2015 UNDERGRADUATE RESEARCH CONFERENCE

#LSUURC15

Excite ● Explore ● Experiment

November 6, 2015
Welcome to the 2015 LSU Undergraduate Research Conference (URC), Excite, Explore, & Experiment! For the past six years, this conference has served as a platform for showcasing the research of over 500 students from more than 20 universities. As Vice President for Office of Strategic Initiatives, my primary goal is to create opportunities that promote student success in research. As we celebrate our seventh year of hosting this conference, we are excited about the growing number of universities that will be represented, as well as the inclusion of high school presenters from the Louisiana School for Math, Science, and the Arts (LSMSA) for a second year.

We are delighted to have Dr. Squire Booker, HHMI Investigator, from The Pennsylvania State University as our keynote speaker. Dr. Booker is an accomplished researcher and an exceptional mentor. His keynote talk will **Excite** our undergraduate students through his discussion on “**A Radical Approach to Antibiotic Resistance**.”

This year’s agenda also includes a panel of experts who will discuss **Yesterday’s Fiction, Today’s Fact.** In this light-hearted scientific discussion, we will **Explore technological offspring.** The research being conducted today will undoubtedly lead to **tomorrow’s facts.** Our goal is to encourage students to think broadly and creatively about their real world research experiences.

Most importantly, we will showcase the research **Experiments** of students from the STEM, humanities, 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
November 6, 2015
LSU Student Union – Royal Cotillion Ballroom

8:00 a.m.—8:30 a.m.  REGISTRATION & PRESENTATION SET-UP
Poster Presentation Set-up; Cotillion Ballroom, 2nd Floor

8:30 a.m.—8:45 a.m.  OPENING REMARKS, Dr. Kalliat Valsaraj
Vice President, 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
Life Sciences
Session A, Red River, Room 323
Session B, Vieux Carre, Room 325

Math & Physical Sciences
Session A, Orleans, Room 302A

Humanities & Social Sciences
Session A, Castillian, Room 304
Session B, International, Room 303

12:00 p.m.—12:40 p.m.  LUNCH

12:40 p.m.—2:10 p.m.  PANEL: “Yesterday’s Fiction, Today’s Fact”

2:10 p.m.—2:20 p.m.  BREAK

2:20 p.m.—3:30 p.m.  KEYNOTE SPEAKER, Dr. Squire Booker, HHMI Investigator
Professor of Chemistry, Biochemistry, & Molecular Biology, Penn State

3:30 p.m.—3:50 p.m.  AWARD PRESENTATIONS, Dr. Isiah M. Warner
Vice President, Strategic Initiatives

3:50 p.m.—4:00 p.m.  CLOSING REMARKS & ADJOURNMENT, Dr. Carol O’Neil
Director, Didactic Program in Dietetics & LSU Discover

Mistress of Ceremonies: Dr. Gloria Thomas, Executive Director, Strategic Initiatives
Dr. Squire Booker

“A Radical Approach to Antibiotic Resistance”

Professor, Chemistry
Professor, Biochemistry & Molecular Biology
Howard Hughes Medical Institute Investigator

Dr. Booker is a Professor of Chemistry and a Professor of Biochemistry and Molecular Biology at The Pennsylvania State University and an Investigator of the Howard Hughes Medical Institute. He was raised in Beaumont, Texas, and received a BA degree with a concentration in Chemistry from Austin College (Sherman, TX). In the summer of 1986, he participated in the first MIT Minority Summer Science Research Program, where he worked in the laboratory of the late Dr. William H. Orme-Johnson in the Department of Chemistry. He earned his Ph.D. degree from the Massachusetts Institute of Technology under Professor JoAnne Stubbe (1994), and was supported by NSF–NATO and NIH Fellowships for postdoctoral studies in the laboratories of Dr. Daniel Mansuy (Université René Descartes, Paris, France) and Professor Perry Frey (Institute for Enzyme Research, University of Wisconsin–Madison), respectively. In 1999 he moved to The Pennsylvania State University as an independent investigator.

Dr. Booker’s research is concerned with novel mechanisms and pathways for the biosynthesis of natural products and metabolites, with a particular focus on enzymes that catalyze reactions via radical mechanisms. In 2011, he published two pivotal papers in Science that detailed a novel enzymatic strategy by which Nature uses S-adenosylmethionine—the universal methylating agent—to methylate inert carbon centers. One of the methylation reactions that he studies confers resistance to several classes of currently used antibiotics. He has also made pivotal contributions, among others, to understanding how Nature catalyzes the attachment of sulfur atoms onto unreactive carbon centers, as in his studies on the biosynthesis of lipoic acid.

In addition to his scientific endeavors, Dr. Booker is passionately engaged in expanding scientific opportunities for young scientists at all educational levels and is a strong proponent of encouraging early access to scientific research. To this end, in addition to 17 graduate students, he has trained 40 undergraduate students and two high-school students, many of whom co-authored at least one publication. In addition to working with the Research for Experience for Undergraduates program at Penn State, Dr. Booker has been a strong supporter of the Millennium Scholars Program at Penn State, which seeks to increase diversity in science and engineering programs.

Dr. Booker is a member of the American Chemical Society, the American Association for the Advancement of Science, the American Society of Biochemistry and Molecular Biology (ASBMB), the American Society of Microbiology, the National Organization of Black Chemists and Chemical Engineers, the Protein Society, and the Society for Biological Inorganic Chemistry. From 2008-2011, he served as chair of the minority affairs committee of ASBMB, wherein in response to the recent acknowledgement that minority scientists are less likely to obtain federal funding, he conceived of and co-organized an NSF/ASBMB-sponsored two-day mentoring and grant-writing workshop for untenured faculty across the United States. This annual workshop has been overwhelmingly successful, and Dr. Booker serves as co-PI on a recently funded grant from the National Science Foundation to continue and expand the program.

Among other awards, Dr. Booker received an NSF Career Award (2002), the Presidential Early Career Award in Science and Engineering (2004), and an Arthur C. Cope Scholar Award by the American Chemical Society (2011), and has served as a distinguished lecturer at the University of Wisconsin–Madison (Everson Lectureship) and MIT (TY Shen Lectureship). In 2015, he was appointed an Investigator of the Howard Hughes Medical Institute.
In the introduction to D.S. Halacy’s *Cyborg: Evolution of the Superman* (1964), Manfred Clynes believed humanity was on the cusp of a technological leap that would “Bridge the gap between mind and matter” and challenge the notions of humankind’s relationship with machines. A staple of Science Fiction since Mary Shelly’s *Frankenstein* (1823), the concept of the post-human has been the inspiration for some of popular culture’s most loved and reviled characters; from Iron Man and Inspector Gadget to Darth Vader and The Borg. Using selected movie clips, this panel of scientific experts and science fiction scholars will discuss both the science behind cyborgs, androids, and technological singularity and the ethical implications of a post-human existence.

**Panelists**

**Jon Cogburn, PhD**  
Associate Professor  
LSU Department of Philosophy

**Isiah Lavender III, PhD**  
Assistant Professor  
LSU Department of English

**Brygg Ullmer, PhD**  
Effie C. and Donald M. Hardy Associate Professor  
LSU Department of Electrical and Computer Engineering  
LSU Center for Computation and Technology (CCT)

**Moderator**

**Joseph Givens**  
Director, McNair Research Scholars Program  
Louisiana State University  
Science fiction fan & former Comic-Con moderator

**Agenda**

Panel Discussion with Q&A
YESTERDAY’S FICTION
TODAY’S FACT
-PANELISTS-

Isiah Lavender, III, PhD

Isiah Lavender, III is Assistant Professor of English at LSU, where he researches and teaches courses in African American literature and science fiction. In addition to his book Race in American Science Fiction (Indiana UP, 2011) and edited collection Black and Brown Planets: the Politics of Race in Science Fiction (UP of Mississippi, 2014), his publications on science fiction include essays and reviews in journals such as Extrapolation, Journal of the Fantastic in the Arts, and Science Fiction Studies. He’s currently working on his second monograph Classics of Afrofuturism as well as a second collection, Yellow Planets: Racial Representations of Asia in Science Fiction, now under contract with the University Press of Mississippi.

Brygg Ullmer, PhD

Brygg Ullmer is the Effie C. and Donald M. Hardy associate professor at LSU, jointly in the School of Electrical Engineering and Computer Science (EECS) and the Center for Computation and Technology (CCT). He leads CCT’s Cultural Computing focus area (research division), with 15 faculty in the Schools of Art, Business, Engineering, Mass Communications, and Music; and co-leads the Tangible Visualization group. He serves as director for the Louisiana Biomedical Research Network (LBRN) Bioinformatics, Biostatistics, and Computational Biology (BBC) Core. Ullmer completed his Ph.D. at the MIT Media Laboratory (Tangible Media group) in 2002, where his research focused on tangible user interfaces. He held a postdoctoral position in the visualization department of the Zuse Institute Berlin, internships at Interval Research (Palo Alto) and Sony CSL (Tokyo), and has been a visiting lecturer at Hong Kong Polytechnic's School of Design. His research interests include tangible interfaces, computational genomics (and more broadly, interactive computational STEAM), visualization, and rapid physical and electronic prototyping. He also has a strong interest in computationally-mediated art, craft, and design, rooted in the traditions and material expressions of specific regions and cultures.

Jon Cogburn, PhD

Jon Cogburn is an associate professor of philosophy at LSU. He received his PhD from The Ohio State University and joined the faculty in 1999. He teaches primarily in the areas of philosophy of mind, language, and logic. His research interests include realism/anti-realism debates, modality, the computational theory of mind, semantics for vagueness, dialethism, tacit knowledge, and issues at the intersection of the sociology of science and cognitive science. He has experience with virtual reality and artificial intelligence and has authored a book titled, Philosophy of Video Games.
POSTER PRESENTATIONS, LEVEL 1

Poster Competition Categories: Level 1 = 1st year researcher; Level 2 = 3 semesters +

Full Abstract Proceedings are available online at www.lsu.edu/urc

Life Sciences, Level 1

Board #

1. “Evaluation of Adrenocorticotropin hormone concentrations in response varying doses of thyrotropin releasing hormone in normal horses” SARAH AINSWORTH. Louisiana State University, Mentor: Dr. Ann Chapman

2. “Modulating the spectroscopy and photochromic properties of dithienylethenes through an SN2 reaction” NNEZE AKWU. Spelman College, Mentor: Dr. Miguel Garcia-Garibay

3. “Sequencing and Characterization of a Herpes Simplex Isolate of Herpes Gladiatorum” CHRISTOPHER BLOISE, JORGE RODRIQUES, & SAMUEL SHAW. Louisiana State University, Mentor: Dr. Gus Kousoulas

4. “Poly lactic co-glycolic acid (PLGA) Nanoparticles Through Millifluidic Chip” JAMES BURNS. Baton Rouge Community College, Mentor: Dr. Cristina Sabliov

5. “A high-throughput assay for CSE enzyme activity by colorimetric detection” KAYMIN CARTER. Northwestern State University, Research Institution: Louisiana Health and Sciences Center, Mentor: Dr. Xinggui Shen


7. “Testing for effect of adaptation of heat and salinity stress on heat tolerance in the crustacean” COLLEEN CECOLA. Louisiana State University, Mentor: Dr. Morgan Kelly

8. “Characterizing Novel Alternative Splicing Isoforms of Critical Drug-Processing Genes in Mice” DAVIS COWLES. Louisiana State University, Research Institution: University of Washington, Mentor: Dr. Vincent Wilson

9. “Impact of Climate-Driven Vegetation Shifts On Carbon Dynamics In Marsh Food Webs” BRANDEUS DAVIS. Louisiana State University, Mentor: Dr. Mike Polito

10. “Geologic Setting and Preservation of a Late Pleistocene Bald Cypress Forest Discovered on the Northern Gulf of Mexico Continental Shelf” SUYAPA GONZALEZ. Louisiana State University, Mentor: Dr. Samuel Bentley

11. “Understanding the role of the meatbolite sensors YpdAB and YehUT in Uropathogenic Escherichia coli adherence and biofilm formation” HAMILTON GREEN. Dillard University, Research Institution: Vanderbilt University, Mentor: Dr. Eric Buckles
POSTER PRESENTATIONS, LEVEL 1, continued

Poster Competition Categories: Level 1 = 1st year researcher; Level 2 = 3 semesters +
Full Abstract Proceedings are available online at www.lsu.edu/urc

Life Sciences, Level 1, continued

Board #
12 “Is Microtus breweri A Separate Species?” DEMETRI HILL. Northwestern State University, Research Institution: University of Massachusetts Boston, Mentor: Dr. Robert Stevenson
13 “Using Single Molecular Physical-Chemical Methods to Elucidate the Binding Dynamics of Gene Product 32-Protein onto Single Stranded DNA” MICHAEL HIREZI. Louisiana State University, Mentor: Dr. Brett Isaels
14 “Generation of Antibodies Against Specific Herpes Simplex Virus Type 1 (HSV-1) Proteins” RACHEL HORNE. Baton Rouge Community College, Mentor: Dr. Paul Rider
15 “Identifying a Protein found in Formosan Termites using SDS PAGE and the Zymogram Method” BRIANNE JONES. Baton Rouge Community College, Research Institution: Louisiana State University, Mentor: Dr. Roger Laine
16 “Constructing an Adenovirus for Colon Cancer Targeted Therapy” JENIFER KIDD. Louisiana State University, Mentor: Dr. Michael Mathis
17 “Chronic Binge Alcohol Administration Dysregulates Skeletal Muscle microRNAs in SIV-infected Macaques” GARRREN MITCHELL. Louisiana School for Math, Science, and the Arts, Mentor: Dr. Liz Simon
18 “Validation of a Commercially Available Beta-hydroxybutyrate Meter for Assessing Rumen Development in Dairy Calves” MORGAN RICHARD. Louisiana State University, Mentor: Dr. Cathleen Williams
19 “Acclimation to rapid changes in salinity in the tidepool crustacean Tigriopus californicus: implications for a changing climate” HOPE ROBERTS. Louisiana State University, Mentor: Dr. Morgan Kelly
20 “Modelling the effects of consumer emotion, liking/acceptance, and expectation on purchase intent using logistic regression: A case of fresh apple” VALENTINA ROSASCO. Universidad de La Sabana, Mentor: Dr. Witoon Prinyawiwatkul
21 “Mapping the Fox Population of Baton Rouge Using Social Media” AHSENNUR SOYSAL. Louisiana State University, Mentor: Dr. Linda Hooper-Bui
POSTER PRESENTATIONS, LEVEL 1, continued

Poster Competition Categories: Level 1 = 1st year researcher; Level 2 = 3 semesters +

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Life Sciences, Level 1, continued

Board #

22 “Using the Fort St. Phillip Crevasse on the Lower Mississippi River as Land-Building Analog for Engineered River Diversions” RODNEY STIEFFEL. Louisiana State University, Mentor: Dr. Samuel Bentley

23 “DHA/EPA Consumption by Pregnant Women in Louisiana” CARLY THAXTON. Louisiana State University, Mentor: Dr. Carol Lammi-Keefe

24 “The Effects of Bedoukian Celery Extract on the Excystation of Sporocysts in Eight Eimeria spp. Found in Chickens” HAYLEY THERIOT. Louisiana State University, Mentor: Dr. James Miller

25 “Trade-offs in adaptation to stressful levels of heat and salinity in the tide pool copepod Tigriopus californicus” VIDAL VILLELA. Louisiana State University, Mentor: Dr. Morgan Kelly

26 “The Interplay between Sediment Bioturbators and Oil in Coastal Ecosystems” HANNAH VINCENT. Louisiana School for Math, Science, and the Arts, Mentor: Dr. Paul Klerks

27 “Investigating the structure of PEI-nucleic acid gene delivery complexes using Molecular Dynamic simulations” NYLES WALKER. Louisiana State University, Research Institution: University of Memphis, Mentor: Dr. Yongmei Wang

Math & Physical Sciences, Level 1

Board #

28 “Asymptotics of Solutions of Second-Order Linear Difference and Differential Equations” AMY ADAIR. Louisiana State University, Mentor: Dr. Frank Neubrander

29 “FRET GUMBOS as Photosensitizers in Dye Sensitized Solar Cells” TRAVONTAI ALLEN. Southern University and A&M College, Research Institution: Louisiana State University, Mentor: Dr. Isiah Warner

30 “Petrogenetic Significance of Tertiary Granite Trace-Element Contents in the Sawtooth Range, Idaho, USA” MEGAN BOREL. Louisiana State University, Mentor: Dr. Barb Dutrow

31 “Solar Ultraviolet Radiation Measurement Apparatus (SURMA)” JOSHUA COLLINS. Louisiana State University, Mentor: Dr. T. Gregory Guzik
POSTER PRESENTATIONS, LEVEL 1, continued

Poster Competition Categories: Level 1 = 1st year researcher; Level 2 = 3 semesters +

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Math & Physical Sciences, Level 1, continued

Board #

32 “Synthesis of 2-oxoethyl-3,3-dimethylindole from N-(2-iodophenyl)-hydroxylamine” JACK DALTON. Louisiana School for Math, Science, and the Arts, Mentor: Dr. Radhey Srivastava

33 “Dose reconstruction of an individual’s prolonged accidental exposure to an industrial radiography source” REBECCA DITUSA. Louisiana State University, Mentor: Dr. Guang Jia

34 “A Slice of History in the Breton Sound Estuary” ABIGAIL HEATH. Louisiana State University, Mentor: Dr. Samuel J. Bentley, Sr.

35 “Proximity-induced ferromagnetism on a topological insulator surface: Bi2Se3/EuS heterostructures” JAMIN KIDD. Louisiana School for Math, Science and the Arts, Research Institution: Massachusetts Institute of Technology, Mentor: Dr. Robert Dalling

36 “Analysis of Nuclear Reactor Background Radiation for Neutrino Experiments” RICKY LEBLANC. Louisiana State University, Mentor: Dr. Jeffrey Blackmon

37 “Expression and Purification of Chlamydia trachomatis Proteins Scc1 and Scc4 to Produce a Mix-labeled Sample for NMR Analysis” MICHAEL ROCKWELL. Louisiana State University, Mentor: Dr. Megan Macnaughtan

Humanities & Social Sciences, Level 1

Board #

38 “Martyrdom: An Understanding of Oppression in History” JAVIAN BAKER. Xavier University of Louisiana, Mentor: Dr. Lourdes Rincon

39 “Disparities present in Louisiana criminal justice system post-Katrina” GERMIYA CLARK & MATTHEW SMITH. Dillard University, Mentor: Dr. Ashraf Esmail

40 “Tactile Manipulatives, Color Coding and Storytelling as Effective Strategies for Improving Second Language Fluency” ERIN FELL. Louisiana State University, Mentor: Dr. Paula Summers Calderon

41 “Is saccade-induced retrieval enhancement a potential means of decreasing the cross-race effect in eyewitness identification?” LESLIE HOWARD. Mississippi State University, Mentor: Dr. Deborah Eakin

42 “Vocal Analysis of Expressed Emotion in Relatives of Schizophrenics” LAUREN LEISTMAN. Louisiana State University, Mentor: Dr. Alex Cohen
POSTER PRESENTATIONS, LEVEL 1, continued

Poster Competition Categories: Level 1 = 1st year researcher; Level 2 = 3 semesters +

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Humanities & Social Sciences, Level 1, continued

Board #

43 “The Human as Sacred: The Emergence and Significance of Secular Mysticism” LUCAS LOGNION. Louisiana State University, Mentor: Dr. Stephen Finley

44 “I am a God: Exploring the Relationship between Hip Hop & 21st Century Civil Rights Movements” AKEEM MUHAMMAD. Louisiana State University, Mentor: Dr. Stephen Finley

45 “RESIDING STILL IN HARM’S WAY: TEN YEARS AFTER THE KATRINA DISASTER” NIA NICKS. Dillard University, Mentor: Dr. Ashraf Esmail

46 “Assessing the Role of Media Violence on Aggression” ANGEL NORWOOD. Xavier University of Louisiana, Mentor: Dr. Katherine Eskine

47 “How Do We View the Political Positions of Other Races?” LATERRICKA SMITH. Louisiana State University, Mentor: Dr. James Garand

48 “Influence of anthropogenic floodplain modifications on rates of bank erosion and channel migration: Comparative study of the Amite and Comite Rivers, Louisiana.” MICHAEL VINGIELLO. Louisiana State University, Mentor: Dr. Kory Konsoer

49 “Outsmarting Smart Structures: Examining Human Barriers to Individual-Level Adoption of Energy-Efficient Building Technologies” TYLER WALKER. Louisiana State University, Mentor: Dr. Tracey Rizzuto

Engineering & Technology, Level 1

Board #

50 “Evaluation of Adipose Derived Extracellular Matrix Hydrogel for Promotion of Osteogenic Differentiation in Adipose-Derived Mesenchymal Stem Cells” CHRISTOPHER ALDRICH. Louisiana State University, Mentor: Dr. Daniel Hayes

51 “Applying Microfiltration Techniques to Sugar Processing” JONATHAN BONIN. Louisiana State University, Research Institution: LSU AgCenter Audubon Sugar Institute, Mentor: Dr. Franz Ehrenhauser

52 “Biomedical Applications of Thiol-Acrylate Polymerization” JOSEPH GOMBEDA. Baton Rouge Community College, Mentor: Dr. Daniel Hayes
POSTER PRESENTATIONS, LEVEL 1, continued

Poster Competition Categories: Level 1 = 1st year researcher; Level 2 = 3 semesters +
Full Abstract Proceedings are available online at www.lsu.edu.urc

Engineering & Technology, Level 1, continued

Board #

53  “EMS Community Paramedic Program Economic Justification” STEPHANIE LUTFALLAH. Louisiana State University, Mentor: Dr. Laura Ikuma

54  “Improving Operating Room Efficiency” CADY RHODE. Louisiana State University, Mentor: Dr. Laura Ikuma

55  “Randomized Local Sharing at the End-User Level” EMILY SCHULTZ. Louisiana School for Math, Science, and the Arts, Mentor: Dr. Christina Fragouli

56  “Effects of Carbon on Boron Nanoparticles for Ethanol Combustion” LUAN TRAN. Louisiana State University, Mentor: Dr. Kerry Dooley

57  “An Experimental Study of Cloud Storage I/Os on Flash-based Mobile Clients” STEVEN TRUONG. Louisiana State University, Mentor: Dr. Feng Chen

POSTER PRESENTATIONS, LEVEL 2

Life Sciences, Level 2

Board #

58  “The New Sweetpotato: Breeding and Development of the First Orange Fleshed, Storage Root Producing Ornamentals” ANDREW BAROCCO. Louisiana State University, Mentor: Dr. Robert Mirabello

59  “Determining the lysine requirement of 7 to 28 day old Bobwhite quail.” ARIEL BERGERON. Louisiana State University, Mentor: Dr. Theresia Lavergne

60  “SAMS: A Search Tool To Identify The Diverse SMR Gene Family in Land Plants” MATTHEW JOHNSON. Louisiana State University, Mentor: Dr. Maheshi Dassanayake

61  “Comparative Analysis of the Alligator (Alligator mississippiensis) and Chicken (Gallus gallus domesticus) retinas” NIKKA KHORSANDI. Louisiana State University, Mentor: Dr. Evanna Gleason

62  “Sexually Dimorphic Oxytocin Receptor Expressing Cells in the Mouse Hypothalamus” RYAN LEBLANC. Baton Rouge Community College, Mentor: Dr. Ryoichi Teruyama

63  “Salted ChIPs: Regulation of Epithelial Sodium Channels in Vasopressin Neurons by Mineralcorticoid Receptor Modulated by Dietary Salt” MEAGAN MOORE. Baton Rouge Community College, Mentor: Dr. Ryoichi Teruyama
POSTER PRESENTATIONS, LEVEL 2, continued

Poster Competition Categories: Level 1 = 1st year researcher; Level 2 = 3 semesters +

Full Abstract Proceedings are available online at www.lsu.edu.urc

Math & Physical Sciences, Level 2

Board #

64  “Theoretical Study of a Drug in an Enzyme via Vibrational Spectroscopy” CHRISTIAN DEVEREUX. Louisiana State University, Mentor: Dr. Daniel Kuroda

65  “Designing of a Physical Chemistry Laboratory Experiment Based on Infrared Spectroscopy” ABBY GUERIN. Louisiana State University, Mentor: Dr. Daniel Kuroda

66  “Synthesis and Characterization of Ferromagnetic FeScGe and MnScGe having the Fe2P Crystal Structure” JESSICA HEBERT. Louisiana State University, Mentor: Dr. John DiTusa

67  “Identifying RCB stars via their optical spectra” AMY LEBLEU. Louisiana State University, Mentor: Dr. Geoffrey Clayton

68  “First-Order Methods for Linear Optimization” AMANDA MAYHALL. Louisiana State University, Mentor: Dr. David Papp

69  “Magnetic Properties of Layered Thin Film Multiferroic Composites” HUNTER MCDANIEL. Louisiana State University, Mentor: Dr. Leszek Malkinski

70  “A survey and comparison of trace metal concentrations in various food samples using the EPA 3052 Method”ISHA SHARMA. Louisiana School for Math, Science, and the Arts, Mentor: Dr. Carey Hardaway

71  “The Variation of the Accretion Rate of SS Cyg & U Gem” IRENE VARGAS-SALAZAR. Louisiana State University, Mentor: Dr. Bradley Schaefer

Humanities & Social Sciences, Level 2

Board #

72  “Validating the Electronic-Cigarette Attitudes Questionnaire Among Problematic Drinkers” KATHERINE DAVIS. Louisiana State University, Mentor: Dr. Amy Copeland

73  “Intracerebroventricular Infusion of Neuropeptide Y Reduces the Behavioral Effects of Social Defeat Stress in Syrian Hamsters” KELSEY KENNIEL. Spelman College, Research Institution: Morehouse College, Mentor: Dr. Chris Markham

74  “Construct Validation of the Macronutrient Picture System” JILL KING. Louisiana State University, Mentor: Dr. Jason Hicks

75  “The Prevalence and Trends of E-Cigarette Use Among Problematic Drinkers” SHELBY STEWART. Louisiana State University, Mentor: Dr. Amy Copeland
POSTER PRESENTATIONS, LEVEL 2, continued

Poster Competition Categories: Level 1 = 1st year researcher; Level 2 = 3 semesters +

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**Engineering & Technology, Level 2**

Board #

76  “An Accurate and Disposable Microdevice for Determination of Sperm Concentration in Aquatic Species” **MEGAN CHESNUT.** Louisiana State University, Mentor: Dr. Terrance Tiersch

77  “Rapid and Affordable Generation of a Microdroplet Array with an Air-spray Gun” **CHRISTIAN DANIELSON.** Louisiana State University, Mentor: Dr. Kidong Park

78  “Heat Transfer Simulation for Selective Laser Melting in Powder Layers” **KRISTOPHER MECHE.** Louisiana State University, Mentor: Dr. Shengmin Guo

79  “Modeling Pediatric Sickle Cell Disease in the Internal Carotid Artery to Determine Stroke Risk via Geometric and Hemodynamic Analysis” **DAKARAI MOTON.** Dillard University, Mentor: Dr. Julie Basu-Ray

80  “Analysis of Void in Nuclear Material Using Position Annihilator Life Time Spectroscopy” **DUNG NGUYEN.** Louisiana State University, Mentor: Dr. Fengyuan Lu

81  “Improving the Communication Process and Methods in the East Baton Rouge Emergency Medical Services Community Paramedic Program” **BRIANA SAUL.** Louisiana State University, Mentor: Dr. Laura Ikuma
ORAL PRESENTATIONS

Full Abstract Proceedings are available online at www.lsu.edu.urc

Life Sciences, Session A, Red River, Room 323

10:45 - 11:00 a.m. “Breakdown of Biofilm with Nanoparticles” PAULA DATRI. Southern University at New Orleans, Research Institution: Louisiana State University, Mentor: Dr. Christian Clement

11:00 - 11:15 a.m. “The Burkholderia thailandensis-encoded MarR homolog participates in oxidative stress and binds to signaling quinolone HHQ” STANLEY MELCHOR FUENTES. Louisiana State University, Mentor: Dr. Anne Grove

11:15 - 11:30 a.m. “Degradation of Nanoparticles by Microbes Found on Spacecraft” APRIL HARDING. Southern University at New Orleans, Mentor: Dr. Illya Tietzel

11:30 - 11:45 a.m. “Characterization of the Arabidopsis thaliana Glycosyl Hydrolase family 10(GH10)” MICHELLE LATERRADE. Louisiana State University, Mentor: Dr. Cristina Sabliov

Life Sciences, Session B, Vieux Carre, Room 325

10:45 - 11:00 a.m. “Use of Caenorhabditis elegans to Study Toxicity of Nanoparticles Designed for Spacecraft” DIAMANIKA MOSS. Southern University at New Orleans, Mentor: Dr. Illya Tietzel

11:00 - 11:15 a.m. “Detection of Oil Spill Microbes in Gut of Aquatic Wildlife of the Gulf of Mexico” KEITH PERKINS JR. Southern University at New Orleans, Mentor: Dr. Illya Tietzel

11:15 - 11:30 a.m. “Use of Different Surfaces and Sizes of Nanoparticles to Capture Bacillus megaterium on Spacecraft” ALTONEISHA ROSE. Southern University at New Orleans, Mentor: Dr. Illya Tietzel

11:30 - 11:45 a.m. “The Environmental Health Studies of the Lower Ninth Ward of New Orleans, Louisiana” CARL SMITH. Southern University at New Orleans, Mentor: Dr. Murty S. Kambhampati
ORAL PRESENTATIONS, continued
Full Abstract Proceedings are available online at www.lsu.edu.urc

Math & Physical Sciences, Orleans, Room 302A

10:45 - 11:00 a.m. "Drifter-Based Predictions of the Spread of Surface Contamination Using Iterative Statistics: A Local Example with Global Applications" DAVID FERTITTA. Louisiana State University, Research Institution: Woods Hole Oceanographic Institution, Mentor: Dr. Dubravko Justic

11:00 - 11:15 a.m. "Calibrating the High Density Magnetic Port within Tissue Expanders to Achieve more Accurate Dose Calculations for Post Mastectomy Patients with Immediate Breast Reconstruction" JASMINE JONES. Louisiana State University, Mentor: Dr. Rui Zhang

11:15 - 11:30 a.m. "Synthesis of Vinyl Chlorides via Triphosgene – Pyridine Activation of Ketones" LY NGO. Louisiana State University, Mentor: Dr. Rendi Kartika

11:30 - 11:45 a.m. "The LArIAT Experiment at the Fermilab Test Beam Facility" ANDREW OLIVIER. Louisiana State University, Mentor: Dr. Martin Tzanov

11:45 a.m. - 12:00 p.m. "Probing the Electrochemical Characteristics of Aged Carbon-Supported Pt Catalysts" ANDRE SPEARS. Southern University and A&M College, Research Institution: Los Alamos National Laboratory, Mentor: Dr. Diola Bagayoko

12:00 – 12:15 p.m. "A Unified Mechanism for the Abiotic Synthesis of Biomolecules" PHOENIX WILLIAMS. Spelman College, Mentor: Dr. Yassin Jeilani

Humanities & Social Sciences, Session A, Castillian, Room 304

10:45 - 11:00 a.m. "More Than Welfare Queens and Strong Black Women: Black Mothers in the Films "Precious" and "Claudine"" BRITTANY CLARK. Louisiana State University, Mentor: Dr. Angeletta Gourdine

11:00- 11:15 a.m. "Object Narratives: An Inquiry into the Meaning of Personal Objects and the Relation to Self-Esteem and Ego Identity" TERRICK GUTIERREZ. Morehouse College, Research Institution: Louisiana Health and Sciences Center, Mentor: Dr. Jennifer Andrews

11:15 - 11:30 a.m. "Entrepreneurial orientation of business and STEM students, and curriculum implications" GREGORY HARRIS & JEREMY SHINE. Dillard University, Mentor: Dr. Michael Taku

11:30 - 11:45 a.m. "The Falklands Factor: A Popular War" PATRICK ISACKS. Louisiana State University, Mentor: Dr. Meredith Veldman

11:45 a.m. – 12:00 p.m. "Examine the effects of school shootings on emergency university campus personnel and community police." BRYANT JONES, JR. Dillard University, Research Institution: University of Washington, Mentor: Dr. Ashraf Esmail
ORAL PRESENTATIONS, continued

Full Abstract Proceedings are available online at www.lsu.edu.urc

Humanities & Social Sciences, Session B, International, Room 303

10:45 - 11:00 a.m.  “The Self-Presentation and Perception of College Students on Instagram”  
SAMANTHA LEBOUET. Louisiana State University, Mentor: Dr. Katherine Mitchell

11:00- 11:15 a.m.  “Detecting Hostility Using Real-Time Computerized Speech Analyses”  
DANIELLE MANGRUM. Spelman College, Research Institution: Vanderbilt University, 
Mentor: Dr. Alex Cohen

11:15 - 11:30 a.m.  “The School-to-Prison Pipeline from a Classroom View: Examining the 
Relationship between School Climate and Student Achievement Across Race”  
ALANA PECK. Xavier University of Louisiana, Research Institution: University of 
Massachusetts Boston, Mentor: Dr. Silas Lee

11:30 - 11:45 a.m.  “Liberal Islamism: an Examination of Islam and Turkish Politics from the 1920s to 
the 2000s”  
DYLAN SCHEXNAYDRE. Louisiana State University, Mentor: Dr. Kenny Paul Smith

11:45 a.m. – 12:00 p.m.  “An Economic Investigation of Factors Influencing Broccoli Consumption in the 
United States from 1970-2013”  
ALEX WARD. Southern University and A&M College, Mentor: Dr. Patricia McLean-Meyinsse

Engineering & Technology, Catahoula, Room 302D

10:45 - 11:00 a.m.  “Effects of biomass particle size on yield and composition of pyrolysis bio-oil 
derived from Chinese tallow tree (Triadica sebifera L.) and energy cane 
(Saccharum complex) in an inductively heated reactor”  
GUSTAVO AGUILAR. Louisiana State University, Mentor: Dr. Dorin Boldor

11:00 - 11:15 a.m.  “Higher-level Parallelization for Local and Distributed Asynchronous Task-Based 
Programming”  
DANIEL BOURGEOIS. Louisiana State University, Mentor: Dr. Hartmut Kaiser

11:15 - 11:30 a.m.  “Poly(lactic-co-glycolic acid) nanoparticle interaction with soybean plants”  
KURT RISTROPH. Louisiana State University, Mentor: Dr. Cristina Sabliov
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Judges and Moderators
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Mississippi State University             Universidad de La Sabana
Morehouse College                         Xavier University of Louisiana

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