

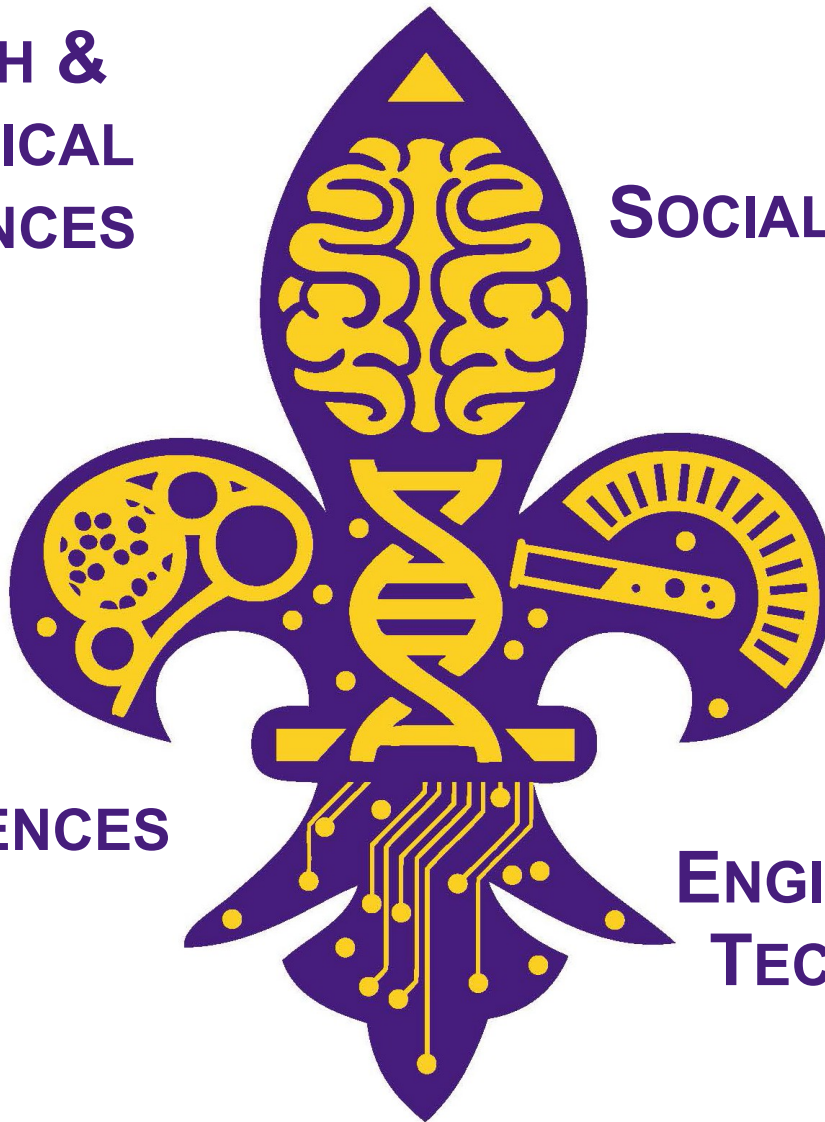
# LSU

Office of  
Strategic Initiatives

2014 Undergraduate Research Conference

**MATH &  
PHYSICAL  
SCIENCES**

**SOCIAL SCIENCES**



**LIFE SCIENCES**

**ENGINEERING &  
TECHNOLOGY**

*Featuring "The Science of Zombies"*

**Excite • Explore • Experiment**  
**October 31, 2014**



# Welcome!

**Vice Chancellor Isiah M. Warner,  
Office of Strategic Initiatives**



Welcome to the 2014 LSU Undergraduate Research Conference (URC), Excite, Explore, & Experiment! For the past five years, this conference has served as a platform for showcasing the research of over 487 students from 15 universities. As Vice Chancellor for LSU's Office of Strategic Initiatives, my primary goal is to create opportunities that promote student success in research. As we celebrate our sixth year of hosting this conference, we are excited about the growing number of universities that will be represented as well as the inclusion high school presenters from the Louisiana School for Math, Science, and the Arts (LSMSA). We would also like to acknowledge the presence of students from Boys Hope Girls Hope of Baton Rouge.

We are delighted to have Dr. Winston Anderson, HHMI Professor from Howard University as our keynote speaker. Dr. Anderson is an accomplished researcher and an exceptional mentor. His keynote talk will **Excite** our undergraduate students through his discussion on *"Mentoring by Example and Diversity."*

This year's agenda also includes a panel of experts who will discuss *The Science of Zombies*. We hope this light-hearted scientific discussion on Halloween Day will **Explore** the "what if" behind this area of science fiction and encourage students to think broadly and creatively about their real world research experiences.

Most importantly, we will showcase the research **Experiments** of undergraduates from the STEM and social sciences disciplines. For some of you, this conference will serve as your first opportunity to present, while for others it will be a great addition to your research portfolio. We encourage you to take advantage of all that we have planned for you today, as it will aid your preparation for the journey that lies ahead.

As the next generation of research leaders, we hope that you will walk away from today's conference energized and excited about the work that you have done, are doing, and will continue to do. Furthermore, we celebrate your already great accomplishments and know that the best is yet to come for each of you. Congratulations and continue to follow your dreams!

# AGENDA

## LSU UNDERGRADUATE RESEARCH CONFERENCE

Excite, Explore, Experiment

October 31, 2014

LSU Student Union – Royal Cotillion Ballroom

- 8:00 a.m.–8:30 a.m.     **REGISTRATION & PRESENTATION SET-UP**  
Poster Presentation Set-up; *Cotillion Ballroom, 2<sup>nd</sup> FL*  
Oral Presentation Set-up; *assigned meeting rooms*
- 8:30 a.m.–8:45 a.m.     **OPENING REMARKS**, Dr. Kalliat Valsaraj  
Vice Chancellor of Research & Economic Development
- 8:45 a.m.–9:30 a.m.     **POSTER PRESENTATIONS, LEVEL 1**
- 9:30 a.m.–9:40 a.m.     **BREAK**
- 9:40 a.m.–10:35 a.m.     **POSTER PRESENTATIONS, LEVEL 2**
- 10:35 a.m.– 10:45 a.m.     **BREAK**
- 10:45 a.m. –12:00 p.m.     **ORAL PRESENTATIONS**
- |  |  |
|--|--|
| <b>Life Sciences</b><br><i>Session A, International, Room 303</i><br><i>Session B, Red River, Room 323</i> | <b>Math &amp; Physical Sciences</b><br><i>Session A, Catahoula, Room 302D</i><br><i>Session B, Castilian, Room 304</i> |
| <b>Social Sciences</b><br><i>Session A, Orleans, Room 302A</i>   | <b>Technology &amp; Engineering</b><br><i>Session A, Vieux Carre, Room 325</i>   |
- 12:00 p.m.–12:40 p.m.     **LUNCH**
- 12:40 p.m.–2:10 p.m.     **PANEL:** “*The Science of Zombies*”
- 2:10 p.m.–2:20 p.m.     **BREAK**
- 2:20 p.m.–3:30 p.m.     **KEYNOTE SPEAKER**  
Dr. Winston Anderson, Howard University
- 3:30 p.m.–3:50 p.m.     **AWARD PRESENTATIONS**  
Dr. Isiah M. Warner, Vice Chancellor of Strategic Initiatives
- 3:50 p.m.–4:00 p.m.     **CLOSING REMARKS & ADJOURNMENT**  
Dr. Cynthia Peterson, Dean of the College of Science

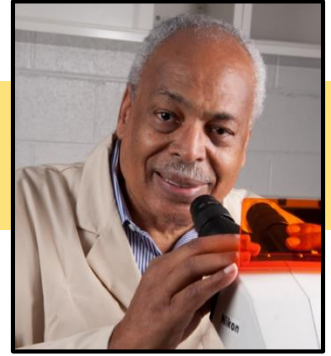
*Mistress of Ceremonies:* Ciara Foster, Coordinator of Undergraduate Programs



Office of  
**Strategic Initiatives**



**EXCITE**  
KEYNOTE SPEAKER



## **DR. WINSTON ANDERSON**

### *“Mentoring by Example and Diversity”*

Professor of Biology, Howard University  
Howard Hughes Medical Institute Professor

Dr. Anderson is a Professor of Biology at Howard University, who has devoted the last 45 years to the intellectual enhancement and training of under-represented students from the K-12 to postdoctoral levels. This Kingston, Jamaica native received his BS and MS degrees in Zoology from Howard University in 1962 and 1963 respectively, and a PhD in Biology from Brown University in 1966. He completed postdoctoral work at the University of Paris and Harvard Medical School. He has held various positions at the University of Chicago, Hunter College/CUNY, and Howard University, where he served as chair of the Department of Zoology from 1975 to 1983.

Dr. Anderson oversees a multidisciplinary laboratory of Cellular and Reproductive Biology which supports the engagement of students and faculty in a broad range of numerous research topics including the synthesis of estrogen-induced peroxidase as a marker for estrogen action in estrogen-dependent breast tumors and normal uterine endometrium; internalization of trypanosomes into macrophages in vitro; and binding of malarial parasites to cultured endothelial cells. He has 135 peer-reviewed publications for his research and mentoring efforts.

In 2006, with a \$1 million grant from the Howard Hughes Medical Institute, Dr. Anderson started the Howard Hughes Medical Research Scholars program. This program has been supported by the National Science Foundation’s Research Careers for Minority Scholars program and the National Institutes of Health Biomedical Research Support program for minority students at Howard University.

Professor Anderson is a member of the American Society for Cell Biology (ASCB) and was the first African American scientist elected to serve on the ASCB Council. He has received numerous awards and honors including the Anne Langer Award for Cancer Research and Distinguished Teacher Award at the University of Chicago Pritzker School of Medicine. He was also awarded with a White House Initiative Millennium Award for Research in 2002 and the Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring in 2011.

He has founded a number of additional programs and co-founded a leadership alliance which has been responsible for supporting summer research and mentorship for over 2,700 underrepresented minority students across the country. He lives in Maryland with his wife, Carol Anderson. They have three children, Laura, Lea, and Michael.



# EX | PLORE

## The Science of Zombies

Ever since George Romero's low-budget film *Night of the Living Dead* (1968), many have been fascinated with zombies. The creatures star in books, movies, plays and even award-winning TV shows. Some of the pop culture versions are spawned by viruses, radiation, a neurotoxin, or even voodoo. But, how close is this science fiction to reality? Could a virus cause reanimation of the dead? Why do Hollywood zombies crave flesh or even brain? Could such a disease sweep America as quickly as depicted in block buster movies? What's happening to the body in this process, and do any current day diseases or disorders come close to zombism? Finally, where does this fascination originate?

The panel of scientific and medical experts convened will discuss selected movies clips in a moderated Q&A session, with questions to follow from audience members. The panel session will be followed by a presentation from the author of *The Encyclopedia of the Zombie: The Walking Dead in Popular Culture and Myth*.

### Panelists

**Lana Lee Auzenne, MSN, RN**  
Faculty, School of Nursing  
Southeastern Louisiana University

**George Strain, PhD**  
Professor of Neuroscience  
Comparative Biomedical Sciences  
LSU School of Veterinary Medicine

**Christopher Mores, PhD**  
Associate Professor of Epidemiology  
Department of Pathobiological Sciences  
LSU School of Veterinary Medicine

**Ryoichi Teruyama, PhD**  
Assistant Professor of Biological Sciences  
Division of Cellular, Developmental and Integrative Biology  
LSU Department of Biological Sciences

### Presenter

**June Pulliam, PhD**  
Instructor of English  
Women's and Gender Studies  
Film and Media Arts

### Moderator

**Gloria Thomas, PhD**  
Executive Director of Research, Education and Mentoring Programs  
Office of Strategic Initiatives, Louisiana State University

### Agenda

Panel Discussion with Q&A  
Presentation with Q&A



# EX|PERIMENT

## RESEARCH PRESENTATIONS

### POSTER PRESENTATIONS, LEVEL 1

Poster Competition Categories: Level 1 = 1<sup>st</sup> year researcher; Level 2 = 3 semesters +

Full Abstract Proceedings are available online at [www.i3.lsu.edu/URC](http://www.i3.lsu.edu/URC)

#### Life Sciences, Level 1

Board #

- 1        *"3D Visualization of the Skull of a Sulphur Crested Cockatoo,"* **BROOKE LAWRENCE**. Louisiana State University, Mentor: Dr. Dominique Homberger
- 2        *"Effects of Alcane Degrading Microbes and Nanoparticles on Caenorhabditis elegans,"* **DONALD BROWN**. Southern University at New Orleans, Mentor: Dr. Christian Clement
- 3        *"Extraction of Essential Oil from Common Herbs and Spices and Their Antioxidant Activity,"* **GENESIS ALLEN**. LSMSA, Mentor: Brad Burkman
- 4        *"RNA Processing Dynamics of Functional Gene Sets,"* **SHIVA VELINGKER**. LSMSA, Mentor: Brad Burkman
- 5        *"A Voyage into the Brain of the Alligator: A Stereotaxic Coordinate,"* **RYAN LEBLANC**. Baton Rouge Community College, Mentor: Dr. Ryoichi Teruyama
- 6        *"The Molecular and Immunological Effects of Food Processing Enzymes on Allergenicity of Peanut Allergens,"* **FRANCES ARINZE**. Louisiana State University, Mentor: Dr. Soheila Maleki (US Department of Agriculture)

#### Math & Physical Sciences, Level 1

Board #

- 7        *"Characterization of the Energetics of Hydrogen Bonds,"* **KRISTI RILEY**. Louisiana State University, Mentor: Dr. Daniel Kuroda
- 8        *"Effects of Structure on Spectra of Periodic Quantum Graphs,"* **MICHELLE LASKOWSKI**. Louisiana State University, Mentor: Dr. Stephen P. Shipman
- 9        *"Waves in a String with Decaying Defect Density,"* **MELANIE DUTEL**. Louisiana State University, Mentor: Dr. Stephen Shipman
- 10       *"Comparison of HF and Non-HF Palynology Techniques: A Case Study on Modern Sediments from the Gulf of Papua,"* **DAVID RAU**. Louisiana State University, Mentor: Dr. Sophie Warny



## EX | PERIMENT

### POSTER PRESENTATIONS, LEVEL 1, continued

Poster Competition Categories: Level 1 = 1<sup>st</sup> year researcher; Level 2 = 3 semesters +

Full Abstract Proceedings are available online at [www.i3.lsu.edu/URC](http://www.i3.lsu.edu/URC)

#### Math & Physical Sciences, Level 1, continued

Board #

- 11      *"Bessel Function Construction and Application in Modeling Vibrating Liquids,"* **AARON CAO.** LSMSA, Mentor: Brad Burkman
- 12      *"Bound States in the Radiation Continuum for Periodic Structures,"* **CHRISTOPHER MOORE & JOSEPH PARK.** University of Florida, Mentor: Dr. Sergei Shabanov
- 13      *"Distributional Solutions of Linear, Second Order, Ordinary Differential Equations,"* **JOHN MOSER.** Louisiana State University, Mentor: Dr. Frank Neubrandner

#### Social Sciences, Level 1

Board #

- 14      *"Motivational Messages for Increasing Cancer Prevention in the Community: A Pilot Evaluation,"* **SHIKIRA FLOUNORY.** Xavier University of Louisiana, Mentor: Dr. Norma Kanarek
- 15      *"Measuring Negative Symptoms Using Computerized Vocal Analysis of Individuals with Schizophrenia and Their First-Degree Relatives,"* **LAUREN MEAUX.** Louisiana State University, Mentor: Dr. Alex Cohen
- 16      *"How Knowledgeable Are Undergraduate Students About Basic Personal Financial Management Concepts?,"* **ARAMIS HARRIS.** Southern University and A&M College, Mentor: Dr. Patricia E. McLean-Meyinsse
- 17      *"Communicative Gestures in Infants with Fragile X Syndrome,"* **KILLIAN HUGHES.** The University of South Carolina, Mentor: Dr. Jane Roberts
- 18      *"Social Anxiety and Cannabis-Related Impairment: The Impact of Solitary Cannabis Use,"* **KAYLI ALPHONSO.** Louisiana State University, Mentor: Dr. Julia Buckner
- 19      *"Working Memory and Word-Learning Abilities in Multilingual Adults Who Stutter: A Preliminary Study,"* **HAILEY GUILLOT.** Louisiana State University, Mentor: Dr. Geoffrey Coalson



## EX | PERIMENT

### POSTER PRESENTATIONS, LEVEL 1, continued

Poster Competition Categories: Level 1 = 1<sup>st</sup> year researcher; Level 2 = 3 semesters +

Full Abstract Proceedings are available online at [www.i3.lsu.edu/URC](http://www.i3.lsu.edu/URC)

#### Technology & Engineering, Level 1

Board #

- 20      *"Nucleate Boiling Analyzing Heat Transfer on Hybrid Surfaces,"* **DAVID NGUYEN**. Louisiana State University, Mentor: Dr. Shengmin Guo
- 21      *"Characterization of Micro Droplet Array for Highly Sensitive Biomedical Detection,"* **CHRISTIAN DANIELSON**. BRCC, Mentor: Dr. Kidong Park
- 22      *"Tank-to-Wheel Analysis of Dimethyl Ether (DME) and Comparison to Other Transportation Fuels,"* **KARSON STONE**. The University of Tennessee-Knoxville, Mentor: Dr. Claudia Rawn
- 23      *"A Non-Stoichiometric Study of Eu<sup>2+</sup> Doped K<sub>2</sub>BaI<sub>4</sub> and K<sub>Ba</sub>2I<sub>5</sub> on Scintillation Properties,"* **JESSE JOHNSON**. University of Tennessee - Knoxville, Mentor: Dr. Chuck Melcher
- 24      *"Planning Lean Events in the Public Sector,"* **BRIANA SAUL**. Louisiana State University, Mentor: Dr. Laura Ikuma
- 25      *"Parallelizing Protein Docking Code to Accelerate Drug Discovery,"* **FELECIA FOY**. LSMSA, Mentor: Brad Burkman
- 26      *"Oculus Rift: The Future of Scientific Visualization,"* **RHIANNAN BERRY**. LSMSA, Mentor: Brad Burkman
- 27      *"Nanoformulated DNzyme K-RAS Cancer Gene Silencing,"* **JACOB BRAUN**. Louisiana State University, Mentor: Dr. W. T. Monroe
- 28      *"Compressive Stress Testing of Fluorogypsum Compositions for Utilization in Artificial Reefs,"* **CHRISTOPHER GALLIEN**. Baton Rouge Community College, Mentor: Dr. Michele Barbato
- 29      *"Solar Steam For Human Waste Sanitization,"* **ZHUSHUN FANG**. Rice University, Mentor: Dr. Oara Neumann



## EX | PERIMENT

### POSTER PRESENTATIONS, LEVEL 2

Poster Competition Categories: Level 1 = 1<sup>st</sup> year researcher; Level 2 = 3 semesters +

Full Abstract Proceedings are available online at [www.i3.lsu.edu/URC](http://www.i3.lsu.edu/URC)

#### Life Sciences, Level 2

Board #

- 30      *"Development of New von Willebrand Factor Knockout Mouse,"* **KRISTIAN BLACK**. Louisiana State University, Mentor: Dr. David Ginsburg (University of Michigan)
- 31      *"Genetic Test of Inhibition of CYCD3-Containing Cyclin Dependant Kinase Complexes by SIAMESE,"* **LAURA BERTRAND**. Louisiana State University, Mentor: Dr. John Larkin
- 32      *"The Checkered Beetles of Louisiana (Coleoptera: Cleridae),"* **BRIAN REILY**. Louisiana State University, Mentor: Dr. Christopher E. Carlton
- 33      *"Characterization of Xanthine Dehydrogenase Regulator Protein of Ralstonia solanacearum, a Tomato Infecting Bacterium,"* **DANTE' JOHNSON**. Louisiana State University, Mentor: Dr. Anne Grove
- 34      *"Iodocyclization/Etherification One-Pot Synthesis of Medicinally Useful Benzo[b]thiophenes,"* **CATHLENE DEL ROSARIO**. University of West Florida, Mentor: Dr. Tanay Kesharwani
- 35      *"Biphasic Phosphorylation of STAT5 and STAT3 In Adipocytes,"* **NOURIATH NINGBINNIN**. Louisiana State University, Mentor: Dr. Jacqueline Stephens
- 36      *"Using quantitative PCR to examine oil exposure in free living birds,"* **APRIL SIMMONS**. Louisiana State University, Mentor: Dr. Sabrina Taylor

#### Math & Physical Sciences, Level 2

Board #

- 37      *"Investigating the Effect of Selenium on Fungal Growth and Mineral Production,"* **JENNIFER KENYON**. Louisiana State University, Mentor: Dr. Brooks Ellwood
- 38      *"K-Knuth Equivalence for Increasing Tableaux,"* **COLLEEN ROBICHAUX**. Louisiana State University, Mentor: Dr. Frank Neubrandner



## EX | PERIMENT

### POSTER PRESENTATIONS, LEVEL 2, continued

Poster Competition Categories: Level 1 = 1<sup>st</sup> year researcher; Level 2 = 3 semesters +

Full Abstract Proceedings are available online at [www.i3.lsu.edu/URC](http://www.i3.lsu.edu/URC)

#### Math & Physical Sciences, Level 2, continued

Board #

- 39      *"Finding Stardust in the Early Universe, SN2007oc's dust production,"* **AMY LEBLEU**. Louisiana State University, Mentor: Dr. Geoffrey Clayton
- 40      *"Green Fluorescent Protein as a Reporter of Notch1 EGF Repeat Folding in E. coli,"* **SIERRA JACKSON**. Louisiana State University, Mentor: Dr. Megan Macnaughtan
- 41      *"Forwardly-Invariant Hexagons in Curve-Tracking Analysis,"* **STEVEN OLSEN**. Louisiana State University, Mentor: Dr. Michael Malisoff
- 42      *"Growth and Morphology of Au/Ru(0001),"* **HUNTER MCDANIEL**. Louisiana State University, Mentor: Dr. Phillip Sprunger
- 43      *"Particle Lithography Studies,"* **RENE GIRARD**. Louisiana State University,, Mentor: Dr. Jayne Garno
- 44      *"A Minimal Model for mRNA,"* **BRUNO BELTRAN**. Louisiana State University, Mentor: Dr. Christine Jacobs-Wagner (Yale University)

#### Technology & Engineering, Level 2

Board #

- 45      *"Numerical Modeling and Furnace Augmentation for Improved Growth of Large-Diameter Scintillators,"* **CHRISTOPHER HOBBS**. University of Tennessee, Knoxville, Mentor: Dr. Mariya Zhuravleva
- 46      *"A Next Generation Laboratory X-Ray Tomography System,"* **GERRY KNAPP**. Louisiana State University, Mentor: Dr. Les Butler
- 47      *"Demonstrating Relationships Between User Behaviors through Ambient Displays,"* **BENJAMIN GUITREAU**. Louisiana State University, Mentor: Dr. Brygg Ullmer
- 48      *"Simulated Polycrystalline Graphene: The Effect of Topological Defect Densities on Macroscopic Structure,"* **MAVERICK ECHIVARRE**. University of Tennessee-Knoxville, Mentor: Dr. James Morris



## EX | PERIMENT

### POSTER PRESENTATIONS, LEVEL 2, continued

Poster Competition Categories: Level 1 = 1<sup>st</sup> year researcher; Level 2 = 3 semesters +

Full Abstract Proceedings are available online at [www.i3.lsu.edu/URC](http://www.i3.lsu.edu/URC)

### Technology & Engineering, Level 2, continued

Board #

- 49      *"Generalized Additive Modelling for Improved Permeability Estimation,"* **YOEL GEBRAI**. Louisiana State University, Mentor: Dr. Watheq Al-Mudhafer
- 50      *"Cyanobacterial Pigments as Sensitizers for Nano-Materials Based Solar Cells,"* **SHERRARD DAVIDSON**. Louisiana State University, Mentor: Dr. M. Teresa Gutierrez-Wing
- 51      *"Bone Scaffolds Utilizing Frontal Polymerization,"* **ZACKARI MURPHY**. Louisiana State University, Mentor: Dr. Daniel Hayes & Nick Totaro
- 52      *"In Vitro Colonic Fermentation of Sorghum-Rich Food Products,"* **KRISTINA COOK**. Louisiana State University, Mentor: Dr. Jack Losso



## EX | PERIMENT

### ORAL PRESENTATIONS

Full Abstract Proceedings are available online at [www.i3.lsu.edu/URC](http://www.i3.lsu.edu/URC)

#### Life Sciences, Session A, International, Room 303

- 10:45 - 11:00 a.m.      *"Degradation of Biofilms by Nanoparticles,"* **PAULA DATRI**, Southern University at New Orleans, Mentor: Dr. Christian Clement
- 11:00 - 11:15 a.m.      *"Auditory Frequency Sensitivity of Single Neurons in the Amphibian Inferior Colliculus,"* **KEITH PERKINS**, Southern University at New Orleans, Mentor: Dr. Hamilton Farris
- 11:15 - 11:30 a.m.      *"Capture of Microbes with Nanoparticles for Forensic DNA Analysis,"* **ALTONEISHA ROSE**, Southern University at New Orleans, Mentor: Dr. Illya Tietzel
- 11:30 - 11:45 a.m.      *"Preclinical Studies Using Bioactive Compounds to Develop Novel Chemoprevention Strategies for Breast Cancer,"* **BRANDI TEMPLE**, Xavier University of LA, Mentor: Dr. Dipali Sharma
- 11:45 a.m. - 12:00 p.m.      *"Conservation and Ecological Implications of Introgression between Black Bass Subspecies,"* **Rachel Tessier**, Louisiana State University, Mentor: Dr. Michael Kaller

#### Life Sciences, Session B, Red River, Room 323

- 10:45 - 11:00 a.m.      *"Bacterial Species Present on Surfaces in Common Areas of LSUHSC Campus,"* **JANICE CARTER**, Southern University at New Orleans, Mentor: Dr. Mona Bakeer
- 11:00 - 11:15 a.m.      *"Antibacterial Properties of Nanoparticles,"* **NEYDA CHACON**, Southern University at New Orleans, Mentor: Dr. Pamela Marshall
- 11:15 - 11:30 a.m.      *"Degradation of Nanoparticles by Microbes,"* **APRIL HARDING**, Southern University at New Orleans, Mentor: Dr. Illya Tietzel
- 11:30 - 11:45 a.m.      *"Protein Purification of Cryomilled and Lyophilized Material,"* **SONYA HILL**, Southern University at New Orleans, Mentor: Dr. John P. LaCava
- 11:45 a.m. - 12:00 p.m.      *"Altered Metabolite-related Gene Expression Profiles in an NsdC Knockout Mutant of *Aspergillus Flavus*,"* **ALEXIS PAYNE**, Louisiana State University, Mentor: Dr. Matthew K. Gilbert



## EX | PERIMENT

## ORAL PRESENTATIONS, continued

Full Abstract Proceedings are available online at [www.i3.lsu.edu/URC](http://www.i3.lsu.edu/URC)

Math & Physical Sciences, Session A, Catahoula, Room 302D

- 10:45 - 11:00 a.m.      *"Waves In a String With Decaying Defect Density,"* **MORGAN LANDRY**, Louisiana State University, Mentor: Dr. Stephen Shipman
- 11:00 - 11:15 a.m.      *"Zero Divisor Graphs in  $Z_m$ ,"* **RYAN MILLER**, Loyola University New Orleans, Mentor: Dr. Ralph P. Tucci
- 11:15 - 11:30 a.m.      *"Application of Structural Equation Modeling to Robotics Education,"* **NAIJA THOMAS**, Southern University at New Orleans, Mentor: Dr. Rachid Belmasrou and Dr. Joe Omojola
- 11:30 - 11:45 a.m.      *"Spectrum of Vibrations of a Half-Infinite Tubular Quantum Graphs,"* **JEREMY TILLAY**, Louisiana State University, Mentor: Dr. Stephen Shipman

Math & Physical Sciences, Session B, Castilian, Room 304

- 10:45 - 11:00 a.m.      *"Progress Toward the Synthesis of the Lycopodium Alkaloid Palhinine A,"* **ANTHONY ABSHIRE**, University of Southern Mississippi, Mentor: Dr. Matthew Donahue
- 11:00 - 11:15 a.m.      *"The Steric Effect of the N-Alkoxy Group in the Asymmetric Reduction of the Oxime Ether,"* **SURAJ AYER**, Southeastern Louisiana University, Mentor: Dr. Debra Dolliver
- 11:15 - 11:30 a.m.      *"Finding a General and Tunable Method for Ester to Ether Reduction,"* **SARAH ARIEL KELLEY**, University of Southern Mississippi, Mentor: Dr. Julie Pigza
- 11:30 - 11:45 a.m.      *"Facile Microwave Synthesis and Catalytic Properties of Cobalt (II) Porphyriziny Compounds,"* **CHARLES MCELROY, IV**, Southeastern Louisiana University, Mentor: Dr. Phillip Voegel
- 11:45 a.m. - 12:00 p.m.      *"Winstein-Masamune Dearomatization Approach to the Spirocyclic Core of the Lycopodium Alkaloid Magellanine,"* **ERIN REALINI**, University of Southern Mississippi, Mentor: Dr. Matthew G. Donahue



## EX | PERIMENT

### ORAL PRESENTATIONS, continued

Full Abstract Proceedings are available online at [www.i3.lsu.edu/URC](http://www.i3.lsu.edu/URC)

#### Social Sciences, Session A, Orleans, Room 302A

- 10:45 - 11:00 a.m.      *"Sinners Have Souls Too: Exploring the Relationship between Spirituality/Religiosity and Risky Health Behaviors in College Students,"*  
**BRANDON ADDISON**, Louisiana State University, Mentor: Dr. Tyler Renshaw
- 11:00- 11:15 a.m.      *"Rich Land, Poor Land: Investigating the Opportunity Cost of Developing Mississippi Farmland,"* **DENNIS BUCKLIN**, University of Southern Mississippi, Mentor: Dr. Sondra Collins
- 11:15 - 11:30 a.m.      *"Sons of God: A Critical Examination of Christian Mythopoetic and Marketplace Masculinities,"* **HEZEKIAH FRANKLIN**, Louisiana State University, Mentor: Dr. Stephen Finley
- 11:30 - 11:45 a.m.      *"Bullying, Mental Health, and Schooling: Effects of Bullying Behaviors on Academic Performance, Academic Efficacy, and Anxiety,"* **NATASHA LEE**, Louisiana State University, Mentor: Dr. Tyler Renshaw

#### Technology & Engineering, Session A, Vieux Carre, Room 325

- 10:45 - 11:00 a.m.      *"Developing PDMS Microstructures for the Investigation of Cardiac Function,"*  
**ALLISON BOSWORTH**, Louisiana State University, Mentor: Dr. Jan Lammerding (Cornell University)
- 11:00 - 11:15 a.m.      *"Effect of Binder Removal Process to Create Porous Titania Structures via Co-Extrusion,"* **DARRIA CARTER**, Louisiana State University, Mentor: Dr. Ingmar Schoegl
- 11:15 - 11:30 a.m.      *"Bioconjugated Gold Nanoparticles for E-Cadherin Targeting in MCF-10A Cells,"*  
**CRAIG RICHARD**, Louisiana State University, Mentor: Dr. Rohit Bhargava (University of Illinois at Urbana-Champaign)

## Special Thanks To:

### Advisors

Dr. Isiah M. Warner, Vice Chancellor for Strategic Initiatives  
Dr. Gloria Thomas, Executive Director of Research, Education & Mentoring  
Dr. Guoqiang Li, Associate Vice Chancellor for Strategic Initiatives

### Coordinators

Dr. Ashleigh Wright, Office of Strategic Initiatives, HHMI Program Manager  
Melissa Crawford, Office of Strategic Initiatives, LA-STEM Research Scholars Program Manager

### Lead Judge

Dr. Michael Malisoff, Roy Paul Daniels Professor #3 of Mathematics

### Judges and Moderators

Special thanks to all industry professionals, faculty, post docs and graduate students who have generously volunteered their time and expertise to our undergraduate research competition.

### Additional Acknowledgments

Office of Strategic Initiatives Staff & Student Volunteers  
LSU Faculty, Staff & Administrators  
Howard Hughes Medical Institute Professors Program  
IMSD Program  
McNair Research Scholars Program  
S-STEM Research Scholars Program  
LS-LAMP Program  
LA-STEM Research Scholars Program  
ASPIRE Undergraduate Research Program

### Participants represented the following institutions:

Baton Rouge Community College	Southern University at New Orleans
Loyola University	University of Florida
Louisiana State University	University of South Carolina
Louisiana School for Math, Science & the Arts	University of Southern Mississippi
Rice University	University of Tennessee-Knoxville
Southeastern Louisiana University	University of West Florida
Southern University of Baton Rouge	Xavier University of Louisiana



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