

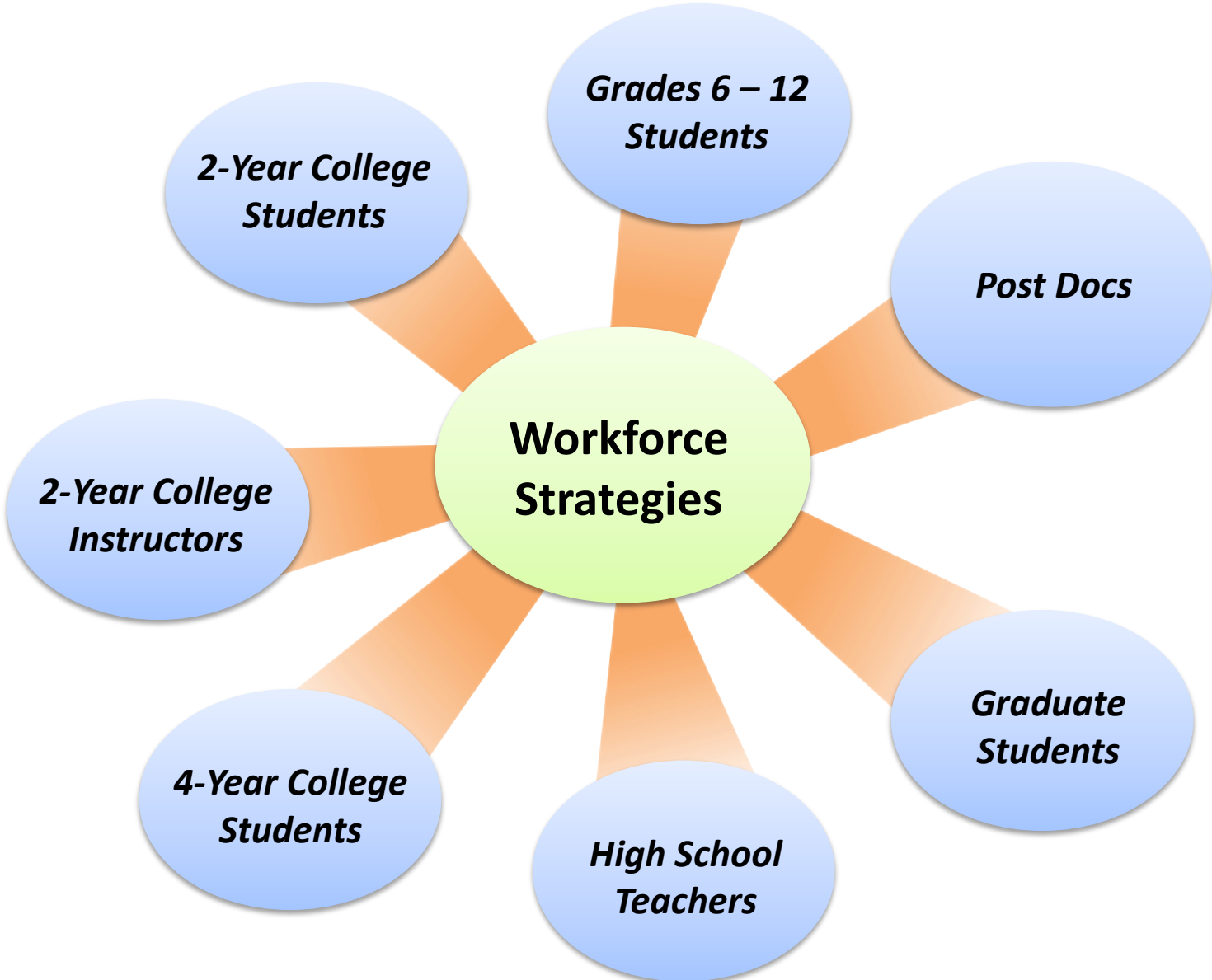


Workforce Development

Juana Moreno

LA-SiGMA will address all levels of the educational ladder, including two-year colleges, through a range of training and educational activities, contributing to a well-trained and diverse professional workforce that can support advanced materials research and industries as well as education.

Workforce Development Strategies



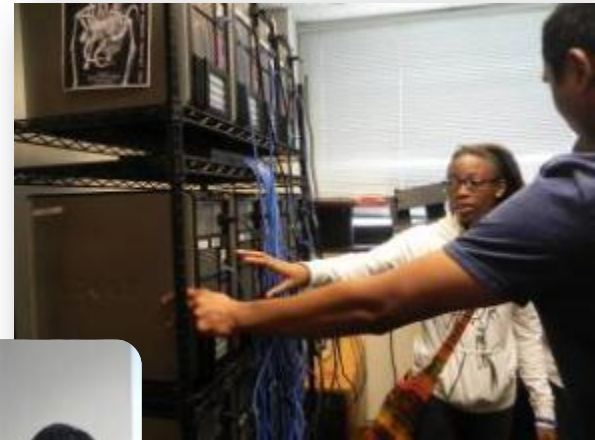
Grades 6-12



Two graduating Louisiana School for Math, Science, and the Arts were selected to participate in the LSU REU program.



LA Tech/Grambling
Open House



Tulane Open House

High School Teachers



National Science Foundation
WHERE DISCOVERIES BEGIN

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News

News From the Field
Louisiana Tech University, LA-SIGMA Help Teachers Transform Materials Science

June 13, 2011

Teachers from school districts in north Louisiana are helping to advance the frontiers of science by conducting research with faculty from Louisiana Tech University's College of Engineering and Science and using supercomputers made available through the Louisiana Optical Network Initiative. [Full Story](#)

Source
Louisiana Tech Univ

News From the Field
For the News Media
Special Reports
Research Overviews
NSF-Wide Investments
Speeches & Lectures
NSF Current Newsletter

Leveraged LSU's LaMSTI
teacher program

LSU gets \$5 Million for Math and Science Teaching Program

Math and science teachers can boost their knowledge and make professional connections through the master of natural sciences degree program at LSU, which just announced a \$5 million funding award. The money will provide \$20,000 fellowships for 96 master's degree candidates in the region to take summer and evening classes at LSU over three years starting in 2010.

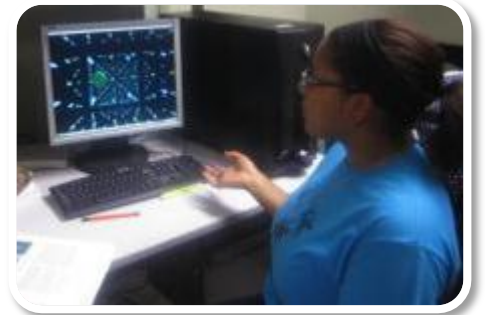
Tuition is waived for teachers who participate in the opportunity, underwritten by the National Science Foundation.

A successful pilot program for seven teachers who received degrees in 2007 and 20 teachers who are currently enrolled led to the funding to expand the program, says James Madden, an LSU math professor who acted as primary contact for the grant application. The instruction will be offered using existing course numbers, but Madden says the program is a custom-designed, flexible track for teachers of grades 7 through 12.

Undergraduates



31 REU students statewide Summer 2011



Graduate Students



Graduate level courses

1 course Fall 2010, 3 courses Spring 2011, 2 courses Fall 2011

LA-SIGMA

Louisiana Alliance for Simulation-Guided Materials Applications

Courses

LA-SIGMA provides an education plan that includes new materials science graduate courses delivered across the State. A core set of interinstitutional graduate level courses (three in the first year, six more in subsequent years) in computational science, multiscale modeling methods, advanced experimental techniques, and other topics are being developed and broadcast throughout the State using synchronous HD video as well as asynchronous methods. These courses will be integrated into existing and new graduate curricula on each campus, providing graduate students a transformative educational experience in materials science, who who will enter the workforce as highly skilled, well-trained computational materials scientists.

Distance Learning courses offered in a regular basis

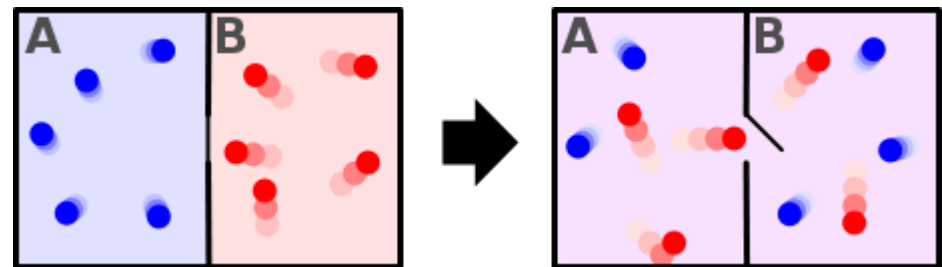
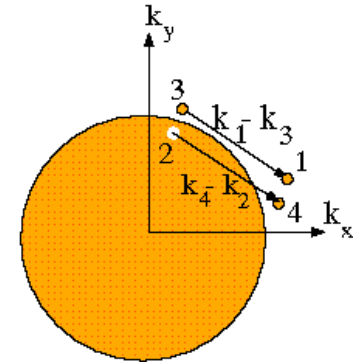
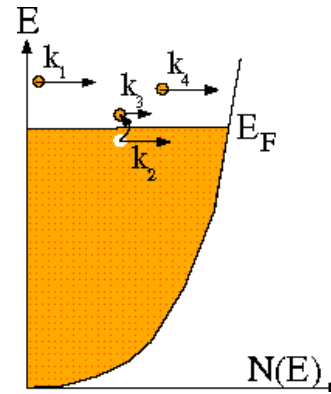
- Simulations of quantum many body systems (international course), <http://www.phys.lsu.edu/~jarrell/Green/index.html>
- Advanced solid state physics, http://www.phys.lsu.edu/~jarrell/COURSES/ADV_SOLID_HTML/course_advss.html
- Other online course materials, <http://www.phys.lsu.edu/~jarrell/TEACH.html>
- Computational Physics: Computing for Petascale Systemse, <http://www.pirealps.org/Courses/CompScience/Syllabus.html>



Graduate Level Courses Fall 2011



- **Solid State Physics** by
Adrienn Ruzsinszky (Tulane):
Tuesdays & Thursdays
9:30-10:45
- **Statistical Mechanics** by
Randy Hall (LSU):
Tuesdays & Thursdays
8:00-10:00



Graduate Students and Postdocs



Density Functional Workshop, Summer 2011
(40 registrants, 5 speakers, LA Tech, LSU, SUBR, Tulane, Xavier)



John Perdew
Tulane



Shobhana Narasimhan
Jawaharlal Nehru Centre



Kieron Burke
UC Irvine



Mel Levy
Tulane & N.C. A&T



Weitao Yang
Duke



Tanusri Saha-Dasgupta
S.N. Bose National Centre



Workshop on Computational Thinking

NATIONAL COMPUTATIONAL SCIENCE INSTITUTE

Jump To:

Introduction to Computational Thinking (ICT)


Shodor > NCSI > 2011 Workshops > Introduction to Computational Thinking (ICT)


Registration Closed



Introduction to Computational Thinking (ICT)

First Look – 2011

The purpose of these workshops is to expose participants to and inspire them with new techniques, teaching materials, and applications to use computational models in the undergraduate curriculum. By bringing faculty and teachers from different disciplines together so that they can learn how to incorporate computational models into their classrooms and research projects, it will advance the use of computing in undergraduate science education. We desire to have participants from a broad range of disciplines, including computer science, mathematics, and the physical and life sciences. Each workshop below may be a "variation" on the theme of Computational Thinking.

Institution	 Louisiana State University Baton Rouge, LA
Dates	Jul 31 - Aug 6
Local Coordinators	Leigh Townsend and Kathy Traxler
Lead Instructors	Jennifer Houchins, Erin McNelis, Clyde Metz, Bob Panoff and David Toth
Notify By	Jun 15
Cancel By	Jul 8
Details	ICT: Computational Thinking from a Parallel Perspective: Focus on parallel thinking and resources to prepare graduate students, college faculty, and high school teachers for modeling and simulation for new parallel computing environments.



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Graduate Students and Postdocs



Workshops on GPU Algorithms and Programming Tools

VSCSE VIRTUAL SCHOOL OF COMPUTATIONAL SCIENCE AND ENGINEERING

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2011 summer school courses

Graduate students, post-docs and professionals from academia, government and industry can gain the skills they need to leverage the power of cutting-edge computational resources at three courses offered this summer by the Virtual School:

- ▶ [Petascale Programming Environments and Tools](#), July 12–15, 2011
- ▶ [Proven Algorithmic Techniques for Many-core Processors](#), August 15–19, 2011

To participate in summer courses prospective students must first be enrolled in the Virtual School. Enrollment is free and can be completed at <https://hub.vscse.org/>.

Graduate Students



Materials Science PhD Programs

LSU-SU-UNO joint PhD in Materials Science & Engineering:

Proposal approved by LSU system, being considered by the Louisiana Board of Regents.

LA Tech PhD in Molecular Science & Nanotechnology:

Letter of Intent being reviewed by University of Louisiana System, should go to Board of Regents in September. Expect to receive permission to submit proposal for the degree.

Collaborative Ph.D.
Program in
Materials Science and Engineering

Proposed to the Louisiana State Board of Regents

Louisiana State University and Agricultural and
Mechanical College
The University of New Orleans
Southern University, Baton Rouge



A LETTER OF INTENT
for a

DOCTOR OF PHILOSOPHY PROGRAM
in
MOLECULAR SCIENCES AND
NANOTECHNOLOGY

submitted by
LOUISIANA TECH UNIVERSITY

to the
UNIVERSITY OF LOUISIANA SYSTEM
BOARD OF SUPERVISORS

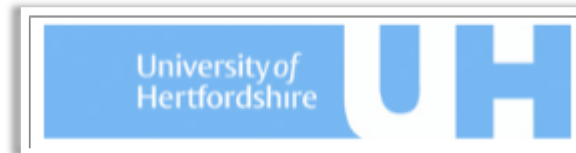
Graduate Students and Postdocs



Internships

Supada Loasooksathit from LA Tech spent one quarter at University of Hertfordshire in the UK

Marielle Soniat from UNO visited Susan Rempe at Sandia Albuquerque



Chinedu Ekuma and Ryky Nelson from LSU will visit Brookhaven National Laboratory in September

Chinedu Ekuma from LSU will visit Pacific Northwest National Laboratory in August 2011

Workforce Development Milestones



Milestones	Y1	Y2	Y3	Y4	Y5	
Open House for MS/HS	X	X	X	X	X	<i>On Track</i>
Research Experiences for Teachers	X	X	X	X	X	<i>On Track</i>
Research Experiences for Undergraduates	X	X	X	X	X	<i>On Track</i>
Graduate Courses via Synchronous Video	X	X	X	X	X	<i>On Track</i>
Internships at National Labs/Industry	X	X	X	X	X	<i>On Track</i>
Graduate Curricula	X	X	X	X	X	<i>Ahead of Schedule</i>

Workforce Development Milestones



Milestones	Y1	Y2	Y3	Y4	Y5	
Summer Workshops for HS/MS	X	X	X	X	X	<i>Behind</i>
Short Courses and Modules for CC	X	X	X	X	X	<i>Behind/Obstacle*</i>
Beowulf Boot Camp for CC	X	X	X	X	X	<i>Obstacle*</i>
Effective Teaching Workshops for GS/PD	X	X	X	X	X	<i>Behind</i>

Challenge/Barrier: Logistical issues (e.g., housing minors on campus) hindered HS/MS Summer Workshop.
 *BRCC volunteers instructors for modules and Boot Camp unable to participate.
 Dobbins was to teach a short course.
 Logistical issues prevented Effective Teaching Workshops

Mitigation Plan: Year 1 experience with running RET will allow HS/MS Summer Workshop in Year 2.
 Re-engaged BRCC Science Dean and new instructors on modules and Boot Camp.
 Effective Teaching Workshop to be presented in Year 2