: Project Teams Year 3	Ouachita Parish School District	27,952
10-199	Beer, Glenn	Keith-Vincent/ Madden	STEM Camp for Blind Students	La. Center for the Blind	3,193
10-200	Beer, Glenn	Madden	LIGO Workshop for Teachers: Grades 3- 4	LaSIP	28,377
10-201	Wilson, Chester	Derosa/Crews	Microscale Radiological, Environmental and Biological Monitoring Microdevices for NASA and Commercialization	EPSCoR	0
10-202	Gourd, Jean	Turner, Galen	CYEN: A Roadmap to Creating and De- ploying Cyber Engineering at Louisiana Tech	DHS	69,484
10-203	Choi, Ben		Collaborative Research: Innovative Ap- proaches to Develop Modern Distributed Computing Instruction	NSF	34,856
10-204	Saber, Aziz		FRP Grid for Link Slabs	LTRC	276,959
10-205	Gullatt, David		SREB Training Module	BoR	5,000
10-206	Atkinson, Travis		Cyber-Crime Initiative: A Partnership Between La. State Police & LaTech	La. State Police	38,755
10-207	Gourd, Jean		MAFIA-R: Mobile Agent Framework for Intelligent Attack Response	Army	36,000
10-208	Dua, Sumeet		Modes of Adaptation, Resistance, and Survival for Life Inhabiting a Freeze- dried-radiation-bathed Environment (MARSLIFE)	BoR/EPSCoR	60,619
10-209	Allouche, Erez		Fly Ash Processing Trial - Metro Vancou- ver's Waste-to Energy Facility	Precix Advanced Cutting Technolo- gies	7,564
10-210	Que, Long		Hybrid Energy Harvesting Chip Enabled by Nanocomposite Thin Films	DARPA	296,366
10-211	Lvov, Yuri		Tubule Nanocontainers for Corrosion Inhibitors	NSF	324,184
10-212	Carwile, Guy		HABS Drawings-Old Bank of Minden	La. Division of Historic Preserva- tion	3,675
10-213	Kennedy, Angela		2009-10 Carl Perkins Carry-Over Grant	La. Community & Technical College System	3,263
10-214	Gourd, Jean		Virtual Organization for Collaboration and Advancement of Learning Institutes (VOCAL)	NSF	431,470
10-215	Wilson, Chester		Heath Berry/A Nanostructured Microfab- ricated Rf Nano-Antenna Phased Array	DOD	335,961
10-216	Wilson, Chester		John McDonald/Carbon Coated Nanowires for Lithium Ion Anode	DOD	335,961
10-217	Wilson, Chester		Noah Bergeron/Nanostructured Infrared Microfocal Planes	DOD	335,961

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

FILE #	PI	Co-PI 's	TITLE	AGENCY	\$
10-218	Simmons, Richard	Rea, Kenneth	Gulf South Summit Travel Grant	ULS	1,385
10-219	Casas, Irene		The Role of Network Topology and Critical Infrastructure Location on Defense Preparedness Strategies in Extreme Events	NSF	45,136
10-221	Dobbins, Tabbetha		Engineering Research Center on Ultrasound Tool Sets for Health & Infrastructure	DOEnergy	373,555
10-222	Deemer, Eric		The Mediating Role of Stereotype Threat & Achievement Goals in the Regulation of Scientific Motivation	NSF	261,140
10-223	Cardenas, Henry		Air Bag Development Literature Review	Impact BioDynamics	11,136
10-224	Gleason, Melanie		Exploring Storytelling	Honor Society of Phi Kappa Phi	2,500
10-225	Wasiudden, Nazimuddin		Performance of WMA Technologies...	Advanced Materials Services, LLC	25,003
10-226	Wang, Shengnian		Manufacturing Affordable Nanowire-based Sensor System for Chemical/Bioagents Detection	DARPA	299,545
10-227	Crews, Niel		Strengthening NASA's Involvement at LaTech	LaSPACE/NASA	9,914
10-228	Karim, Md		A Composite Scheme for Detection & Disruption of Botnets	AFOSR	83,198
10-229	Wang, Jay		Mechanism Study of Long-Term Setup and it's Prediction for Concrete Piles Driven into Cohesive Soils	NSF	245,570
10-230	Evans, Katie	Napper, Stan	Mathematical Modeling of Biological & Biomedical Engineering Processes	NSF	99,978
10-231	Lvov, Yuri		Novel Integrated Paper-based Battery Using Layer-by-Layer Nanoassembly Manufacturing Process	NSF	120,000
10-232	Allouche, Erez		Experimental Examination of the Effect of Cyclic Thermal and Pressure Loads on Frictional Forces at the Pipe-Grout Interface for Fusible PVC Pipe	Underground Solutions, Inc.	24,273
10-233	Mainardi, Daniela	Cardenas/Kanno	Corrosion Mitigation in Concrete Using Electrokinetic Nanoparticle Treatment	NSF	644,555
10-234	Giorno, Rebecca		Role of Bacillus Anthracis Exosporium in Germination	LBRN	21,422
10-235	Wang, Jay		Development of a Computer Program leading to a new 'CAPWAP" for Pile Load Testing	LTRC	30,000
10-236	Grafton, Tommy	Boyd, Rhonda	Project Northland - Claiborne Parish	DHH OAD	43,210
10-237	Hegab, Hisham		Investigation of Condensation in Micro Pin Fin Devices	NSF	283,160
10-238	Weiss, Leland	Tims, Heath	Novel Cycle for Energy Sustainability Through Waste Heat Use	NSF	422,365
10-239	Weiss, Leland	Crews, Niel	MEMS-based Solar Thermal Energy Research and Use for Power Production	NSF	413,266
10-240	Liu, Don		Simulations of Functional Micro/Nanodevices and Particulate Transport in Confined Geometry	NSF	215,860

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

FILE #	PI	Co-PI 's	TITLE	AGENCY	\$
10-241	Wang, Shengnian		Microfluidics-Mediated Delivery of Bio-molecule Probes for ES and Cancer Cells	NIH	330,559
10-242	Guin, Ramona		ULS Serves Travel Grant to Present Oral Presentation at Gulf South Summit, Athens, GA	ULS	1,436
10-243	Payne, Shirley		ULS Serves Travel Grant to Present Oral Presentation at Gulf South Summit, Athens, GA	ULS	872
10-244	Chauvin, Ida	McDaniel, Janelle	Project: PASS	DOEducation	1,030,329
10-245	Choi, Jeong Hoon		OSEP Technical Assistance Center on Positive Behavioral Interventions and Supports	DOEducation	13,696
10-246	Wilson, Chester		GSRA for Randy Waguespack	LaSPACE/ NASA	5,000
10-247	O'Neal, Patrick	Shipp, Mike	LaTech RAPD Senior Design Program	NSF	126,771
10-248	Hegab, Hisham		Novel Microbubble Generators	NSF	287,718
10-249	Lvov, Yuri		Halloysite Tubule Nanocontainers for Self-Healing Composites	DoD	35,000
10-250	Roberts, Tom	Courtney, James	Cyber Security Training for Government Organizational Insiders	IBM	20,000
10-251	Gold, Scott		Collaborative Research: Electrooxidation of Small Chain Alcohols by Catalytically Enhanced Bifunctional Reactivity for Fuel Cells	NSF	436,611
10-252	Crews, Niel		Thermal Gradient Calorimetry for Microfluidic DNA Analysis	NSF	547,991
10-253	Green, William	Normand, Justin	Study of Tocopherol Supplementation in Horses	Stuart Products	1,445
10-254	Griffin, Linda	Gilbert, Stacy	The Solution, Act II: A Mentoring Program	ULS	7,550
10-255	Phoha, Vir	Balagani, K.	CAC-M: Cyber Attacker Characterization and Modeling	AIS	1,664,000
10-256	O'Neal, Patrick		Center for Experimental Cancer Therapeutics	NIH	138,553

RECOVERY ACT INVESTMENT IN LA (CONT'D FROM PAGE 1 . . .)

research, and healthcare delivery to areas in need of modern infrastructure. I am thankful for the Department of Commerce's support of this, and the many, innovative projects we have going on in Louisiana to improve broadband access."

NTIA received more than 1,800 applications proposing projects totaling nearly \$19 billion during the first BTOP funding round and is currently awarding grants on a rolling basis. NTIA is currently accepting BTOP applications for a second funding round. Applications for Public Computer Center and Sustainable Broadband Adoption projects are accepted through March 15, 2010 and Comprehensive Community Infrastructure projects are accepted through March 26, 2010.

The American Recovery and Reinvestment Act provided a total of \$7.2 billion to NTIA and the Department of Agriculture's Rural Utilities Service (RUS) to fund projects that will expand access to and adoption of broadband services. Of that funding, NTIA will utilize \$4.7 billion for grants to deploy broadband infrastructure in the United States, expand public computer center capacity, and encourage sustainable adoption of broadband service. NTIA will announce all grant awards by September 30, 2010.

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ADDITIONAL GRANT FUNDING FOR EXISTING AWARDS

- C.Wilson, NDSEG Fellowship for ASEE (T. Williams), ASEE \$5,756;
- L.Guice, The LONI Institute: Advancing Biology, Materials, and Computational Science for Research Education and Economic Development, BoR/LSU \$259,305;
- C.Wilson, Multi-channel Scintillation Microdevice for the Differentiation Between Alpha, Beta, Entergy \$25,000;
- E.Allouche, Enhancing Trenchless Service Installation Through Keyholes: Technology Review, Screening and Preliminary Evaluation of Technologies and Techniques, Gas Technology Institute \$44,675;
- G.Beer, A Comprehensive School Reformation for LA GEAR UP Schools, LaGEARUP/DOEdu \$2,362;
- C.Cummins, Project Beacon: Lighting the Way to Improving Reading, Writing and Thinking, BoR/LaSIP \$3,618;
- M.O'Neal, Providing Managerial Expertise to Network Foundation Technologies, Network Foundation Technologies, LLC \$22,251;

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Helpful OUR Weblinks

Reference these websites for help in proposal preparation and budget info (copy & paste links):

- Proposal preparation - For instructions on how to prepare and route your proposal for departmental, college and university approval: http://research.latech.edu/resources/proposal_preparation.
- Proposal budget preparation, fringe rates & federal indirect cost rates - For instructions and current rates to use when preparing your budget: http://www.latech.edu/univresearch/resources/proposal_preparation/gathering_internal_budget_numbers/.
- Forms and downloads - For current routing form, F&A Waiver, grant management and administration forms: http://research.latech.edu/resources/forms_downloads.

For help finding \$\$ for your research, go to: http://research.latech.edu/resources/funding_opportunities (copy & paste link) or contact Beth Free, Pre-award Coordinator, 257-5075 or bfree@latech.edu.



"Good morning, and welcome to The Wonders of Physics."

National Pi Day March 14, 2010