Reflect & Renew

A Message from the Executive Director

This fall as I enjoy LSU Football and get settled into the academic routines, I also reflect on the notable achievements of our scholars last year.

The magnitude of their success would not have been possible without the joint efforts of outstanding LSU administrators, faculty, and staff, who have worked closely with OSI to supplement the LSU experience and ensure the students receive the best available opportunities.

OSI students shined as researchers, scholars, and leaders here at LSU and around the globe. We were excited to honor 46 graduates from the BD, HHMI Professors, IMSD, LA-STEM, LS-LAMP, and S-STEM Programs (see pg. 9 for a listing of programs). These 2015 graduates are among the top students and leaders at LSU.

Many have gone on to begin doctoral programs at institutions like Stanford University, University of Illinois at Urbana-Champaign, Rice University, and University of Notre Dame. Some have started master’s and medical degrees at institutions such as the University of Michigan, UCLA, and Texas A & M. Others have secured positions at companies including SC Johnson, Conestoga-Rovers & Associates, and Goldman Sachs.

We are all immensely proud of the national awards and honors that our scholars have received, including five who were named National Science Foundation Graduate Research Fellows. During the 2014-2015 academic year, students who participated in OSI programs amassed incredible recognitions which include:

- NSF Graduate Research Fellows
- Fulbright Scholar
- Gates Cambridge Scholar (LSU’s 1st)
- Barry M. Goldwater Scholar
- Knauss Fellow
- University Medalists
- Upper Division Honors Graduates
- LSU Distinguished Communicators

As this semester continues, I look forward to the coming achievements. While our scholars strive to finish this semester strong and develop holistically in the process, let us all renew our commitment to providing academic and research excellence.

Partner with us!

Join us in supporting the LSU Flagship 2020 agenda aimed at transforming lives through our focus on learning, discovery, diversity, and engagement. For more information about how you can get involved, visit our website http://osi.lsu.edu.

Mentor Extraordinaire:

Dr. Anne Grove
Training today’s independent researchers to be tomorrow’s leaders

French Connection

LA-STEM Scholar Craig Richard shares his summer research experiences

Remembering Ben

A celebration of HHMI Professors Program Graduate Ben Guitreau’s life
Mentor Extraordinaire: Dr. Anne Grove

Training today’s independent researchers to be tomorrow’s leaders
By Melissa Crawford

William A. Ward stated, “The great teacher inspires,” and Dr. Anne Grove certainly demonstrates her extraordinary ability to bring out the best in her students. To date, 20 graduate students, 43 undergraduates, and 2 high school students have benefitted from Dr. Grove’s mentoring. Among the undergraduates, 3 were OSI LA-STEM Scholars.

This Gregory Cannaday Burns Professor of Biological Science joined the LSU faculty in 1999. Her research focuses on the mechanisms in which bacteria respond to changes in their environment, particularly those changes that occur when a pathogen infects a host. This work could lead to the development of tools that reduce disease progression, by understanding how bacterial transcription factors use environmental signals to promote expression of virulence genes in the bacterium.

Dr. Grove exudes excitement for novel discoveries within her research, as she seeks to understand host-pathogen interactions and its contribution to the larger scientific community. She is equally passionate about engaging with students and observing their development as researchers.

As a former NSF Program Director, Dr. Grove gained valuable experience with proposal submission and evaluation, thus her focus in her work at LSU has included both intellectual merit and broader impacts. What has been most impressive is her ability to create highly-skilled and independent researchers.

All of her PhD graduates have first-author publications and have secured postdoctoral positions at institutions such as Harvard University and the MD Anderson Cancer Center. Six of her undergraduates have completed honors theses and a number have first author or co-authored peer-reviewed publications. One of her students, Alan Williams, received an NSF Graduate Research Fellowship and is currently at Yale University. Dr. Grove’s students have presented their work at national meetings and are among LSU’s best students.

LA-STEM Scholar Tiffany Lemon graduated with College Honors from LSU in 2013 with a BS in biochemistry. She began research in Dr. Grove’s lab her first semester at LSU. This LSU Distinguished Communicator and Barry M. Goldwater Honorable Mention, had no prior knowledge about research and admits to being very intimidated initially. She attributes her success as an independent researcher to Dr. Grove and her “awesome” graduate students, who walked her through procedures, provided constructive feedback, and gave valuable encouragement, stating:

“Dr. Grove is an amazing mentor! While providing excellent guidance and support, she allows her students to take the reins and fully explore the science. Her trust really helped to lay the foundation for my confidence in conducting research.” - Tiffany L.

Dr. Grove’s lab is a true gem in LSU’s College of Science. She is equally passionate about engaging with students and observing their development as researchers.

For more information about the Grove Lab Group visit: http://sites01.lsu.edu/faculty/agrove/ or click here for their Facebook page.
French Connection
LA-STEM Scholar Craig Richard highlights his summer research experience in France

Admittedly, when offered an opportunity to go to France, I was hesitant. I had not traveled outside of the US, let alone for an entire summer. Not to mention that I knew almost no French, except for what I recalled from sixth grade French class. After learning about the project, I became really excited about working at a scientific center of Europe, and I was among other engineers and scientists solving the world’s problems and developing the latest technologies. While there, I was also able to learn about other types of research being done and even other areas within biotechnology. Not only was I able to conduct research at an internationally renowned facility, but I was able to generate presentable data. When not immersed in my experiments, I spent my time traveling around Europe. I spent weekends in places like Barcelona, Paris, and Marseille along with countless day trips to other cities around France. I also had the pleasure of getting to know a fantastic group of fellow GIIP interns. In short, going to France was one of the best decisions I have ever made.

Craig is a biological engineering senior. His research this summer was funded by the OSI HHMI Professors Program. Craig is an undergraduate research in Professor Todd Monroe’s lab and was recently featured in the LSU Reveille.

Click here to read the LSU Reveille article.

OSI FACTS

89%
The OSI LA-STEM Research Scholars Program has a six-year STEM graduation rate of 89%. This program has diminished or eliminated the achievement gap for African Americans and women, whose six-year graduation rates are 85% and 91%, respectively.

Bridge to the Doctorate Initiative
Funded by the National Science Foundation, providing two years of support for LSU STEM doctoral students

The Bridge to the Doctorate Initiative celebrated two 2015 graduates: Dr. Corey Baham & Dr. Cindy Colon.

Corey received his PhD in Business Administration with a minor in Information Systems and Decision Sciences.

Cindy completed her PhD in Geology and recently spent 4 months in Grenoble with Dr. Cecile Laserre at ISTERRE doing calculations on plate tectonics.

This fall, we welcomed nine new fellows:

Ashley Fulton, Chemistry
Xavier University of Louisiana

Brian Brown, Chemistry
Jackson State University

David Alspaugh, Physics
UC Berkeley

Ryan Johnson, Chemistry
Langston University

Derek Bratcher, Biological Sciences
Xavier University of Louisiana

Elisa Elizondo, Renewable Natural Resources
Oklahoma State University

Kayla Echols, Mathematics
Spelman College

Shaniqua Hayes, Chemistry
University of New Orleans

Trevor Wright, Chemistry
Howard University

For more info. visit www.lsu.edu/bd.

Let Us Hear From You!
Want to be in our next newsletter?
Contact:
Melissa Crawford: mcraw15@lsu.edu
The HHMI Professors Program honored and celebrated its spring 2015 graduate, Benjamin (Ben) Guitreau.

The road to Ben completing his Bachelor of Science in computer science has been long and winding; however, he remained diligent in his efforts to accomplish his goal. Ben’s journey to his bachelor’s degree began in 1995 when he enrolled at Nicholls State University. With little support, he had to work to pay for school, which caused his academics to suffer and resulted in his resignation from the university after one year. He joined the construction workforce and remained for sixteen years until a serious injury resulted in the amputation of his finger and a realization that he needed to make another change.

Throughout this time period and years of engaging in a rough lifestyle, Ben never lost sight of his interest and passion for computers. In the summer of 2011, Ben left the workforce and enrolled at BRCC to pursue a degree in computer science. In 2012, he was accepted into the HHMI Professors Program community college program. Ben recognized the opportunities the HHMI Professors Program provided to support him financially and academically, as he aspired to transfer to LSU and obtain his Bachelor’s degree.

He began research in Dr. Brygg Ullmer’s Tangible Visualization laboratory in the Center for Computation and Technology where he continued through graduation. Among his outstanding academic achievements, Ben had a strong commitment to mentoring and outreach. He tutored and mentored students in 6th – 8th grades at the Community School for Apprenticeship Learning and volunteered as an ACT prep tutor for school students in East Baton Rouge Parish.

Ben also served as the HHMI representative on the Innovation through Institutional Integration (I3) Student Council, funded by the National Science Foundation, where he was responsible for initiating outreach initiatives across the LSU campus. As a non-traditional student, Ben had a desire to mentor and support community college students through scientific research once he obtained his PhD and became a faculty member.

In February, just as plans were falling into place with graduation on the horizon and graduate school and fellowship applications submitted, Ben was diagnosed with esophageal cancer. Ben tirelessly fought his battle with cancer while maintaining his goals. With joint support from the College of Electrical Engineering and Computer Science, Division of Computer Science, and LSU administrators, Ben was able to fulfill the requirements for graduation. To top it off, he was also accepted by the LSU Graduate School to pursue his PhD in computer science. Two of his major priorities were to graduate with his BS and hopefully begin and complete his PhD.

During the OSI graduation celebration, Ben was honored with the Tyrone Davis Award for Academic & Research Excellence. This award was established in 2012 in honor of Tyrone Davis, an HHMI Professors community college program student who tragically lost his life but left a profound imprint on LSU faculty and administration with his intelligence and research talents. Ben certainly proved that he possessed the drive, motivation, and determination to succeed in the classroom and lab.

This past spring, Ben proudly walked across the stage to receive his computer science degree. Unfortunately, Ben lost his battle to cancer this past summer. His loss has left us wondering about the achievements he would have accomplished and the impact he would have had on others in his path. Many have expressed their sentiments about Ben. His research mentor, Dr. Brygg Ullmer, remembers Ben as “a truly outstanding member of the LSU CCT and CS families, achieving deep, lasting, highly constructive impact, both in his research and through his support of many other students.”

HHMI Professors Program Manager, Dr. Ashleigh Wright says, “Despite each of Ben’s struggles, he kept a very positive, yet realistic, outlook and never gave up. I could always count on Ben to support the program, especially for our community college students. I learned something new about him during every conversation, which is what I will remember the most. He is missed.” We are deeply saddened, yet overjoyed to have witnessed the accomplishments, strength, and perseverance demonstrated by Ben.

The HHMI Professors Program is funded by the Howard Hughes Medical Institute and services Baton Rouge Community College students and LSU undergraduates.

For more information about the HHMI Professors Program visit, www.lsu.edu/hhmi
LSU-Upward Bound (LSU-UB) celebrated its 2015 graduates. LSU-UB had fourteen active seniors and one known past graduate this spring. This is our largest graduating cohort of LSU-UB thus far, and we could not be more excited! Six of fourteen graduated with honors, and all graduating students have college plans for fall 2015, including attending Louisiana State University and A&M College, Southeastern Louisiana University, Southern University and A&M College, and Baton Rouge Community College, among others.

During the LSU-UB’s Summer Program, students explored college life while taking UB designed classes and workshops to build their skills and encourage persistence in education. Thank you to the LSU family who welcomed our students to campus with our Twitter challenge and to everyone who offered their time and services to making the summer such a success. Several students also had the opportunity to participate in the end-of-the-year educational enrichment road trip throughout Southeast Texas.

Many of our recent high school graduates participated in the LSU-UB Bridge Program, where participants and parents were advised on summer classes, college survival, and financial assistance with the help from the University College and Student Life and Enrollment.

The Awards Celebration Banquet recognized our new Upward Bound Alumni and all of our students’ achievement. The year’s banquet provided us with an opportunity to review a year full of fond memories, successes, and even challenges.

LSU-UB is entering its fourth year. The participants of the program have made LSU-UB what is today and have established the foundation for what it will be in the future.

To learn more about the LSU Upward Bound Program, visit www.lsu.edu/upwardbound.

---

**Upward Bound Program**

*Department of Education Classic Trio Program servicing Tara High School*

---

**Finding & Applying for Summer Research Opportunities:**

Tuesday, November 24, 2015
5:30-6:30 pm
Life Sciences Annex
Room 101A

Join us as Dr. Gloria Thomas, OSI Executive Director, provides valuable insight to create winning applications for summer research programs including:

- Finding summer opportunities
- Making your application stand out
- Understanding requirements, benefits, and expectations

For more information click here.
Meetings & Seminars (S-STEM & LAMP)
Since our last update, members of S-STEM and LAMP have attended multiple seminars during the spring semester. February’s seminar covered time management and maintaining a proper study schedule. Hayley Wren from the Center for Academic Success spoke to the students as well as led them in various time management exercises. March’s seminar presented students with what life as a graduate student would be like. Graduate students from OSI’s Bridge to the Doctorate Initiative served as panel members. Students were able to explore what graduate school might be like firsthand and ask any questions pertaining to graduate school life, academics, and extracurricular opportunities. In the May seminar, Dr. Page Jarreau of LSU’s Communications Department presented on the topic of science communication. Students learned about the art of science blogging, journalism, and social media platforms.

Field Trips
LAMP and S-STEM (and HHMI) students recently took a field trip to Texas in which they visited Texas A&M College Station and the University of Texas Graduate School of Biomedical Sciences. While visiting Texas A&M, students took a campus tour of the graduate school and lab facilities including chemistry, biology, and engineering labs. They also received a heartwarming welcome from the Associate Vice Provost and other faculty members. Additionally, students ended the day by interacting with the Texas A&M Bridge to the Doctorate graduate students. They were presented with a dinner and a chance to talk to the graduate students about life in graduate school. Students also visited University of Texas Graduate School of Biomedical Sciences. The day began with breakfast and a graduate school overview of UT/MD Anderson as well as tips for succeeding in graduate school by the Dean and Associate Dean of Graduate Studies. Students then took a tour of the campus, library, and cancer biology lab where they got to look at tumors under a microscope!

Spring 2015 Graduates
The S-STEM® & LS-LAMP® Programs honored twelve graduates this spring:

Kristian Black®
April Chow
Jonathan Curole
Heather Dang
Trent Davidge
Dante’ Johnson
Adelina Kaliba
Nouriath Ningbinnin®
Travoll Payne
Lonnie Parra
Patrick Rayle
Aurora Vargas*

Visit www.lsu.edu/lamp for more information.
To learn more about the S-STEM Program, visit www.lsu.edu/ssstem.
NIH Bridges to the Baccalaureate Program

Funded by the National Institutes of Health supporting Baton Rouge Community College students within biomedical sciences

2015 Bridges Research Scholars

Together with our Bridges to the Baccalaureate partners in the LSU College of Science and at Baton Rouge Community College (BRCC), OSI welcomed this year’s class of Bridges Research Scholars. Following an application and interview process, these nine BRCC STEM students were selected to complement their BRCC coursework by conducting biomedical research under the guidance of an LSU faculty member. This year’s cohort brings the total number of Bridges Research Scholars to nineteen over the program’s three years.

Bridges Research Scholars typically participate in full-time summer research at LSU, in conjunction with LSU’s Summer Undergraduate Research Program (SURP). They also have the opportunity to continue their research part-time during the academic year while taking classes at BRCC.

To prepare for their research experience, Bridges Research Scholars joined new BRCC HHMI Professors Scholars in six orientation sessions from March to May that included (1) an “Undergraduate Research 101” workshop; (2) a multi-week Mentor Connection workshop, which helped students explore research topics of interest and select a faculty research mentor/project; (3) an “understand your mentor’s perspective” overview of typical LSU STEM faculty members’ many responsibilities and how their research groups often function; (4) a primer on appropriate faculty-student interactions; (5) a goal-setting and academic success strategies workshop; and (6) near-peer “what to expect” mentoring by current and former Bridges Research and HHMI Professors Scholars.

Following a kick-off dinner and day-long SURP orientation, Bridges Research Scholars enthusiastically began their ten-week research experience in late May. In addition to conducting research and learning from their faculty and research group mentors, the Scholars explored research careers, built complementary skills, and interacted with an array of role models through SURP programs and Bridges seminars. They observed research and researchers in varied settings while touring the LSU School of Veterinary Medicine, the LSU Center for Advanced Microstructures and Devices, and the Pennington Biomedical Research Center. Scholars also learned about numerous LSU faculty research projects; discussed responsible conduct of research and the fundamentals of a successful research poster; stargazed on Astronomy Night; and even challenged their mentors (unsuccessfully) in a friendly softball game!

To cap off the summer, Scholars participated in a Bridges closing luncheon and presented their newly-created research posters at the Summer Undergraduate Research Forum.

Many thanks to the LSU faculty members serving as mentors to this Bridges Research Scholars cohort:

- Prof. Daniel Hayes (Biological & Agricultural Engineering),
- Prof. Gus Kousoulas (Pathobiological Sciences),
- Prof. Roger Laine (Biological Sciences),
- Prof. Michael Mathis (Comparative Biomedical Sciences),
- Prof. W. Todd Monroe (Biological & Agricultural Engineering),
- Prof. Cristina Sabliov (Biological & Agricultural Engineering),
- Prof. Ryoichi Teruyama (Biological Sciences), and
- Prof. Shaomian Yao (Comparative Biomedical Sciences).

Six Bridges Research Scholars are continuing their research during the 2015-16 academic year. We look forward to their latest discoveries!

Bridges Spotlight

Current Bridges Research Scholars Joe Gombeda and Rachel Horne participated in the May 2015 American Society of Microbiology (ASM) General Meeting in New Orleans. Joe and Rachel completed Dr. Mary Miller’s Careers in Life Sciences class at BRCC, which is supported by the Bridges program to introduce students to careers in microbiology, other topics in life sciences, and research opportunities. During the ASM meeting, Joe and Rachel participated in career seminars that helped prepare them for their summer research experience.

Congratulations to former LSU biochemistry major, Bridges Research Scholar, and S-STEM Scholar Adam Glover, who entered the Pharm.D. program at the University of Louisiana at Monroe this fall!

Welcome to our new LSU Tiger, Jenifer Kidd! After completing her Bridges experience over the summer, Jen transferred from BRCC to LSU this fall, is majoring in Natural Resource Ecology and Management, and will continue her research in Prof. Michael Mathis’s lab as an HHMI Professors Scholar.

For more information about the NIH Bridges Program, visit www.lsu.edu/nihbridges.
LA-STEM Research Scholars Program

Formerly funded by the National Science Foundation & LA Board of Regents, supporting the preparation of high-achieving STEM undergraduates for PhDs

The LA-STEM Program honored 21 graduates at our annual OSI Graduation Reception. The LSU journey for these exemplary scholars culminated with great accolades, graduate and professional school acceptances, as well as notable job offers.

This past year, Brianna Bourgeois and Brandon Oubre were recognized as University Medalists, for achieving perfect 4.0 GPAs. Bruno Beltran, Zachary Fitzpatrick, Morgan Hargrove, Brandon Oubre, Jeremy Tillay, and Cedric Williams completed their research theses and/or graduated with College Honors. Zachary was also honored as a Fulbright Scholar, after having been recently recognized as LSU’s first Gate Cambridge Scholar. Bruno also received a NSF Graduate Research Fellowship, along with LA-STEM alumni Jacob McAlpin and Melissa McDowell.

Four LA-STEM Scholars (pictured above) graduated as LSU Distinguished Communicators. LA-STEM seniors Mollie Smoak won a prestigious Barry M. Goldwater Scholarship, and Katie Hogan received an honorable mention.

Kristian Black, was awarded a $120,000 merit scholarship to pursue his medical degree at the University of Michigan Medical School. We are excited about the future of these outstanding leaders, who are poised to greatly impact their fields and communities.

2015 LA-STEM Graduates

Autumn Acree
Environmental Management Systems
MS, Soil Microbiology, LSU

Zachary Belou,
Mathematics
MS, Analytics, LSU

Bruno Beltran,
Mathematics, NSF Fellow
PhD, Chemical and Systems Biology
Stanford University

Kristian Black,
Biochemistry
MD, University of Michigan Medical School

Brianna Bourgeois,
Biological Engineering
Teach for America

Scott Burke,
Mechanical Engineering
Hiachi Automotive

Victoria Dugas,
Chemical Engineering
Albemarle Corporation

Zachary Fitzpatrick,
Biochemistry
Fulbright Scholar
Pierre and Marie Curie University, Paris, France

Morgan Hargrove,
Computer Science
GoDaddy

Dante’ Johnson,
Biological Sciences
SC Johnson: A Family Company

Ariel Jones,
Biological Sciences
MD, LSU HSC, Shreveport

Kristin Kendrick,
Environmental Engineering
Conestoga-Rovers & Associates

Giovoni King, Electrical Engineering
GEM Fellow
MS, Physical & Wave Electronics, UCLA

Shane Lindemann, Civil Engineering
PhD, Materials Science
University of Wisconsin, Madison

Arielle Nabatilan, Chemistry
ARS International
Will begin graduate school in Fall 2016

Erin Oliver, Microbiology
PhD, Ecology, San Diego State University/UC-Davis Joint Program

Brandon Oubre, Math & Computer Science
CenturyLink

Jennifer Quebedeaux, Biochemistry
PhD, Plant Biology
University of Illinois at Urbana-Champaign

Na’Kia Ricks, ISDS
(Information Systems & Decision Sciences)
CRIF Lending Solutions

Jeremy Tillay, Mathematics
PhD, Applied Math, Rice University

Cedric Williams, Mathematics & Physics
PhD, Mechanical Engineering
University of Notre Dame

For more information about LA-STEM, visit www.lsu.edu/lastem.

Alumni Spotlight: Anna Normand

LA-STEM alumna Anna Normand was named a 2016 Knauss Fellow. Also an NSF Graduate Research Fellow, Anna is pursuing her PhD in Soil and Water Science at the University of Florida. Through the Knauss program, Anna will be placed in a legislative position, where she will have the opportunity to work for one year in a marine policy position alongside a senator or representative. Anna was one of the top ten applicants this year.
LSU Office of Strategic Initiatives Programs

With funding from six agencies and corporations for over twelve years, OSI has supported students through seven programs at all educational levels. Highlighted are the OSI programs with an emphasis on the levels of students served. For more information about OSI visit http://osi.lsu.edu.

Invest in STEM

LSU OSI development efforts seek to sustain projects, such as the LA-STEM and HHMI Professors programs, to provide comprehensive student support. For more information about opportunities to support OSI, visit our website at http://osi.lsu.edu or contact:

Jade Ethridge,
Manager, Business & Development
(225) 578-4004
jade@lsu.edu

Office of Strategic Initiatives
Louisiana State University
213 Hatcher Hall
Baton Rouge, LA  70803
Phone: 225.578-7230
Fax: 225-578-7231
Email: osi@lsu.edu
Website: http://osi.lsu.edu
Twitter: @LSUOSI
Facebook: OSILSU

EXCITE
KEYNOTE SPEAKER
Dr. Squire Booker
HHMI Investigator
Pennsylvania State University
Professor, Chemistry
Professor, Biochemistry & Molecular Biology

UNDERGRADUATE RESEARCH CONFERENCE

NOVEMBER 6, 2015

REGISTRATION: $20
Includes lunch
ABSTRACT DEADLINE: Extended to October 22, 2015

www.lsu.edu/urc