Increase the number of URM and women in the Alliance.
Diversity Strategies

- Diversity Advisory Council
- Faculty
- Pipelines to Graduate School
- Graduate Students
Diversity Advisory Council

Sheila Edwards Lange
Vice President for Minority Affairs and Vice Provost for Diversity
University of Washington

DiOnetta Jones
Associate Dean and Director, Office of Minority Education, Office of the Dean for Undergraduate Education
Massachusetts Institute of Technology

William Lester
Department of Chemistry
University of California, Berkeley

Betsy Willis
Director, Advising and Student Records
Director, Gender Parity Initiative
Bobby B. Lyle School of Engineering
Southern Methodist University

Jenna Carpenter
Associate Dean for Admin. & Strategic Initiatives
Wayne and Juanita Spinks Prof. of Mathematics and Statistics
Louisiana Tech University

Stephanie Adams
Associate Dean for Undergraduate Studies
School of Engineering
Virginia Commonwealth University
2011 DAC recommendations:

- Work with existing national efforts, i.e. GEM, Institute for Broadening Participation. Graduate, REU/RET opportunities listed at IBP. A recruitment letter sent to GEM scholars.

- Enhance researcher's ability to communicate with broader audiences: NSF/LA EPSCoR sponsored workshop: Science: Becoming the Messenger, November 17, 2011.

- Leveraging Louis Stokes Alliance programs. REU/Training

- Industrial Liaison Team missing an HBCU partner: Rachel Cruthirds (from Xavier) joined.

DAC present at today’s Symposium.
Graduate Students - Assistantship Supplements

Announced on Fall 2011:
Two graduate students have been awarded supplemental research assistantships.

Faculty - Supplements to Startup Packages

Contributing to the startup package of Anne Robinson, Tulane, and Erica Murray at LA Tech.

Pipelines

Targeting recruiting efforts in all state bridge programs:
4+1 Grambling/LA Tech, 3+2 Xavier/Tulane/UNO/SUBR, 2+2 LSU/BRCC and 2+2 Southern/BRCC beginning Fall 2011.
Three students recruited: one LA-SiGMA Xavier student transfers to Tulane, one BRCC REU student will transfer to LSU, and one BRCC REU student will transfer to SUBR.
LA-SiGMA statistics:

<table>
<thead>
<tr>
<th></th>
<th>Year Two</th>
<th></th>
<th></th>
<th>Year One</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Black</td>
<td>Hispanic</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Faculty</td>
<td>83%</td>
<td>17%</td>
<td>9%</td>
<td>6%</td>
<td>86%</td>
<td>17%</td>
</tr>
<tr>
<td>Post docs</td>
<td>80%</td>
<td>10%</td>
<td>10%</td>
<td>0%</td>
<td>86%</td>
<td>14%</td>
</tr>
<tr>
<td>Graduates</td>
<td>73%</td>
<td>24%</td>
<td>11%</td>
<td>3%</td>
<td>77%</td>
<td>21%</td>
</tr>
<tr>
<td>Undergrad.</td>
<td>44%</td>
<td>56%</td>
<td>68%</td>
<td>4%</td>
<td>56%</td>
<td>44%</td>
</tr>
<tr>
<td>REU</td>
<td>69%</td>
<td>31%</td>
<td>15%</td>
<td>4%</td>
<td>67%</td>
<td>33%</td>
</tr>
<tr>
<td>RET</td>
<td>65%</td>
<td>35%</td>
<td>12%</td>
<td>0%</td>
<td>73%</td>
<td>27%</td>
</tr>
</tbody>
</table>

Targets: 30% female and 15% URM by Year 3
<table>
<thead>
<tr>
<th>Diversity Strategies</th>
<th>Milestones Y1</th>
<th>Milestones Y2-Y3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish a Diversity Advisory Council</td>
<td>DAC established in Y1. <strong>Status: On target.</strong></td>
<td>Annual DAC meetings. <strong>Status: On target.</strong></td>
</tr>
<tr>
<td>Provide financial incentives to women and URMs for pursuing adv. education</td>
<td>Establish program. <strong>Status: On target.</strong></td>
<td>Reach 30% women and 15% URM graduate students within the Alliance by Y3. <strong>Status: On target.</strong></td>
</tr>
<tr>
<td>Development of role models. Supplement Startup Packages.</td>
<td>Establish program. <strong>Status: On target.</strong></td>
<td>Reach 30% women and 15% URM graduate students within the Alliance by Y3. <strong>Status: On target.</strong></td>
</tr>
<tr>
<td>Create/expand pipelines to graduate school for women and URMs</td>
<td>Establish program. <strong>Status: On target.</strong></td>
<td>At least five students recruited through the pipelines described in the proposal by end of Y2. <strong>Status: Behind</strong></td>
</tr>
</tbody>
</table>

* Three students recruited. Personal contacts have proven to be successful in Y2. We are planning to strength these efforts.
A state-wide articulation agreement on transferring course credits between two-year and four-year colleges is being finalized. This will facilitate future recruiting.
LA-SiGMA will address all levels of the educational ladder, contributing to a well-trained and diverse professional workforce.
Workforce Development Strategies

- 2-Year College Students
- Grades 6 – 12 Students
- Post Docs
- 2-Year College Instructors
- Graduate Students
- 4-Year College Students
- High School Teachers
- Workforce Strategies
Partnerships

Baton Rouge Community College
Bossier Parish Community College
Louisiana Delta Community College
Louisiana School for Math, Science & the Arts
South Arkansas Community College

Brookhaven National Lab
Eidgenössische Technische Hochschule Zürich, Switzerland
Göttingen University, Germany
Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore, India
Max Planck Institute for Colloids and Interfaces, Potsdam, Germany
National Institute for Materials Science, Tsukuba, Japan
Pacific Northwest National Lab
Sandia National Lab
Shodor Education Foundation
S.N. Bose National Centre for Basic Sciences, Kolkata, India
Technischen Universität Dortmund, Germany
Texas A&M University
University of Hertfordshire, Great Britain
Universität Würzburg, Germany

Karlsruhe Institute, Germany
Neel Institute, Grenoble, France
Argonne Nat. Lab, Illinois
SciDAC Institutes
Grades 6-12

Two Louisiana School for Math, Science, and the Arts high school students participate in the 2012 LSU REU program.

Grades 6-12

LA Tech/Grambling LA-SiGMA hosted an Open House as a part of Sci-Port's High School Engineering Olympics on February 21, 2012. It also participated in Engineering & Science Day April 25, 2012 and hosted high school students visits.

Tulane is working with a Title I school in New Orleans to develop a Chemistry AP program.

More than ten lectures at K-12 schools by LA-SiGMA researchers.
Beowulf Boot Camp:
July 9-13, 2012
37 high school students, 4 high school teachers, one community college faculty
High School Teachers

• RET @ Ruston feature at NSF website
• Leveraged LSU’s LaMSTI teacher program
• SU RET teachers participated in the GPU team
• 16 LA-SiGMA RET teachers statewide, 38% women, 13% URM

2011 RET participant Chris Campbell chosen as 2012-2013 Einstein Fellow to serve in the Industrial and Innovative Partnership Division of NSF Engineering Directorate
Two-year college students & instructors:

Short courses:
• LA Tech held a one day course in Microscopy, October 14, 2011: 20 teachers attended.

REU/RET participation:
• Two CC students participating into 2012 REU (LSU & SUBR).
• Two CC faculty participating in the RET program.

Beowulf Bootcamp:
• BRCC instructor attended 2012 Beowulf Bootcamp. She provided feedback on the camp, and how we can best include CC students in the future.

Modules for STEM CC classes:
• BRCC instructor working with LSU LA-SiGMA faculty to develop course modules for STEM CC classes.
2012: 24 LA-SiGMA REU students statewide. They will be tracked to measure retention. 33% women, 17% URM

“This summer REU has truly impacted my life. I am reconsidering my career goals. I am thinking of focusing my undergraduate degree towards computational physics, and going to grad school for computational physics as well. I couldn’t have had a better summer”

- Sharae Williams, 2011 REU participant
9 Graduate level courses offered:
1 course Fall 2010, 3 courses Spring 2011,
2 courses Fall 2011, 3 courses Spring 2012
(6 of the courses in partnership with German & Swiss Universities leveraging PIRE award, 2 of the courses include students at Bangalore, India)

Multidisciplinary & multi-institutional mentoring committees for each graduate student
Student/postdoc retreats:

October 15, 2011: 30 participants at LSU.
July 2, 2012: 43 participants at Tulane; Peter Feibelman as invited speaker.
Graduate Students and Postdocs

LA-SIGMA Effective Teaching Workshop for postdocs and senior level graduate students based on Michigan State’s FIRST program (Faculty Institute for Reforming Science Teaching) developed and taught by Cynthia Sisson and Stephanie Aamodt (LSU-Shreveport).
Graduate Students and Postdocs

Density Functional Workshop, July 23-27 2011
(40 registrants, 5 speakers, LA Tech, LSU, SUBR, Tulane, Xavier)

Kieron Burke
UC Irvine

Mel Levy
Tulane & N.C. A&T

Shobhana Narasimhan
Jawaharlal Nehru Centre

John Perdew
Tulane

Weitao Yang
Duke

Tanusri Saha-Dasgupta
S.N. Bose National Centre
Graduate Students and Postdocs

Mardi Gras conference:
Computational Materials & Biosystems

February 16-18, 2012
16 invited speakers
70 participants
Graduate Students and Postdocs

Workshops on Computational Thinking with a Parallel Perspective by Bob Panoff and the Shodor team: July 31-August 6, 2011 (LSU)
June 11-14, 2012 (SUBR)
Graduate Students and Postdocs

VSCSE Workshops on GPU Algorithms and Programming Tools:
2 workshops in summer 2011 (20 participants),
2 workshops in summer 2012 (30 participants)
LONI HPC Parallel Programming workshop, June 4-6, 2012, 30 participants
Inaugural LONI HPC User Symposium, June 6-7, 2012, 53 participants
NWChem Workshop, June 8-9, 2012, 30 participants
Graduate Students and Postdocs

22nd National NSF EPSCoR Conference, Coeur d'Alene, Idaho, October 24-27, 2011

Three LA-SiGMA graduate students attended and competed in the Energy section of the Student Poster Competition.

Ekuma won the 2nd Price in the Energy section.
Graduate Students

Materials Science PhD Programs

LSU-SU-UNO joint PhD in Materials Science & Engineering has been postponed.

LA Tech PhD in Molecular Science & Nanotechnology has been approved.

Tulane is about to launch a Ph.D. program in Materials Science.
Graduate Students and Postdocs

Internships/Travel:

Supada Laosooksathit attended Supercomputing '11 in Oregon along with Tom Bishop.

5 students travel to the Louisiana Academy of Science meeting.

Pavel Kucheryavy traveled to New York University in June 2011 to learn about NMR.

Chinedu Ekuma from LSU visited Pacific Northwest National Laboratory in September, 2011

Chinedu Ekuma and Ryky Nelson from LSU visited Brookhaven National Laboratory in October, 2011

Conrad Moore attended PIRE workshop in Goettingen, Germany, January 2012.
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<th>Milestones Y1</th>
<th>Milestones Y2-Y3</th>
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<tr>
<td>Open houses for middle and high school students and summer research workshops</td>
<td>100 open house attendees, and 40 students in summer workshops in Y1. <strong>Status: On target.</strong></td>
<td>Increased attendees in Y2-Y3. <strong>Status: Partially achieved; see note 1 below.</strong></td>
</tr>
<tr>
<td>RET programs for teachers</td>
<td>20 RET participants (as budgeted) each year; use of modules in classroom (tracked through follow-up visits to classrooms). <strong>Status: On target.</strong></td>
<td>20 RET participants each year; expansion of pilot program. <strong>Status: Behind; see note 2 below.</strong></td>
</tr>
</tbody>
</table>

1. The Open House events had increased attendance to over 1,000 participants. High school students did not participate in summer workshops in Y1. We achieve Y1 milestones in Y2.
2. 16 RET participants this year. The recruiting strategies will be changed next year to attract a larger number of qualified applicants.
### Workforce Development

<table>
<thead>
<tr>
<th>Multiple programs for two-year college students</th>
<th>Milestones Y1</th>
<th>Milestones Y2-Y3</th>
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<tr>
<td>Initiation of short-course pilot programs in Y1. <strong>Status: Behind; to be accomplished in Year 2.</strong></td>
<td>Expansion of short courses in Y2 and beyond; five two-year college participants each year in Beowulf Boot Camp; expansion of 2+2 programs to other LA-SiGMA institutions by Y3. <strong>Status: Behind; see note below.</strong></td>
<td></td>
</tr>
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</table>

| REU programs on computational and experimental materials science | 30 REU participants (as budgeted) each year; 50% of participants will pursue higher education. **Status: On target.** | 30 REU participants (as budgeted) each year; 50% of participants will pursue higher education. **Status: On target.** |

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**Short Courses:** the first Short Course was held at LA Tech in Y2. LA-SiGMA plans to hold Short Courses in each region (Ruston, Baton Rouge, New Orleans) during the Fall of 2012.

**Five two-year college participants in Beowulf Boot Camp:** the decision was made to assess the course this summer to determine if modifications to the content were needed to better align it with the needs of community college students.

**Expansion of 2+2 and other programs by Year 3.** Results: three students recruited to date.
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<td>Distance Ed courses</td>
<td>Enrollments in new courses (at least 40 statewide). <strong>Status: On target.</strong></td>
<td>Incorporation into graduate curricula on two campuses by Y2, others by Y3. <strong>Status: On target.</strong></td>
</tr>
<tr>
<td>Training programs for graduate students and postdocs</td>
<td>Participation in effective teaching workshops; five internships and extended visits each year. <strong>Status: Behind; to be done in Year 2.</strong></td>
<td>Participation in effective teaching workshops; five internships and extended visits each year. <strong>Status: On target.</strong></td>
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