



# **Mississippi Academy of Sciences**

**Eightieth Annual Meeting**

**February 18-19, 2016**

**The University of Southern Mississippi**

Thad Cochran Center  
Hattiesburg, Miss.

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# Mississippi Academy of Sciences

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## General Schedule

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### Thursday, February 18, 2016

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<b>Time</b>	<b>Event</b>	<b>Location</b>
7:30-8:30 a.m.	Registration	First Floor TCC
8:00-8:00 p.m.	Exhibits	Second Floor TCC
7:50-12:00 p.m.	Agriculture & Plant Science	Union C
8:00-3:15 p.m.	Chemistry & Chemical Engineering	TCC 218B
8:00-12:00 p.m.	Geology & Geography	Union D
8:10-3:00 p.m.	History & Philosophy of Science	Union A
8:15-9:30 a.m.	Health Science	TCC 210 & TCC 218A
8:15-2:30 p.m.	Cellular, Molecular & Developmental Biology	TCC 214
9:00-12:00 p.m.	Marine & Atmospheric Science	TCC 227
9:00-12:30 p.m.	Zoology & Entomology	TCC 226
9:50-1:00 p.m.	Science Education	TCC 218A
10:00-3:00 p.m.	Mathematics, Computer Science & Statics	TCC 210
10:30-2:45 p.m.	Population Health Symposium	TCC Ballroom II/III
8:30-3:00 p.m.	Physics & Engineering	TCC 228
11:00-3:00 p.m.	Psychology & Social Sciences	TCC 229
1:00-2:00 p.m.	Mathematics, Computer Science & Statics Symposium	TCC 210
1:00-2:30 p.m.	Science Education Workshop	TCC 218A
1:15-2:45 p.m.	Agriculture & Plant Science Poster Session	
1:30-3:00	Marine & Atmospheric Sciences Poster Session	
2:00-3:00 p.m.	Physics & Engineering Workshop	TCC 228
3:30-5:30 p.m.	Dodgen Lecture	TCC Ballroom II/III
5:30-7:30 p.m.	Reception/Poster Session	Thad Cochran Center

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## General Schedule

<b>Friday, February 19, 2016</b>		
<b>Time</b>	<b>Event</b>	<b>Location</b>
7:15-8:15 a.m.	Past Presidents Breakfast	TCC 228
7:55-11:30 a.m.	Chemistry & Chemical Engineering	TCC 218B
8:00-2:00 p.m.	Registration	First Floor TCC
8:00-2:00 p.m.	Exhibits	Second Floor TCC
8:00-9:55 a.m.	Symposium on STEM Education & Broadening Participation	TCC 218A
8:15-9:45 a.m.	Cellular, Molecular & Developmental Biology	TCC 214
8:15-9:15 a.m.	Health Science	TCC 210, 229
8:30-11:15 a.m.	Physics & Engineering	TCC 228
9:45-10:45 a.m.	Health Sciences Poster Session	
10:00-1:00 p.m.	Mississippi INBRE Graduate Symposium	Ballroom II/III
10:00-11:55 a.m.	Population Health Hands-On Workshop	TCC 216
10:15-12:00 p.m.	Simulation Based Education in Mississippi	TCC 218A
11:30-1:30 p.m.	Science Education Poster Session	
12:00-3:00 p.m.	Millsaps/HHMI Undergraduate Symposium	Ballroom II/III
1:15-3:00 p.m.	Mathematics, Computer Science & Statics	TCC 210
4:15-5:15	MAS Business Meeting	Ballroom II/III





## **Driving Directions to the Thad Cochran Convention Center Hattiesburg, MS**

**If Coming from the South on I-59:**

Take Exit 67A  
At bottom of ramp turn right  
At first traffic light turn left

**If Coming from the North on I-59:**

Take Exit 67A  
At bottom of ramp merge into Hwy 49 South  
At first traffic light turn left

**If Coming from the South on Highway 49:**

Take Highway 49 North to Hattiesburg  
Continue on Hwy 49 through Hattiesburg  
Just before Intersection of I-59 and Hwy 49 there will be a traffic light  
Turn right at traffic light

**If Coming from the North on Highway 49:**

Take Highway 49 South to Hattiesburg  
Pass the intersection of I-59 and Hwy 49  
Turn left at first traffic light past intersection

**If Coming from the East on Highway 98:**

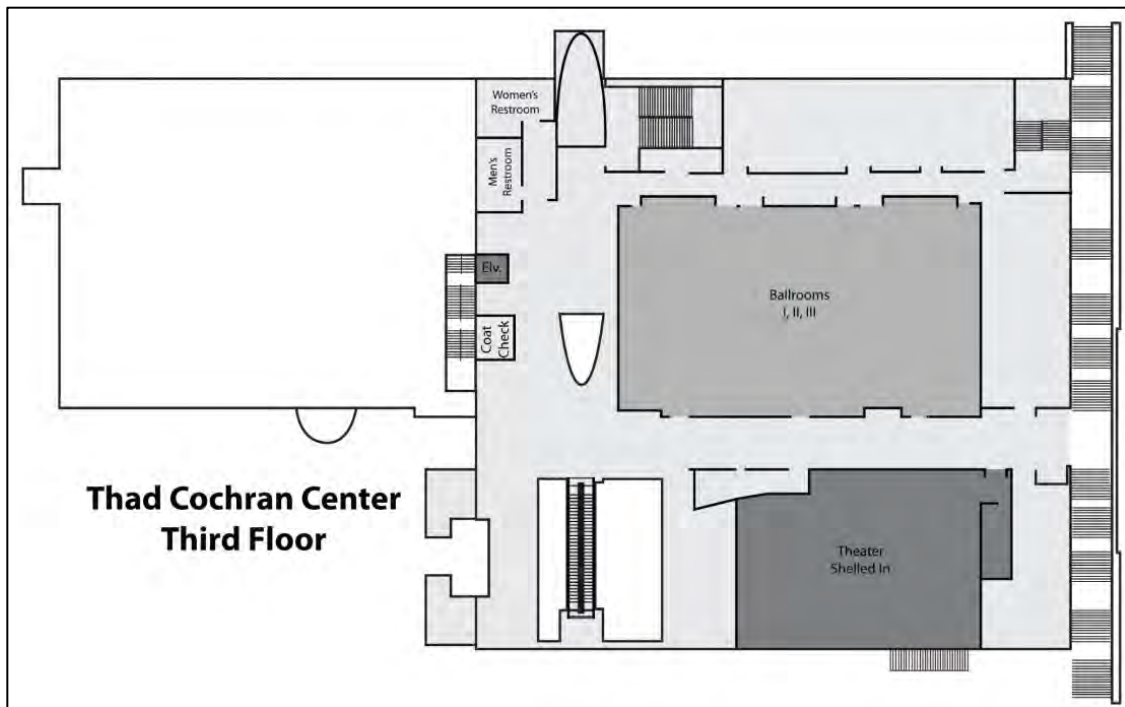
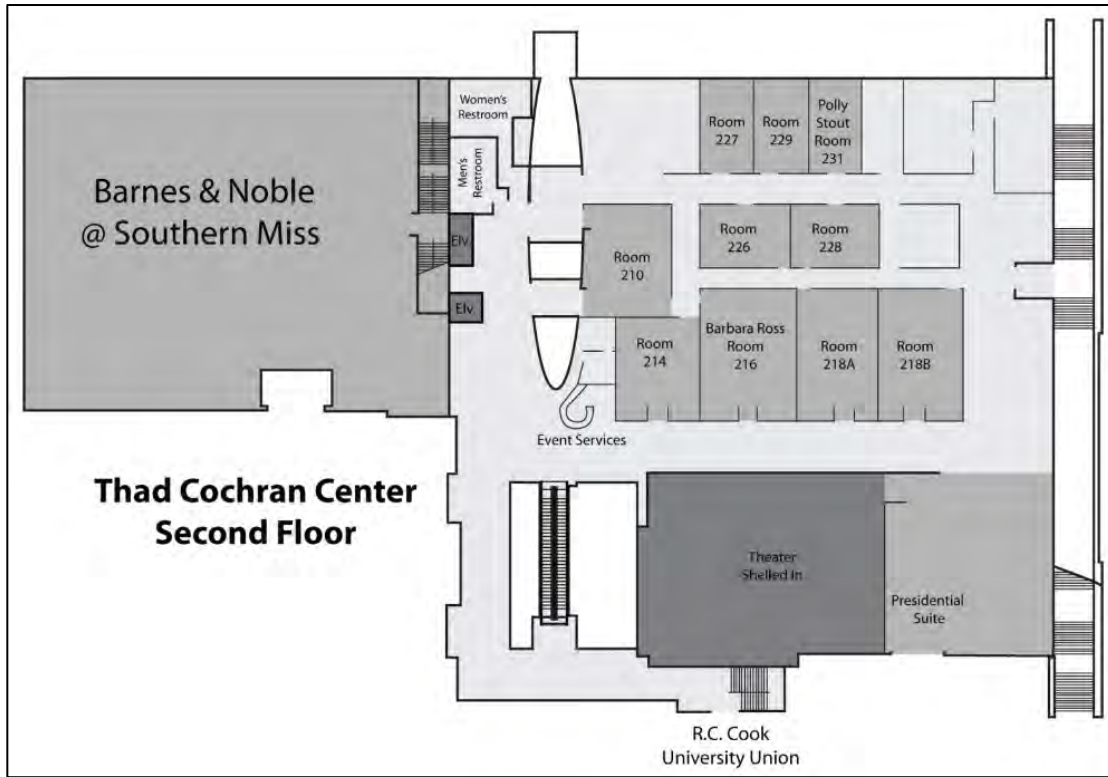
Take Highway 98 to I-59  
Take I-59 North to exit 67A  
Take Hwy 49 south to first traffic light  
Take left at first traffic light

**If Coming from the West on Highway 98:**

Take Highway 98 to I-59  
Take I-59 North to Exit 67A  
Take Hwy 49 south to first traffic light  
Take left at first traffic light

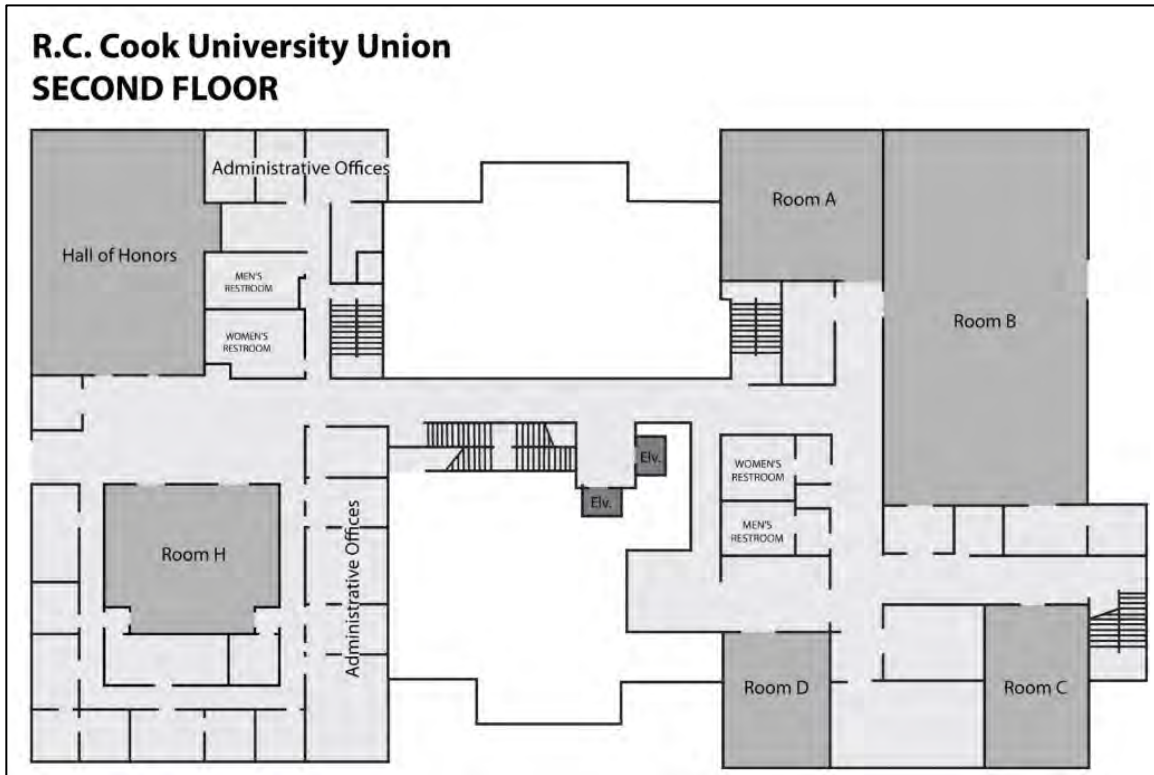


### Thad Cochran Center Map





## R.C. Cook University Union Map





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### **History & Philosophy of Science**

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### **Physics & Engineering**

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### **Psychology & Social Science**

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### **Science Education**

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### **Zoology & Entomology**

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Julius Ikenga, Vice-Chair, Mississippi Valley State University



## Sustaining Members

Alcorn State University  
 Belhaven College  
 East Central Community College  
 Holmes Community College  
 Itawamba Community College  
 Jackson State University  
 Millsaps College  
 Mississippi Gulf Coast Community College  
 Mississippi Museum of Natural Sciences

Mississippi State University  
 Mississippi Valley State University  
 Northwest Mississippi Community College  
 Pearl River Community College  
 University of Mississippi  
 University of Mississippi Medical Center  
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Mississippi Academy of Sciences, Eightieth Annual Meeting

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8. Perkin Elmer
9. UMMC Stimulation Program
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7. Department of Biomaterials, School of Dentistry, UMMC.
8. School of Graduate Studies, Jackson State University



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Jeffrey D. Zubkowski, Brandon, MS





## 2016 Dodgen Lecture

Thursday, February 18, 2016 at 3:30 p.m.  
Ballroom II/III

### Unleash Your Creativity, "Building your personal success toolbox"

Paul Frenger M.D., A Working Hypothesis, Inc., P.O. Box 820506, Houston, TX77282, 281-293-948,  
pfrenger@alumni.rice.edu



Paul Frenger is a Senior Member of IEEE, Life Member of ACM and a practicing medical doctor in Texas who has been professionally involved with computers since 1976. He has worked as a computer consultant, published over 200 articles in the bioengineering and computer literature, served as editor for ACM SIGForth Newsletter (five years), as associate editor for ACM Sigplan Notices (thirteen years), and has three computer patents. He is active in artificial intelligence, robotics, prosthetics, bioengineering, space science and green technologies. Dr. Frenger was Course Director of the Combined Military Physician Assistant Program (USAF, Navy, Army National Guard) from 1975-1978; was Conference Chair for 1990 RMBS Symposium in Denver; assisted US Air Force Research Labs scientists developing testing systems for non-lethal weapons (2004-2005); Chair of the Houston Chapter of the IEEE Computational Intelligence Society

(2007-2016) and served as General Chair of the AIAA / IEEE Workshop on Automation and Robotics - Innovation, NASA JSC - Houston (2008-2015).

Dr. Frenger is a former US Air Force Lt. Colonel; he has been a member of the Rocky Mountain Bioengineering Symposium (RMBS) since 1983; the Canadian Medical and Biological Engineering Society (CMBES) since 1997; the Association for Computing Machinery (ACM) since 1990; the Institute for Electrical and Electronic Engineers (IEEE) and the Engineering in Medicine and Biology Society (EMBS) since 1989; the International Society of Automation (ISA) since 2006; the Triple Nine Society since 2005 and MENSA since 1978. His biography is listed in: *Who's Who in Medicine and Healthcare*, *Who's Who in Information Technology*, *Who's Who in Science and Engineering*, *Who's Who in the World*, *Who's Who in America*, and others. He received the Air Force Commendation Medal (1978), service awards from ACM (1992, 1999), from IEEE (2008), and the RMBS President's Award (2004). His presentation, "Forth and Artificial Vision", received Best Paper at *EuroFORTH* 1997, Oxford University UK. He delivered a tutorial on "Biologically-Inspired Object Oriented Design and Programming for Robotics and Artificial Intelligence" at MIT (*IASTED International Conference on Robotics and Applications*) November 2010. His computer and automation consulting company, A Working Hypothesis, Inc, was chartered in 1982.





**Plenary Speaker**  
**Sponsored by HHMI and Mississippi INBRE**

Friday, February 19, 2016  
Ballroom II/III

**Professionalism in Science**

Ralph Didlake, MD, Associate Vice Chancellor for Academic Affairs, University of Mississippi Medical Center



Dr. Ralph Didlake was appointed chief academic officer in 2013. A native of New Mexico, Didlake is a graduate of the University of Mississippi and the University of Mississippi School of Medicine. He trained in general surgery at UMMC, including two years in the study of transplantation research in the experimental surgery laboratory founded by Dr. James Hardy. He later completed a surgical fellowship in organ transplantation at the University of Texas Health Science Center in Houston.

After practicing transplant, general and vascular surgery for 23 years, Didlake developed a compelling interest in the human context of modern medical and surgical care. This interest led him to pursue a master's degree in bioethics and health policy from the Neiswanger Institute for Bioethics at Loyola University, Chicago. In 2008, he was appointed director of the UMMC's newly established Center for Bioethics and Medical Humanities, a position he continues to hold. He is also professor of surgery.

Didlake is a fellow of the American College of Surgeons and is a member of the American Society for Bioethics and Medical Humanities, among many other organizations. He is the author of numerous peer-reviewed articles, book chapters and abstracts and has been principal investigator or co-investigator on a number of National Institutes of Health and foundation grants.

Didlake has shepherded the Medical Center's long-range, interdisciplinary commitment to enhancing professionalism.

In his spare time, he enjoys restoring antique radios and has an interest in poetry criticism, especially 20<sup>th</sup> century Russian poets. He and his wife Millie are enjoying their first grandchild.



**In its commitment to recognize and promote novel student research, MAS would like to announce the following prestigious awards for undergraduate and graduate students.**

## **Millsaps/HHMI Undergraduate Scholars Symposium**

Honoring Excellence in Science in Mississippi

Symposium Chairman: Timothy J. Ward | Associate Dean of Sciences, Millsaps College, MS

Ms. Gerri Wilson: MAS Executive Assistant

This symposium is intended to expand the scope and depth of opportunities for undergraduate student researchers to meet other student researchers and their mentors as well as to provide a dedicated venue to disseminate and present their research activities. Participation in undergraduate research increases self-confidence, independence, and critical thinking skills. Disseminating one's results by participating in conference symposia develops communication and presentation skills. These experiences create and foster a life-long quest for research and discovery. Howard Hughes Medical Institute (HHMI) is the largest private sponsor of education initiatives in the United States and seeks to strengthen science education at all levels of education and is dedicated to increasing the number of people who pursue science-related careers and to broadening access to science for all. Student researchers who have shown outstanding achievement in science and engineering research may be selected by their division chairs to compete for these outstanding awards.

### **Criteria for Selection of recipients:**

1. Each division chair(s) and vice chair(s) (13 divisions) selected the **top 20% undergraduate student posters** to represent their division and present in the Millsaps HHMI sponsored lunch award symposium, "Honoring Excellence in Science in Mississippi," on Friday February 19<sup>th</sup> from noon -2pm. Student's name must appear as first author in the abstract, as well as, the poster.
2. The nominated students agreed to present their posters (after presenting in their division) in the poster symposium over lunch on Friday from noon – 3 pm. Failure to physically present at the respected division, will disqualify the selected presenters to compete in the symposium (must be present to compete and co-author presentation will not be accepted).
3. The award prizes will be presented immediately at the end of event as follows: 1<sup>st</sup> Place: Certificate plus \$250; 2<sup>nd</sup> Place: Certificate plus \$200; 3<sup>rd</sup> Place: Certificate plus \$150; 4<sup>th</sup> Place: Certificate plus \$100; and honorable mention for 5<sup>th</sup> – 10<sup>th</sup> winners. Each selected presenter will receive complementary one year membership to MAS and certificate of achievement.

**Symposium Program:** All posters have to be assembled by Thursday 2/18/2016 no later than 3:00 PM and dismantled after after 3:00 PM on Friday 2/19/2016. All students must be present in both days and lack of adherence with this schedule will result in disqualification from the competition.

### **Thursday**

5:00-7:00 PM: Judging of students posters will begin immediately after Dodgen Event

### **Friday**

12:00-1:00 PM: Symposium Plenary Speaker and Lunch

1:00-1:20 PM : Opening and Introduction Remarks, Dr. Tim Ward; Symposium Chair

1:20-1:30 PM : President's Remarks, Dr. Hongtao Yu; MAS President

1:30-2:15 PM : Poster viewing

2:15-2:25 PM : Dr. Zelma Cason: MAS Past President

2:25-2:55 PM : Presentation of Awards: Drs. Ward and Dr. H. Yu; MAS President

2:55-3:00 PM : Closing Remarks: Dr. Tim Ward: Chair of the Symposium



## Mississippi INBRE Graduate Scholars Symposium



Honoring Excellence in Science in Mississippi

Symposium Chairman: Dr. Glen Shearer | Program Coordinator, Mississippi INBRE

Event Coordinator: Mrs. Jamie Lott | Outreach Director, Mississippi INBRE

This symposium is intended to promote and recognize meritorious research conducted by graduate students. It is sponsored by the Mississippi IDeA Network of Biomedical Research Excellence (INBRE) which funded by the National Institutes of Health and housed at The University of Southern Mississippi. The Mississippi INBRE is a network of colleges and universities throughout Mississippi with the goal of enhancing biomedical research and training in the state. The mission of Mississippi INBRE is to reach out to Mississippians in order to improve health throughout the state and to engage talented researchers and students in biomedical research projects that will increase the state's research competitiveness as well as impact the health of citizens of Mississippi. The scientific foci of Mississippi INBRE are obesity, cancer and sexually transmitted diseases.

### **Criteria for Selection of recipients:**

1. Each division chair(s) and vice chair(s) (13 divisions) selected the **top 20% of graduate student** posters to represent their division and present their work in the Mississippi INBRE Graduate Scholars Symposium, a sponsored lunch award symposium, "Honoring Excellence in Science in Mississippi," on Friday, February 19th at 10:00 am -12:00 p.m. The student's name must appear as a first author in the abstract, as well as the poster.
2. The nominated students agreed to present their posters in both their divisional poster session and in the Mississippi INBRE Graduate Scholars Symposium held over lunch on Friday from 10:00 p.m. – 1:00 p.m. Failure to physically present at the respected division will disqualify the selected presenters from competing in the symposium (must be present to compete and co-author presentations will not be accepted).
3. The award prizes will be presented immediately at the end of event as follows: 1<sup>st</sup> Place: Certificate plus \$250; 2<sup>nd</sup> Place: Certificate plus \$200; 3<sup>rd</sup> Place: Certificate plus \$150; 4<sup>th</sup> Place: Certificate plus \$100; and honorable mention for 5<sup>th</sup> – 10<sup>th</sup> winners. Each selected presenter will receive a complementary one year membership to MAS and a certificate of achievement.

**Symposium Program:** All posters have to be assembled by Thursday 2/18/2016 no later than 12:00 PM and dismantled after after 3:00 PM on Friday 2/19/2016. All students must be present in both days and lack of adherence with this schedule will result in disqualification from the competition.

### **Thursday**

5:00-7:00 PM: Judging of students posters will begin immediately after Dodgen Event

### **Friday**

10:00-10:30: Welcome and Introduction Remarks: Dr. Glen Shearer; Chair

10:30-10:40: President's Remarks, Dr. Hongtao Yu; MAS President

10:40-11:15: Poster competition (Visit to Posters)

11:15-11:55: Presentation of Awards: Drs. Shearer and Dr. H. Yu, MAS President

11:55-12:00: Closing Remarks: Dr. Glen Shearer; Chair of the Symposium

12:00-1:00: Plenary Speaker and Lunch (Provided for Participants by Mississippi INBRE)



## Divisional Symposia & Workshops

### Health Sciences

**Thursday, February 18, 10:30-11:30 a.m.**  
**Ballroom II/III**

#### Gift of life-Organ Transplantation

Organizers: Olga McDaniel, Jana Bagwell, Amy Radican-Wald, George Moll  
University of Mississippi Medical Center and  
Center for Mississippi Health Policy

#### Title: "Organ Transplantation"

**Christopher D. Anderson, MD, FACS**, University of Mississippi Medical Center



Dr. Christopher Anderson will discuss Organ Transplantation: Historical perspective and current practice including immunosuppression and future possibilities.

Dr. Christopher D. Anderson, James D. Hardy Professor, Chair of Department of Surgery, Chief, Division of Transplant and Hepatobiliary Surgery, Medical Director, Abdominal Transplant Surgery, Surgical Director, Liver and Kidney Transplantation, Surgical Director, Mississippi Organ Recovery Agency.

Dr. Anderson, was born in Lucedale MS and earned his undergraduate degree at the University of Southern Mississippi in 1995. He earned his MD from Emory University in 1999, and a general surgery residency and a research fellowship in hepatobiliary surgery at Vanderbilt University Medical Center.

Dr. Anderson joined the faculty at UMMC in late 2011 and led a University Transplant team that has doubled the kidney transplant volume at UMMC. In addition, University Transplant has initiated pediatric kidney transplant, liver transplant and pancreas transplant under his leadership. As part of these efforts, University Transplant has established an HPB surgery program which is associated with the UMMC Cancer Institute and is Mississippi's only high volume liver and pancreas surgery program.

Following his subspecialty training, he joined University of Washington, St. Lois as an assistant professor. He focused on adult and pediatric liver

and kidney transplant as well as complex hepatobiliary surgery. He began the laparoscopic donor nephrectomy program at Barnes Jewish Hospital and was a member of the Siteman Cancer Center and the Nutrition Obesity Research Center. Dr. Anderson is a fellow in the American College of Surgeons and a member of the American Society of Transplantation and the American Hepato-Pancreatico-Biliary Association. He serves in leadership positions within the Association for Academic Surgery and the American Society of Transplant Surgeons.

#### Title: "Organ Donation and Recovery"

**Kevin Stump**, Chief Executive Officer at Mississippi Organ Recovery Agency (MORA)  
Kevin will discuss current practice in organ



donation and recovery. Kevin Stump is a native of Oklahoma. He graduated from Southern Nazarene University with a Bachelor of Science in Biology and Chemistry. Following a year of research training on Human tissue

regeneration at the University of Oklahoma Medical Center, Kevin returned to Southern Nazarene University pursuing a second bachelor's degree in nursing. In 1988 he joined the organ procurement organization in Oklahoma as an Organ Recovery Coordinator. Then he moved to California, and in 1990 he became Manager of Hospital Development for Golden State Donor Services in Sacramento, California. Two years later, September 1992, Kevin took the position as head of the organ procurement organization here in Mississippi. Since July 1<sup>st</sup>, 1994 he has been the President / CEO of the Mississippi Organ Recovery Agency.

He has served on national committee's for Organ Donation and Allocation, Co-author on several manuscripts, abstract presentations and invited talks on the topic of Organ Donation and Transplantation. In addition he has presented policies and issues surrounding the Organ Allocation at the National Institutes of Health.



**Health Sciences**

**Thursday, February 18, 1:30-2:45 p.m.  
Ballroom II/III**

**WHERE SCIENCE MEETS POPULATION  
HEALTH**

Organizers: Olga McDaniel, Jana Bagwell, Amy Radican-Wald, George Moll  
University of Mississippi Medical Center and  
Center for Mississippi Health Policy

**Title: “Large Scale Genetic Analysis in  
Mississippi and Worldwide”**

**James Wilson, MD**, University of Mississippi  
Medical Center



Dr. Wilson will discuss the rapid development of genotyping, sequencing, and genetic analysis methods, and some of their applications and findings, during the past decade. It will cover candidate gene and GWAS

genotyping as well as exome sequencing and an explosive expansion of whole genome sequencing. There will be a particular focus on findings to which the Jackson Heart Study has contributed, and a discussion of ongoing projects in which we are participating.

Dr. Wilson in addition to academic career in Internal Medicine and Rheumatology, he has had a long-standing interest in the genetics of complex diseases in African Americans, serving as the Jackson Heart Study (JHS) Genetics Coordinator since the study began in 2000. During the past 15 years in collaboration with others he has used admixture mapping, GWAS, and exome sequencing to study an array of biologically important traits in JHS and other cohorts. Dr. Wilson’s NIGMS-funded ARRA award supported development of the most accurate recombination map of the human genome yet produced. In the process, they identified a novel set of African ancestry-specific recombinational hotspots and discovered the mechanism by which recombination is targeted to these sites. Dr. Wilson played a major role in JHS participation in NHLBI’s Candidate Gene Association Resource (CARE), the Exome Sequencing Project, the T2D-GENES

consortium, and the CHARGE consortium, serving on the Steering Committee of each of these projects. He is joint PI of two R01s “Leukocyte Telomere Length and Cardiovascular Disease in Jackson Heart Study” and “Sleep-Disordered Breathing and Risk for CVD and Stroke in the Jackson Heart Study”, plus a U01 that is a key component of the “T2D-GENES” project. Thus he has extensive experience in multi-institutional and multi-cohort research collaboration.

**Title: “Eliminating Health Disparities in  
Mississippi: The Promise of Precision**

**Marino A. Bruce, PhD, MSRC, MDiv, CRC**,  
Jackson State University



Dr. Bruce will discuss factors contribute to group differences in health outcomes. The influence and interaction of biological, social, economic, geographical, cultural, and physical factors can vary considerably. The presentation will highlight the

importance contextual specificity for efforts to reduce and ultimately eliminate health disparities in Mississippi.

Dr. Bruce is a professor of Sociology and Criminal Justice at Jackson State University (JSU) and an affiliate faculty in Internal Medicine at the UMMC, Science Director for the Myrlie Evers-Williams Institute for the Elimination of Health Disparities, and founding Director of the Center for Health among Minority Males within the Evers-Williams Institute. His research focuses on the intersection of race, gender, age, and their implications for health behaviors and cardiovascular-related outcomes. He has recently completed a K01 award examining the relationship between social and psychological factors associated with chronic kidney disease among African-Americans using data from the Jackson Heart Study. Results from this work have led to a program of research examining social, psychological, and behavioral factors impacting the health of African American boys and men.

His training and expertise as a Certified Rehabilitation Counselor and an ordained Baptist minister, provide Dr. Bruce with a unique opportunity to leverage the strengths of research-, community-, and faith-based approaches to improve the health of disadvantaged and





disenfranchised males, their families, and their communities.

**Title: "HIV Prevention in Mississippi"**

**Thomas E. Dobbs, III, MD, MPH**

State Epidemiologist, Mississippi State Department of Health



Dr. Dobbs will review the epidemiology of HIV in the U.S. with specific focus on Mississippi. Based on a brief discussion of the natural history of HIV, He will discuss prevention strategies that are effective in reducing HIV

transmission. The presentation will highlight efforts under way by the Mississippi State Department of Health to ensure treatment and slow the spread of HIV.

Dr. Dobbs is Board Certified in Internal Medicine and Infectious Diseases. Prior to joining the Department of Health, he worked as an Internal Medicine and Infectious Diseases physician in Laurel and Hattiesburg, MS. He is a member of the Mississippi State Medical Association, the Infectious Diseases Society of America and the Council of State and Territorial Epidemiologists. He has clinical appointments at the University of Mississippi Medical Center and the University of Florida and serves as a clinical consultant for the Southeastern National TB Center in Gainesville, FL.

negatives are bound to happen so the complexity of the decision making process will be covered. Following the introductory presentation and discussions by Dr. Hamadain, Dr. Jamil Ibrahim will demonstrate these concepts using available software and tools, some easily found in major statistical packages and others available, such as GPOWER, as free online downloads. Finally, Seth Lirette and Chad Blackshear will lead a discussion on the issues a consulting statistician often faces with sparse a priori information, when a power analysis is appropriate and when it is not, adjustments for cost and time as well as following up with examples and discussions with the workshop group."

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**Physics & Engineering**

**Thursday, February 18, 2:00-3:00 p.m.**

**TCC 228**

**Workshop: Careers In Physics**

Organizer: Pradip Biswas, Tougaloo College

The workshop will focus on understanding Physics and Engineering career opportunities in Mississippi and beyond and necessary preparedness at the undergraduate level. The program will be conducted by James L. Tracy Jr. - a Ph.D. student from Mississippi State University - and will have panelists from local industries and Universities.

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**Science Education**

**Thursday, February 18, 1:00-2:30 p.m.**

**TCC 218A**

**WORKSHOP: Essential Elements Of Effective Instruction**

Organizers: Christina McDaniel and Ryan M. Walker, Mississippi State University

This workshop will focus on the improvement and evaluation of science instructional strategies. This includes three area of consideration for curriculum implantation; the planed, the delivered and the received curricula. During this time we will engage participants to explore exactly how these three components can be integrated into any scientific

discipline. Furthermore we will describe how the

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**Mathmatics, Computer Science & Statistics**

**Thursday, February 18, 1:00-2:00 p.m.**

**TCC 210**

**Workshop: Power and Sample Size Analysis: Importance in Research and Approaches to Best Practices**

Organizers: Elgeneaid Hamadain, Warren May, Jamil Ibrahim, Seth Lirette, and Chad Blackshear University of Mississippi Medical Center

The workshop begins with a brief discussion of issues surrounding power analysis, adjustments necessary to the alpha levels and/or p-values to make valid inferences and ensuring adequate sample sizes are considered. As with all decision making, errors of false positives and false



evaluation of curricula should align to college or career readiness in Science, Technology, Mathematics and Engineering (STEM) fields.

and cultural status on broadening participation; 6) Academic preparation and high school teaching on broadening participation; 7) Governmental policy and economic impact on broadening participation.

**Science Education**

**Friday, February 19, 8:00-9:55 a.m.  
TCC 218A**

**Symposium On Stem Education And Broadening Participation**

Organizers: Hongtao Yu, Christina McDaniel, and Ryan Walker, Jackson State University & Mississippi State University

There has been a long-standing national concern about the declining number of US citizens with degrees in Science, Technology, Engineering, and Mathematics (STEM). With respect to underrepresented minority (URM) students, the concern is even worse: a very low percentage of African American (6.6%) and Hispanic American (8.8%) students finish with undergraduate or graduate STEM degrees (Chu et al, 2006; NSF Report, 2011; Committee on Equal Opportunities in Science and Engineering, 2009). Thus, broadening participation is an issue that requires the effort of the whole nation (U.S. Commission on Civil Rights, 2010; NSF, 2008; National Academies of Science, 2011), as evidenced by President Obama’s recent signing of the Executive Order to Promote Diversity and Inclusion in the Federal Workforce (U.S. Equal Employment Opportunity Commission, 2011). It has been one of the main goals of the all the federal and state agencies to promote diversity and broaden participation through various programs and program components in education and research.

The objective of the symposium is to bring together all Mississippi STEM educators and students to engage in learning the issue of broadening participation, the importance of science education, information exchange, and research presentations on broadening participation. It will cover the following topics: 1) Recruitment and retention of underrepresented minority (URM) students; 2) Construction of university-wide research and education programs for broadening participation; 3) Impact of federally-funded programs on broadening participation; 4) Impact of mentors, institutional settings, policy, and global society on broadening participation; 5) Impact of social, financial, religious

**Science Education**

**Friday, February 19, 10:15-11:55 a.m.  
TCC 218A**

**Symposium “Simulation-based Education in Mississippi: A Statewide Organizational Meeting”**

Organizer: Robin Rockhold, University of Mississippi Medical Center

Individuals from institutions and organizations across Mississippi who engage in or have an interest regarding the use of simulation facilities and techniques in education will meet for an organizational session on Friday, February 19 in association with the annual MAS meeting. The feasibility of establishing a Mississippi Simulation Consortium to exchange information and advocate for best practices in simulation-based education will be the primary topic. Prior to this year, a Mississippi Simulation Alliance had existed that engaged instructors involved in simulation-based education to students of nursing in Mississippi. Individuals who had been members of the Mississippi Simulation Alliance will present the history and goals of that organization as a starting point for consideration of formation of a Mississippi Simulation Consortium. Additional presentations will be made by experts in simulation education who will address the advantages of such a consortium from the perspectives of the Community Colleges, Institutions of Higher Learning, William Carey University School of Osteopathic Medicine and the University of Mississippi Medical Center. Funding opportunities, economies of scale in purchasing procedures, educational needs/practices, scholarship possibilities and organizational structure are among the anticipated topics of discussion. Poster presentations will be given by a number of the participants in conjunction with the organizational meeting.



Mississippi Academy of Sciences, Eightieth Annual Meeting

**Health Sciences**

**Friday, February 19, 10:00-11:55 a.m.**

**TCC 216**

**Population Health Hands-On Workshop**

Dr. Michael Ryan & Dr. Eric George

This workshop is designed for undergraduate and highschool students interested in basic science and medicine.





## Divisional Program

### Key to Abbreviations

O = Oral Presentation

P = Poster Presentation

1st number is Division

- 1 Agriculture and Plant Science (pages,
- 2 Cellular, Molecular, and Developmental Biology
- 3 Chemistry and Chemical Engineering
- 4 Ecology and Evolutionary Biology
- 5 Geology and Geography
- 6 Health Sciences
- 7 History and Philosophy of Science
- 8 Marine and Atmospheric Sciences
- 9 Mathematics, Computer Science, and Statistics
- 10 Physics and Engineering
- 11 Psychology and Social Sciences
- 12 Science Education
- 13 Zoology and Entomology

2nd number is Abstract Number within oral presentations or poster session

Eg., O3.04 = oral presentation (O) number 4 in the division of Chemistry and Chemical Engineering (3)

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### Agriculture & Plant Science

Chair: Girish Panicker, Alcorn State University

Vice-Chair: Victor Njiti, Alcorn State University

Thursday, February 18, 2016

Morning

Room Union C

7:50

Welcome

8:00

#### O1.01 Short-Season Summer Cover Crop On Fall Organic Broccoli (*Brassica Oleraceae*) Production

Girish Kumar Panicker<sup>1</sup>, Carl Motsenbocker<sup>2</sup>, William Evans<sup>3</sup>, Rao Mentreddy<sup>4</sup>

<sup>1</sup>Alcorn State University, Lorman, Mississippi, USA, <sup>2</sup>Louisiana State University, Baton Rouge, Louisiana, USA, <sup>3</sup>Mississippi State University, Crystal Springs, Mississippi, USA, <sup>4</sup>Alabama A&M University, Normal, Alabama, USA

medium dosage. The yield from the control blocks was non-marketable.

8:15

#### O1.02 The Effect Of Seed Priming On Arkansas Grand Prairie Switchgrass Stand Establishment

LaShunda Anderson Hodges, Kelvyn Olowola, Byron Knox

Alcorn State University, Lorman, Mississippi, USA

8:30

#### O1.03 Screening Strawberry Plants For Anthracnose Disease Resistance Using Traditional And Molecular Techniques

Melinda Miller-Butler<sup>1</sup>, Barbara Smith<sup>2</sup>, Kenneth Curry<sup>1</sup>, Brian Kreiser<sup>1</sup>

<sup>1</sup>University of Southern Mississippi, Hattiesburg, Mississippi, USA, <sup>2</sup>USDA ARS Thad Cochran Southern Horticultural Laboratory, Poplarville, Mississippi, USA



8:45

**O1.04 Construction Of Full Length Genomic Cdna Clones Of Sweetpotato Feathery Mottle Virus**

Landrick Akrong<sup>1</sup>, Yan Meng<sup>1</sup>, Victor Njiti<sup>1</sup>, Christopher Clark<sup>2</sup>, Chunquan Zhang<sup>1</sup>

<sup>1</sup>Alcorn State University, Lorman, Mississippi, USA, <sup>2</sup>Louisiana State University, Baton Rouge, USA

9:00

**O1.05 Sweet Basil (*Ocimum Basilicum*) Evaluations**

Robert Williams, Patrick E. Igbokwe

Alcorn State University, Lorman, Mississippi, USA

9:15

**O1.06 Melon (*Cucumis Melo* L.) Production With Composted Manures On A Heavy Soil**

Willie Mims<sup>1</sup>, Girish Panicker<sup>1</sup>, Padma Nimmakayala<sup>2</sup>, Umesh Reddy<sup>2</sup>, Yan Tomason<sup>2</sup>

<sup>1</sup>Alcorn State University, Lorman, Mississippi, USA, <sup>2</sup>West Virginia State University, West Virginia, Institute, USA

9:30

**O1.07 Spatial, Seasonal And Temporal Abundance Of Root Colonizing Fungi In Giant Miscanthus**

Margeria Smith, Keerthi Mandyam, Ananda Nanjundaswamy, Victor Njiti

Alcorn State University, Lorman, Mississippi, USA

9:45

**O1.08 Above-Ground Biomass Production Of 2 Year Old Arkansas Grand Prairie Switchgrass Stand**

Kiara Tarleton, LaShunda Anderson Hodges, Byron Knox, Jazmarkey Wiggins, Napoleon O'quinn, Kendrick Dorsey, Khory Stark

Alcorn State University, Lorman, Mississippi, USA

**10:00 Break & Business Meeting**

10:15

**O1.09 Optimization Of Substrate And Enzyme Loadind For Ethanol Production Response Surface Methodology**

Amber Jones, Ananda Nanjundaswamy, Victor Njiti, Girish Panicker, Franklin Chukwuma

Alcorn State University, Lorman, Mississippi, USA

10:30

**O1.10 Casein Hydrolyzate And Tea Extract Reduce Protein Oxidation Of Catfish Fillet**

Zahur Haque, Dipaloke Mukherjee

Mississippi State University, Mississippi State, Mississippi, USA

10:45

**O1.11 Development Of Transgenic Sweetpotato With Multiple Virus Resistance In Us**

David Henderson, Chunquan Zhang, Victor Njiti, Yan Meng

Alcorn State University, Lorman, Mississippi, USA

11:00

**O1.12 Qualitative And Quantitative Assessment Of Dark Septate Endophytic (Dse) Fungal Assemblages In Switchgrass**

Ashley Williams, Keerthi Mandyam, Ananda Nanjundaswamy, Girish Panicker

Alcorn State University, Lorman, Mississippi, USA

11:15

**O1.13 Submerged And Solid State Fermentation Optimization Of Sweetpotato Using *Bacillus Subtilis***

Angela Jackson, Ananda Nanjundaswamy, Victor Njiti, Xia Qun, Franklin Chukwuma

Alcorn State University, Lorman, Mississippi, USA



11:30

**O1.14 Biochemical Characterization Of Sweetpotato Grown In Hydroponic System In The Greenhouse**

Damerius Johnson, Victor Njiti, Ananda Nanjundaswamy, Franklin Chukwuma  
*Alcorn State University, Lorman, Mississippi, USA*

11:45

**O1.15 Approach To Identifying The First Enzyme Of Plant Oil Synthesis**

Anushobha Regmi, Philip Bates  
*University of Southern Mississippi, Hattiesburg, Mississippi, USA*

**12:00 -1:00 General Sessions**

**Thursday, February 18, 2016**

**Afternoon**

**1:15 – 2:45 Poster Session**

**P1.01**

**Rapid Plate Assay For Detection And Characterization Of Herbicide-Resistant Weeds**

Te-Ming Tseng, Erin Wilson, Brittany Jones, Jay McCurdy  
*Mississippi State University, Mississippi State, Mississippi, USA*

**P1.02**

**Generation Of Stable Nano-Vesicular Curcumin-Loaded Emulsion Systems**

Xue Zhang, Zahur Haque  
*Mississippi State University, Mississippi State, Mississippi, USA*

**P1.03**

**Metal Uptake And Growth Responses Of Wheat Exposed At Different Durations To Chelate-Amended Cadmium-Contaminated Soils**

Krystin Cook, Elsie Madison, Charles Davis, Gloria Miller, Maria Begonia, Gregorio Begonia  
*Jackson State University, Jackson, Mississippi, USA*

**P1.04**

**Shoot Biomass And Chlorophyll Production Of Wheat Exposed To Chelate-Amended Cadmium-Contaminated Soils**

Jessica Gilbert, James Reede, Charles Davis, Gloria Miller, Maria Begonia, Gregorio Begonia  
*Jackson State University, Jackson, Mississippi, USA*

**P1.05**

**Estimation Of Thermodynamic Stability Of Southern Mississippi Valley Loess Ecosystems**

William Kingery<sup>1</sup>, Barry Hart<sup>2</sup>, Caleb Gulley<sup>2</sup>, Rachel Stout-Evans<sup>3</sup>, Hongqi Wu<sup>4</sup>  
<sup>1</sup>Mississippi State University, Mississippi State, Mississippi, USA, <sup>2</sup>USDA-NRCS, Milan, Tennessee, USA, <sup>3</sup>USDA-NRCS, Metcalf, Mississippi, USA, <sup>4</sup>Rochester, New York, USA

**P1.06**

**Insecticidal Effect Of Two Ant-Derived Oleochemicals**

Tahir Rashid<sup>1</sup>, Jian Chen<sup>2</sup>, Paul McLeod<sup>3</sup>  
<sup>1</sup>Alcorn State University, Lorman, Mississippi, USA, <sup>2</sup>USDA-ARS, Stoneville, Mississippi, USA, <sup>3</sup>University of Arkansas, Fayetteville, Arkansas, USA

**P1.07**

**Evaluation Of Switchgrass Stand Establishment Upon Soil Color**

Jazmarkey Wiggins, Lashunda Anderson Hodges  
*Alcorn State University, Lorman, Mississippi, USA*



**P1.08**

**Economic Characteristics Of Honey Plants In Mississippi**

Elena Kostyleva

*Alcorn State University, Lorman, Mississippi, USA*

**P1.09**

**Quantitative Analysis Of Major Allergens In Peanut Varieties Grown In Mississippi**

Yan Liu, Udhghatri Kolli, Hamsini Balaji, Sam Chang, Jiaxu Li

*Mississippi State University, Mississippi State, Mississippi, USA*

**P1.10**

**Effect Of Silicon On The Growth And Drought Resistance Of Soybeans**

Saroj Sah, Raja Reddy, Jiaxu Li

*Mississippi State University, Mississippi State, Mississippi, USA*

**P1.11**

**Osmotic Stress Tolerance Classification Based On *In Vitro* Seed Germination Of Rice**

Bhupinder Singh<sup>1</sup>, K. Raja Reddy<sup>1</sup>, Timothy Walker<sup>2</sup>

*<sup>1</sup>Mississippi State University, Mississippi State, Mississippi, USA, <sup>2</sup>Horizon Ag.LLC, Memphis, Tennessee, USA*

**P1.12**

**Phenotypic Characterization And Classification Of Rice Breeding Lines For Early-Season Vigor**

Salah Jumaa<sup>1</sup>, K. Raja Reddy<sup>1</sup>, Edilberto D. Redona<sup>2</sup>

*<sup>1</sup>Mississippi State University, Mississippi State, Mississippi, USA, <sup>2</sup>Delta Research and Extension Center, Stoneville, Mississippi, USA*

**P1.13**

**Soil Moisture Stress Effects On Yield Component Distribution In Soybean**

Chathurika Wijewardana, K. Raja Reddy

*Mississippi State University, Mississippi State, Mississippi, USA*

**P1.14**

**Interactive Effects On CO<sub>2</sub>, Drought, And Ultraviolet-B Radiation On Corn Growth**

Chathurika Wijewardana, Brien Henry, K. Raja Reddy

*Mississippi State University, Mississippi State, Mississippi, USA*

**P1.15**

**Organic Production Of Ethnic Vegetable For Sustaining Small Farms In Alabama**

Fayeann Crawford<sup>1</sup>, Robert Spencer<sup>2</sup>, S. Rao Mentreddy<sup>1</sup>, Eddie Wheeler<sup>2</sup>, Karen Wynn<sup>4</sup>, Radhika Kakani<sup>3</sup>

*<sup>1</sup>Alabama A&M University, Huntsville Alabama, USA, <sup>2</sup>Alabama Cooperative Extension Services, Huntsville Alabama, USA, <sup>3</sup>Indigo Market, LLC, Huntsville Alabama, USA, <sup>4</sup>Crotovina Inc, Huntsville Alabama, USA*

**P1.16**

**Soybean Reproductive Growth, Development, And Yield Responses To Temperature**

Firas Alsajri, K. Raja Reddy

*Mississippi State University, Mississippi State, Mississippi, USA*

**P1.17**

**Radiological Implications Of Locally Produced Fertilizers**

Caroline Mensah<sup>1</sup>, Jermiah Billa<sup>1</sup>, Fengxiang Han<sup>3</sup>, Girish Panicker<sup>2</sup>, Karthik Eti<sup>1</sup>, Joseph Dimpah<sup>1</sup>, Deborah Quaye<sup>1</sup>, Sai Mayreddy<sup>1</sup>

*<sup>1</sup>Department of Advanced Technologies, Alcorn State University, Lorman, Mississippi, USA, <sup>2</sup>Department of Agriculture, Alcorn State University, Lorman, Mississippi, USA, <sup>3</sup>Jackson State University, Jackson, Mississippi, USA*



**P1.18**

**Morphological Response Of The Cotton Chromosome Substitution Lines For Low Temperature Stress**

Akanksha Awasthi<sup>1</sup>, Sukumar Saha<sup>2</sup>, Johnie N. Jenkins<sup>2</sup>, David M. Stelly<sup>3</sup>, K. Raja Reddy<sup>1</sup>

<sup>1</sup>Mississippi State University, Mississippi State, MS, USA, <sup>2</sup>USDA-ARS, Genetics and Sustainable Agriculture Research Unit, Mississippi State, MS, USA, <sup>3</sup>Texas A&M University, College Station, Texas, USA

**P1.19**

**Genotyping By Sequencing Of Melon Morphotypes For Generating Snps And Gwas**

Padma Nimmakayala<sup>1</sup>, Umesh Reddy<sup>1</sup>, Yan Tomason<sup>1</sup>, Girish Panicker<sup>2</sup>

<sup>1</sup>West Virginia State University, West Virginia, WV, USA, <sup>2</sup>Alcorn State University, Lorman, Mississippi, USA

**P1.20**

**Stability And Hyper-Antioxidative Property Of Olive Leave Extract**

Ahmed Chaloob Saddam and Zahur Zee Haque

Mississippi State University, Mississippi State, USA

for use of OLE derived antioxidants as effective radical scavengers.

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## Cellular, Molecular & Developmental Biology

Chair: Dr. Mary Bonds, Northwest Mississippi Community College

Vice-Chair: Dr. Davida Crossley, Alcorn State University

Thursday, February 18, 2016

Morning

Room TCC 214

8:15

**O2.01 Pseudognathalium Obtusifolium Effects On Saccharomyces Cerevisiae Hbo Strain Proliferation And Mitochondrial Morphology**

A Suller, K Bodge, C Lavallais, L Peavy, G Penumaka, T Price, R Sindhu, N Weber, K Bernius, S Felix, R Hancock, H Hart, J Hoye, T Irby, D Lumpkin, A McPhail, A Mosley, J Rittenhouse, E Tibbs, A Whittom Reiken

Mississippi College, Clinton, MS, USA

8:30

**O2.02 Complementation Based Approach To Restoring Respiratory Activity And Mtdna In Pcp1 Mutants**

Pieter Both and Donna M. Gordon

Mississippi State University, Mississippi State, USA

8:45

**O2.03 Understanding The Molecular Interaction Among Tick-Borne Pathogenic Microbes And Native Microbiota**

Khemraj Budachetri, Shahid Karim

The University of Southern Mississippi, Hattiesburg, USA

9:00

**O2.04 Tick Saliva And The Induction Of A-Galactose Hypersensitivity In Red Meat Allergy**

Gary Crispell, Karthik Balamurugan, Shahid Karim

The University of Southern Mississippi, Hattiesburg, MS, USA

9:15

**O2.05 Structural Characterization Of Tick Cement Cones**

Rebekah Bullard, Paige Allen, Jessica Douglas, Pradipta Das, Sarah Morgan, Shahid Karim

University of Southern Mississippi, Hattiesburg, MS, USA



9:30

**O2.06 Absence Of Pirna Pathway In The House Dust Mite**

Md Mosharrof Hossain Mondal and Alex Flynt

*The University of Southern Mississippi, Hattiesburg, USA*

9:45

**O2.07 Expression Analysis Of M46, A Phase Specific Gene In Histoplasma Capsulatum**

Dauida Crossley<sup>1</sup>, Glenmore Shearer, Jr<sup>2</sup>

<sup>1</sup>*Alcorn State University, Alcorn State, MS, USA*, <sup>2</sup>*The University of Southern Mississippi, Hattiesburg, MS, USA*

10:00 Break

10:30

**O2.08 Characterizing The Mold Phase Specific Genes Ms88 And Ms95 In Histoplasma Capsulatum**

Mariah Lloyd<sup>1</sup>, Glenmore Shearer, Jr<sup>2</sup>, Dauida Crossley<sup>1</sup>

<sup>1</sup>*Alcorn State University, Alcorn State, MS, USA*, <sup>2</sup>*The University of Southern Mississippi, Hattiesburg, MS, USA*

10:45

**O2.09 Polyaniline As Sensing Platform For Detection Of Dna Mimic To Mirna Let-7**

Partha Sengupta, Jared Gloria, Alex Flynt

*University Of Southern Mississippi, Hattiesburg, MS, USA*

11:00

**O2.10 Plasma Membrane Stability Of Df508 Ctr**

Ghanshyam Heda, Oluwabukola Omotola

*Mississippi University for Women, Columbus, USA*

11:15

**O2.11 Proteomic Analysis Of Exosomes Derived From Mammalian Circadian Clock Cells**

Dan Zhao<sup>1</sup>, Jiaxu Li<sup>1</sup>, Tibor Pechan<sup>1</sup>, Olga Pechanova<sup>1</sup>, David Earnest<sup>2</sup>, Morgan Farnell<sup>1</sup>, Yuhua Farnell<sup>1</sup>

<sup>1</sup>*Mississippi State University, Mississippi State/MS, USA*, <sup>2</sup>*Texas A&M Health Science Center, Bryan/Texas, USA*

11:30 Divisional Business Meeting

Thursday, February 18, 2016

Afternoon

Room TC 214

1:15

**O2.12 Activation Of The Mineralocorticoid Receptor By O-Glycosylation Through Hyperglycemia**

Maniselvan Kuppusamy, Celso Gomez-Sanchez, Elise Gomez-Sanchez

*University of Mississippi Medical Center, Jackson, USA*

1:30

**O2.13 Characterization Of Exosomes From Cardiac Fibroblasts In Ossabaw Pigs With Metabolic Syndrome**

Kellie Mitchell<sup>1</sup>, James Stewart<sup>1</sup>, Dan Zhao<sup>1</sup>, Leonidas Koniaris<sup>2</sup>, Michael Sturek<sup>2</sup>, Mouhamad Alloosh<sup>2</sup>, Yuhua Farnell<sup>1</sup>

<sup>1</sup>*Mississippi State University, Starkville, MS, USA*, <sup>2</sup>*Indiana University School of Medicine, Indianapolis, IN, USA*

1:45

**O2.14 Alternate Protein Targets & Drug Designing For Breast And Prostate Cancers**

Pradip Biswas

*Tougaloo College, Tougaloo, USA*



2:00

**O2.14 Mcf7 Human Breast Cancer Protein Expression Analysis Of Dichloromethane-Derived Pseudognaphalium Obtusifolium Extract**

Ambreana Thompson, Jake Johnson, Jessica Witherspoon, Tanuja Boduggam, Swapna Burri, Gautam Dhawan, Jeremy Dixon, Sommyr Paden, Tycho Price, Flavio Salinas, Naina Singh, Whitton Reiken  
*Mississippi College, Clinton, USA*

2:15

**O2.15 Split-Top: A Maternal Regulator Of Dorsal-Ventral Patterning And Cell Migration In Zebrafish**

Yvette Langdon<sup>1</sup>, Mary Mullins<sup>0</sup>  
<sup>1</sup>*Millsaps College, Jackson, MS, USA*, <sup>2</sup>*University of Pennsylvania, Philadelphia, PA, USA*

Thursday, February 18, 2016

Afternoon

3:15-Dodgen Lecture and Awards Ceremony, Ballroom II/III

5:00-7:00

Poster Session

P2.01

**Stress Inducing Agents That Impact The Bioactivity Of Occidiofungin In *S. Cerevisiae***

Donna Gordon<sup>1</sup>, Jamie Avery-Holder<sup>2</sup>  
<sup>1</sup>*Mississippi State University, Starkville, MS, USA*, <sup>2</sup>*Mississippi University for Women, Columbus, MS, USA*

P2.02

**Construction And Characterization Of Plasmids To Monitor Sirna-Mediated Knockdown Of Putative Linker Histone Chaperones**

Marina Ali<sup>1</sup>, Thomas W. Flanagan<sup>2</sup>, David T. Brown<sup>2</sup>  
<sup>1</sup>*Georgia Institute of Technology, USA*, <sup>2</sup>*Biochemistry Department, University of Mississippi Medical Center, USA*

P2.03

**Do Exosomes From Mesenchymal Stem Cells Support Osteosarcoma Growth?**

Ramanda Dace, Whitt Jason, Patrice Penforinis, Fernandes, Joseph, Krishna Vallabhaneni, Radhika Pochampally  
*Mississippi College, Clinton, MS, USA*

P2.04

**Painless Hematophagy: The Functional Role Of Novel Tick Metalloproteases In Pain Suppression**

Joseph Jelinski, Jaelyn Williams, Rebekah Bullard, Shahid Karim  
*University of Southern Mississippi, Hattiesburg, Mississippi, USA*

P2.05

**Generating And Expression Of Mutant Munc18 To Dissect Mast Cell Degranulation**

Rachel Jerome, Matthew Arnold, Hao Xu  
*The University of Southern Mississippi, Hattiesburg, MS, USA*

P2.06

**Decipher Synaptotagmin II Specificity In Mast Cell Degranulation**

Cheri Voth, Pratikshya Adhikari, Hao Xu  
*University of Southern Mississippi, Hattiesburg, MS, USA*

P2.07

**Systematic Identification Of Lysine Acetylation In Developing Rice Seeds**

Xiaoxi Meng<sup>1</sup>, Yuanda Lv<sup>2</sup>, Mariola J Edelmann<sup>3</sup>, Han Zhao<sup>2</sup>, Zhaohua Peng<sup>1</sup>  
<sup>1</sup>*Mississippi State University, Starkville, Mississippi, USA*, <sup>2</sup>*Jiangsu Academy of Agricultural Sciences, Nanjing, Jiangsu, China*,  
<sup>3</sup>*University of Florida, Gainesville, Florida, USA*



**P2.08**

**Functional Significance Of Branch Points In Mirtrons**

Britton Strickland<sup>1</sup>, Mosharraf Hossain<sup>1</sup>, Matthew DeCruz<sup>1</sup>, Jaaved Mohammed<sup>2</sup>, Alex Flynt<sup>1</sup>

<sup>1</sup>University of Southern Mississippi, Hattiesburg, MS, USA, <sup>2</sup>Memorial Sloan Kettering Cancer Center, New York, NY, USA

**P2.09**

**Transcriptome Profiling And Methylation Analysis Of Phytochrome Genes In *Phy1-Rnai* Cotton Lines**

Qing Miao<sup>1</sup>, Din-Pow Ma<sup>1</sup>, Sukumar Saha<sup>2</sup>, Johnie Jenkins<sup>2</sup>

<sup>1</sup>Mississippi State University, Mississippi State, MS 39762, USA, <sup>2</sup>USDA-ARS, Mississippi State, MS 39762, USA

**P2.10**

**Silver Clusters Inhibit The Biofilm Formed By *Bacillus Thuringiensis***

Christa Corley<sup>1</sup>, Keith Cobb, Jr.<sup>1</sup>, Sudarson Sinha<sup>2</sup>, Pareesh C. Ray<sup>2</sup>, Elrica Brown<sup>3</sup>, Bianca Garner<sup>3</sup>, Istvan Arany<sup>4</sup>, Bidisha Sengupta<sup>1</sup>

<sup>1</sup>Department of Chemistry, Tougaloo College, Tougaloo, MS 39174, USA, <sup>2</sup>Department of Chemistry, Jackson State University, Jackson, MS, USA, <sup>3</sup>Department of Biology, Tougaloo, MS 39174, USA, <sup>4</sup>Department of Pediatrics, The University of Mississippi Medical Center, Jackson, MS, USA

**P2.11**

**Towards A Better Understanding Of Trans-Snare Complex Function In Mast Cell Degranulation**

Suzette Wafford-Turner, Hao Xu

The University of Southern Mississippi, Hattiesburg, MS, USA

**P2.12**

**Cloning And Expression Of The Lone-Star Tick (*Amblyomma Americanum*) Glycine-Rich Proteins**

Amanda Ray<sup>1</sup>, Rebekah Bullard<sup>2</sup>, Shahid Karim<sup>2</sup>

<sup>1</sup>William Carey University, Hattiesburg, Mississippi, USA, <sup>2</sup>The University of Southern Mississippi, Hattiesburg, Mississippi, USA

**P2.13**

**Acquisition And Transmission Of Tick-Borne *Ehrlichia Chaffeensis* Using An Artificial Feeding System**

Paige Allen<sup>1</sup>, Jaclyn Williams<sup>2</sup>, Rebekah Bullard<sup>1</sup>, Shahid Karim<sup>1</sup>

<sup>1</sup>The University of Southern Mississippi, Hattiesburg, MS, USA, <sup>2</sup>Pine Biotechnology, Biloxi, MS, USA

**P2.14**

**Molecular Function Of Selenoproteins In *Rickettsia Parkeri* Survival Within The Tick Host**

Christine Beck<sup>1</sup>, Khemraj Budachetri<sup>2</sup>, Shahid Karim<sup>2</sup>

<sup>1</sup>MS INBRE REO, Delta State University, Cleveland, MS, USA, <sup>2</sup>University of Southern Mississippi, Hattiesburg, MS, USA

**P2.15**

***Rickettsia Parkeri* Induces Differential Protein Expression In *Amblyomma Maculatum***

Karthik Balamurugan, Gary Crispell, Shahid Karim

University of Southern Mississippi, Hattiesburg, MS, USA

**P2.16**

**Regulation Of *MsaB* Production From *MsaA* Operon In *Staphylococcus Aureus***

Sarah Simmons, Megan Mullis, Gyan Sahukhal, Mohamed Elasi

The University of Southern Mississippi, Hattiesburg

**P2.17**

**Role Of *MsaA* Operon On Antibiotic Treatment In *Staphylococcus Aureus* Biofilm**

Latoya Downs, Bina Jayana, Gyan Sahukhal, Mohamed Elasi

University of Southern Mississippi, Hattiesburg, MS, USA





**P2.18**

**A Role For Il-17 To Activate Cytolytic Nk Cells In Response To Placental Ischemia**

Taia McAfee<sup>2</sup>, Denise Cornelius<sup>1</sup>, D'Andrea Thomas<sup>2</sup>, Jamil Elfarrar<sup>3</sup>, Babbette Lamarca<sup>2</sup>

<sup>1</sup>Emergency Medicine, Jackson, MS, USA, <sup>2</sup>Pharmacology and Toxicology, Jackson, MS, USA, <sup>3</sup>Obstetrics and Gynecology, Jackson, MS, USA

**P2.19**

**ROLE OF Mir-205 AND Mir-31 IN REGULATING GENES IN BREAST CANCER METASTASIS**

Thuy Phuong Le, Krishna Vallabhaneni, Jason Whitt, Patrice Penfornis, Joseph Fernandes, Radhika Pochampally

Cancer Institute, University of Mississippi Medical Center, Jackson, Mississippi, USA

**P2.20**

**Chikungunya Virus Infection Induces Expression Of Osteopontin**

Victoria Reid<sup>1</sup>, Dhiraj Acharya<sup>2</sup>, Fengwei Bai<sup>2</sup>

<sup>1</sup>Mississippi Gulf Coast Community College Jeff Davis Campus, Gulfport, Ms, USA, <sup>2</sup>University of Southern Mississippi, Hattiesburg, Ms, USA

**P2.21**

**Urban Particulate Matter Inhibits Migration In Trophoblasts And Vascular Smooth Muscle Cells**

Douglas McLaurin, Heather Drummond

University of Mississippi Medical Center, Jackson, MS, USA

**P2.22**

**Rage Signaling Is Intersected By Rap1a Crosstalk In Fibroblasts From Diabetic Hearts**

Jia Zhao, Jaslyn Langford, James Stewart

Mississippi State University, Mississippi State, MS, USA

**P2.23**

**Effects Of Multiple Use Of Gel Electrophoresis And Electrotransfer Buffers On Immunoblotting**

Oluwabukola Omotola<sup>1</sup>, Rajiv Heda<sup>2</sup>, Jamie Avery-Holder<sup>1</sup>, Ghanshyam Heda<sup>1</sup>

<sup>1</sup>Mississippi University for Women, Columbus, USA, <sup>2</sup>Rhodes College, Memphis, USA

**P2.24**

**Environmental Factors That Affect Biofilm Formation In *Staphylococcus Epidermidis* Rp62a**

Victoria Reid, Jonathan Barrientos, Michelle Everett, Katherine Lindgren, M. Erin Riggins

Mississippi Gulf Coast Community College, Gulfport, MS, USA

**P2.25**

**Effects Of Alfalfa Extract On Mouse B Lymphocyte Hybridoma Cell Proliferation**

Brenton Breland, Hanna Broome

Mississippi College, Department of Biological Sciences, Clinton, MS, USA

**P2.26**

**Expanding The Repertoire Of Amino And Nucleic Acid Analogues**

Douglas Iverson, Crystal Serrano, Anthony Bell

The University of Southern Mississippi, Hattiesburg, MS, USA

**P2.27**

**3-Dimensional Co-Culture System: Effects Of Caffeine On Lumen-To-Enteric Neuron Signaling**

Hassaan Baig, John Piletz

Mississippi College, Clinton, MS, USA



**P2.28**

**Male Lays Eggs: Mate Preference, W-Linked Genes In Chimeric Zebra Finch Lineage.**

John Aaron Howell, Malcolm Barker-Kamps, Rebekah A. Cummins, Amy L. Hribar, Elizabeth Jenkins, Megan E. Jones, Roberto J. Perez, Hannah Wittchen, Chelsea Gann Vaculcik, Lainy B. Day  
*University of Mississippi, Oxford, MS, USA*

**P2.29**

**Effects Of Different Fetal Bovine Serum Sources On Hra-19 Cell Growth Characteristics**

Jennifer Drivon, William Meruvia, John Piletz  
*Mississippi College, Clinton, MS, USA*

**P2.30**

**Evaluation Of The Nuclease Resistance Of Novel Four-Way Junctions**

Tamara Bell<sup>2</sup>, Paul Stoulig III<sup>1</sup>, Sana Salongi<sup>1</sup>, Doug Iverson<sup>1</sup>, Crystal Serrano<sup>1</sup>, Anthony Bell<sup>1</sup>  
<sup>1</sup>*The University of Southern Mississippi, Hattiesburg, MS, USA*, <sup>2</sup>*Alcorn State University, Lorman, MS, USA*

**P2.31**

**Evaluation Of Cerebellar Neurosteroid Expression Of Several Bird Species (Manakins: Family Pipridae)**

William Ross, Malcolm Barker-Kamps, Hannah Wittchen, Willow Lindsay, Lainy Day  
*University of Mississippi, Oxford, MS, USA*

**P2.32**

**Growth Patterns Of Neuroblastoma Sh-Sy5y Cells Exposed To Different Growth Serum**

John Eisenga, William Meruvia, John Piletz  
*Mississippi College, Clinton, MS, USA*

**P2.33**

**Bves And Bcar3 Signaling Axis: Implications For Wnt And Rho Signal Integration**

Shenika Poindexter<sup>1</sup>, Caitlyn Barrett<sup>2</sup>, Bobak Parang<sup>2</sup>, Adam Learner<sup>3</sup>, Richard Near<sup>3</sup>, Christopher Williams<sup>2</sup>, Wei Ning<sup>2</sup>, Amber Bradley<sup>2</sup>  
<sup>1</sup>*Alcorn State University, Alcorn State, MS, USA*, <sup>2</sup>*Vanderbilt University, Nashville, TN, USA*, <sup>3</sup>*Boston University, Boston, MA, USA*

**P2.34**

**Agmatine, Decarboxylated Arginine, Is A Possible Gut Microbiota Signal To Enteric Neurons**

Jason Cooper, John Piletz  
*Mississippi College, Clinton, MS, USA*

**P2.35**

**Investigation Of Phospholipids As Novel Reagents To Isolate Labile Protein-Nucleic Acid Complexes**

Vaniecia Wilson, Jalisa Keys, Alexis Sanders, Andrea Phang, Douglas Iverson, Anthony Bell  
*The University of Southern Mississippi, Hattiesburg, MS, United States Minor Outlying Islands*

**P2.36**

**Persistent Organic Pollutants Increase Rage Signaling And Oxidative Stress In Diabetic Hearts**

Angie Harri, Barbara Kaplan, George Howell, James Stewart  
*Mississippi State University, Mississippi State, MS, USA*

**P2.37**

**Role Of Bves And Bcar3 In Colorectal Cancer**

DeAmber Doughty<sup>1</sup>, Shenika Poindexter<sup>1</sup>, Christopher Williams<sup>2</sup>  
<sup>1</sup>*Alcorn State University, Alcorn State, MS, USA*, <sup>2</sup>*Vanderbilt University, Nashville, TN, USA*



**P2.38**

**Role Of Msab And Cody In Regulation Of Capsule In *Staphylococcus Aureus***

Brittany Trunell, Justin Batte, Mohamed Elasri

*University of Southern Mississippi, Hattiesburg, MS, USA*

**P2.39**

**Mutagenesis Approach To Characterizing Rtg2p Function In *S. Cerevisiae***

Jian Jiang and Donna M. Gordon'

*Mississippi State University, Mississippi State*

(1) Ünlü, E, et al. (2013) FEMS Yeast Research 13(5): 495-503.

**Friday, February 19, 2016**

**Morning**

**TC214**

**8:15**

**O2.16 A Potential Role For Ttsnx4 In Macronuclear Degradation In *Tetrahymena Thermophila* Conjugation**

**8:30**

**O2.17 Regulation Of Biofilm Formation In The Entomopathogenic Bacterium *Xenorhabdus Nematophila***

Elizabeth Husa, Tilak Patel, Carlitos Fernandez

*Millsaps College, Millsaps College, USA*

**8:45**

**O2.18 Characterizing The Functional Roles Of Mir-1017**

Matthew de Cruz and Alex Flynt

*University of Southern Mississippi, Hattiesburg, Mississippi, USA*

**9:00**

**O2.19 Role Of *msaABCR* Operon In Cell Wall Biosynthesis In *Staphylococcus Aureus***

Bibek G C, Gyan S. Sahukhal, Mohamed O. Elasri

*University Of Southern Mississippi, Hattiesburg, MS, USA*

**9:15**

**O2.20 Msab And Cody Interactions On The Regulation Of Capsule In *Staphylococcus Aureus***

Justin Batte, Mohamed O. Elasri

*The University of Southern Mississippi, Hattiesburg, MS, USA*

**9:30**

**O2.21 Role Of *msaABCR* Operon In Development Of Persister Cells In *Staphylococcus Aureus***

Shanti Pandey, Gyan S. Sahukhal, Mohamed O. Elasri

*The University of Southern Mississippi, Hattiesburg, MS, USA*

**9:45**

**O2.22 Impact Of *msaABCR* Operon Deletion In Chronic Osteomyelitis Pathogenesis**

Gyan S. Sahukhal<sup>1</sup>, Michelle Tucci<sup>2</sup>, Gerri A. Wilson<sup>2</sup>, Hamed Benguzi<sup>2</sup>, Mohamed O. Elasri<sup>1</sup>

<sup>1</sup>*The University of Southern Mississippi, Hattiesburg, MS, USA*, <sup>2</sup>*University of Mississippi Medical Center, Jackson, MS, USA*



## Chemistry & Chemical Engineering

Chair: Dr. Fengxiang (Frank) Han, Jackson State University

Vice-Chair: Dr. Song Guo, The University of Southern Mississippi

Thursday, February 18, 2016

Morning

Room TCC 218B

8:00 Welcome

Session 1. Environmental Chemical Science, Chair Zikri Arslan

Invited Talk

O3.01

8:05 Sensing Of Anions By Artificial Hosts

8:25

O3.02 Adsorption Of Radionuclides And Heavy Metals By Mesosilica-Templated Nano Carbon And Novel Nano Magnetic Calix Compounds

Kai Guo, Fengxiang Han, Zikri Arslan, Rong Zhang, Hongtao Yu

Jackson State University, USA

8:40

O3.03 Organic Residue Analysis Of Archaeological Biomarkers And Implications Of Potential Degradation Products

Ardith Bravenec, Sara Barker, Amanda Kaminski, Co Quach, Trista Tian, Ha Lam, Ty Patterson, Timothy J. Ward

Millsaps College, USA

8:55

O3.04 Cnt-Bridged Grapheneoxide Membrane For Disinfection Of Pathogenicbacteria And Removal Of Toxicmetals Fromwater

Bhanu Priya Viraka Nellore<sup>1</sup>, Rajashekhar Kanchanapally<sup>1</sup>, Ashton T Hamme<sup>1</sup>, Dhiraj Sardar<sup>2</sup>, Paresh C. Ray<sup>1</sup>

<sup>1</sup>Jackson state university, USA, <sup>2</sup>University of Texas at San Antonio, USA

9:10

O3.05 Molecular Recognition Of Anions With Macrocycle And Its Dinuclear Copper Complex

Md Mhahabubur Rhaman<sup>1</sup>, Douglas R. Powell<sup>2</sup>, Md. Alamgir Hossain<sup>1</sup>

<sup>1</sup>Jackson State University, USA, <sup>2</sup>University of Oklahoma, USA

Session 2. Chemistry of Life Processes, Chair: Dr. Prasanta Das

Invited Talks

9:25

O3.06 N-Substituted Heteroaromatic Salts As Precursors Of Reactive Species

Wolfgang Kramer, Courtney Mullins, Melinda Solomon, Lauren Hoth, Anna Allred

Millsaps College, USA

9:45

O3.07 Flavonoids, The Polyhydroxy Compounds Against Nicotine Induced Damages: Molecular And Cellular Studies

Bidisha Sengupta<sup>1</sup>, Istvan Arany<sup>2</sup>

<sup>1</sup>Tougaloo College, USA, <sup>2</sup>The University of Mississippi Medical Center, USA

10:05 Break



10:15

**O3.08 Pyromellitimide Photochemistry**

Wolfgang Kramer<sup>1</sup>, Donya Razinoubakht<sup>1</sup>, Gurjit Kaur<sup>1</sup>, Axel Griesbeck<sup>2</sup>

<sup>1</sup>Millsaps College, USA, <sup>2</sup>University of Cologne, Germany

10:30

**O3.09 Theranostic Platform For Selective Two-Photon Imaging And Photothermal Killing Of Melanoma Cells**

Suhash Chavva, Christine Tchounwou, Sudarson Sinha, Paresh Ray

*Jackson State University, USA*

10:45

**O3.10 Synthesis And Catalytic Activity Of (R)-3-Methylpyrrolidine-3-Carboxylic Acid**

Shelby Dickerson, Douglas Masterson

*University of Southern Mississippi, USA*

11:00

**O3.11 Using Four Way Junctions To Elucidate The Role Of Hmgb1 In Apoptosis**

Alexis Sanders, Jalisa Keys, Crystal Seranno, Paul Stoulig, Vaniecia Wilson, Anthony Bell

*University of Southern Mississippi, USA*

11:15

**O3.12 Two-Photon Induced Long Range Spectroscopic-Ruler For Specific Detection Of Prostate Cancer Cell**

Sudarson S. Sinha, Paresh C. Ray

*Jackson State University, USA*

11:30

**O3.13 Zn(li)/H<sub>2</sub>O Mediated Mild And Unusual Transformation Of Propargyl N-Hydroxylamines To A,B-Unsaturated Ketones**

Prasanta Das, Ashton T. Hamme li

*Jackson State University, USA*

11:45

**O3.14 A Tunable And General Method For The Reduction Of Esters To Ethers**

Alison Hart

*University of Southern Mississippi, USA*

12:00- Business meeting

12:30-1:30 Lunch

Thursday, February 18, 2016

Afternoon

Session 3. Nano Sciences: Dr. Yongfeng Zhao

1:30

**O3.15 Illustrating The Heterogeneity Of Circulating Tumor Cells Using Multicolor Fluorescent-Magnetic Nanodots**

Paresh Ray, Avijit Pramanik, Sudarson Sinha, Aruna Vangara, Stacy Jones, Jasmine Burrell, Suhash Chavva, Yongliang Shi

*Jackson State University, USA*

1:50

**O3.16 Impact Of Ligands And Light Exposure On Solubility Of Silver Nanoparticles (AgNps)**

Zikri Arslan<sup>1</sup>, Husniye Imamoglu<sup>2</sup>, Ahmet Celik<sup>1</sup>, Oliva Premira-Pedrozo<sup>3</sup>, Mehmet Ates<sup>4</sup>, Ibrahim Farah<sup>1</sup>

<sup>1</sup>Jackson State University, USA, <sup>2</sup>Sabahattin Zaim University, Turkey, <sup>3</sup>Universidad Metropolitana, USA, <sup>4</sup>Tunceli University, Turkey



2:10

**O3.17 Synthesis Of Chelator Free Copper-64 Incorporated Gold Nanostructures For Cancer Imaging**

Yongfeng Zhao<sup>1</sup>, Yongjian Liu<sup>2</sup>

<sup>1</sup>Jackson State University, USA, <sup>2</sup>Washington University in St Louis, USA

2:30

**O3.18 Antibacterial Activity Of Antibiotics Combined With Metal Oxide Nanoparticles Against *Salmonella* Dt-104**

Thabiha P Shareena Dasari, Hongtao Yu

Jackson State University, USA

2:45

**O3.19 Synergistic Antibacterial Mechanism Of Silver Nanoparticles Combined With Traditional Antibiotics**

Hua Deng, Danielle McShan, Ying Zhang, Sudarson Sekhar Sinha, Zikri Arslan, Paresh Chandra Ray, Hongtao Yu

Department of Chemistry and Biochemistry, Jackson State University, USA

3:00

**O3.20 Investigation Of Electrospinning Novel Oxidized Alginate Nanofibers**

Kathryn Penton, William Weeks, Sharon Hamilton

Delta State University, USA

Thursday, February 26, 2015

3:30 Dodgen Lecture

Evening

Poster Session

Immediately Following Dodgen Lecture

P3.01

**Model And Doped Graphenes Interactions With Some P- And M-Substituted Nitrobenzene Compounds**

Md Mehedi Khan, Devashis Majumdar, Jerzy Leszczynski

Jackson State University, USA

P3.02

**Geochemical Characteristics Of Dissolved Strontium & Phosphorus In Estuarine Waters(Grand Bay Nerr)**

Jacqueline McComb, F.X. Han, Christian Rogers, Paul Tchounwou

Jackson State University, USA

P3.03

**Bioaccumulation Of Heavy Metal And Metalloid (*Crassostrea Virginica*) In Gulf Of Mexico**

Turquoise Perlot, Fengxiang Han, Paul Tchounwou, Zirki Arslan

Jackson State University, USA

P3.04

**Combination Effect Of Silver Nanoparticles And Commonly Used Antibiotics Against *E. Coli***

Denise Yancey-Gray, Shareena Dasari, Hongtao Yu

Jackson State University, Jackson, MS, USA

P3.05

**Effect Of Chain Numbers On Cytotoxicity Of Ammonium Surfactants As Nanoparticle Coating**

Ying Zhang, Salma Begum, Makiesha James, Hongtao Yu

Jackson State University, USA

P3.06

**Deacboxylative Photocyclization Of Pyromellitimide  $\Omega$ -Carboxylic Acids**

Donya Razinoubakht<sup>1</sup>, Gurjit Kaur<sup>1</sup>, Axel Griesbeck<sup>2</sup>, Wolfgang Kramer<sup>1</sup>

<sup>1</sup>Millsaps College, USA, <sup>2</sup>University of Cologne, Germany



**P3.07**

**Analysis Of The Dna-Cleaving Efficiencies And Mechanism Of Bifunctional Dna-Cleaving Reagents**

Leon Karekezi, Marcus Powell, Courtney Mullins, Lauren Hoth, Emily Stewart, Wolfgang Kramer  
*Millsaps College, USA*

**P3.08**

**Electrospinning Natural Polymer Fibers**

Kathryn Penton<sup>1</sup>, William Weeks<sup>1</sup>, Lucas Veide<sup>2</sup>, Sharon Hamilton<sup>1</sup>, Gisela Buschle-Diller<sup>2</sup>  
<sup>1</sup>*Delta State University, USA*, <sup>2</sup>*Auburn University, USA*

**P3.09**

**Characterizing Protein Adsorption To Gold Nanoparticles**

Mackenzie Davidson<sup>1</sup>, Karen Woods<sup>1</sup>, Chloe Wilks<sup>2</sup>, Nicholas Fitzkee<sup>1</sup>  
<sup>1</sup>*Mississippi State University, USA*, <sup>2</sup>*Vanderbilt University, USA*

**P3.10**

**Synthesis Of Tooth Anesthetic: (E) N-[2-(4-Methoxyphenyl)Ethyl-N-Methylcinnamamide**

Samuel Dasary<sup>1</sup>, Kwangyul Moon<sup>2</sup>, Precious Cooper<sup>1</sup>, Yunho Kim<sup>3</sup>, Ken Lee<sup>1</sup>  
<sup>1</sup>*Jackson State University, USA*, <sup>2</sup>*The University of Arkansas, USA*, <sup>3</sup>*The University of West Alabama, USA*

**P3.11**

**A Preliminary Analysis Of Phosphorus Fractionation In Surface Sediments Of Gdnerr**

Jacqueline Q. McComb, Stephanie L. Njemanze, Fengxiang X. Han  
*Jackson State University, USA*

**P3.12**

**3d Construction Of Go With Agnp And Its Application As Water Filter**

Hua Deng<sup>1</sup>, Ye Gao<sup>1</sup>, Jessica Douglas<sup>2</sup>, Paresh Chandra Ray<sup>1</sup>, Hongtao Yu<sup>1</sup>  
<sup>1</sup>*Department of Chemistry and Biochemistry, Jackson State University, USA*, <sup>2</sup>*School of Polymers and High Performance Materials, The University of Southern Mississippi, USA*

**P3.13**

**Fluorescence Quenching Of Different Dye Molecules By Silver Nanoparticles**

Hua Deng, Ye Gao, Md Mahabubur Rhaman, Paresh Chandra Ray, Hongtao Yu  
*Department of Chemistry and Biochemistry, Jackson State University, USA*

**P3.14**

**Analyses Of Fatty Acid Residues In Archeological Vessels By Gc-Ms**

Sara Barker, Amanda Kaminski, Ardith Bravenec, Co Quach, Trista Tian, Ha Lam, Ty Patterson, Timothy J. Ward  
*Millsaps College, USA*

**P3.15**

**Analyses Of Organic Residues As Biomarkers To Examine Ritualistic Practices**

Amanda Kaminski, Sara Barker, Ardith Bravenec, Co Quach, Trista Tian, Ha Lam, Ty Patterson, Timothy J. Ward  
*Millsaps College, USA*

**P3.16**

**Synthesis Of Cap-Analogue M<sup>7</sup>gpppa On Solid Beads For Selection Of Mrna-Cap Aptamers**

Krishna Sapkota, Joseph Spangler, Faqing Huang  
*The University of Southern Mississippi, USA*

**P3.17**

**Flavonoids, The Polyhydroxy Compounds Against Nicotine Induced Damages: Molecular And Cellular Studies**

Bidisha Sengupta<sup>1</sup>, Istvan Arany<sup>2</sup>  
<sup>1</sup>*Tougaloo College, USA*, <sup>2</sup>*The University of Mississippi Medical Center, USA*



**P3.18**

**Silver Nanoclusters As Luminescence Probes**

Lauryn Ashford, Willaim Gladney, Keith Cobb, Jr., Christa Corley, Bidisha Sengupta  
*Tougaloo College, USA*

**P3.19**

**Binding Of Flavonoids With Biomacromolecules: A Computational Study**

Jabari Jackson, Bidisha Sengupta  
*Tougaloo College, USA*

**P3.20**

**Silver Nanoclusters As Fluorescence Probes For Nicotine Induced Oxidative Stress**

Maria Muhammad, Corey Walters, Bidisha Sengupta  
*Tougaloo College, USA*

**P3.21**

**Relationship Between Increased Stereoselectivity Of Ple And Enhanced Substrate Hydrogen Bonding Ability**

Jacob Prueett, Vasu Srevatsan, Douglas Masterson, Hari Kotapati  
*The University of Southern Mississippi, USA*

**P3.22**

**Temperature Dependent Studies On Maug-Ligand Complexes**

Contesa Franklin, Joshua Cotton, Breland Crudup, Karien Dixon, Manliang Feng  
*Tougaloo College, USA*

**P3.23**

**Spatial patterns in vegetation characteristics and carbon storage ability Of The Grand Bay National Estuarine Research Reserve (Nerr), Mississippi, Usa**

Taimei Harris, Ranjani Kulawardhana, Eric Gullede, Fengxiang Han, Paul Tchounwou  
*Jackson State University, USA*

**P3.24**

**Cationic-Block-Hydrophilic Copolymers With Variable Hydrophilic Block Length For Complexation With Sirna**

Charles McCormick, Keith Parsons, William Martin  
*University of Southern Mississippi, USA*

**P3.25**

**The Development Of Calixarene Complex For The Adsorption Of Multi-Heavy Metal Cations**

Kai Guo, Fengxiang Han, Zikri Arslan, Ahmet Celik, Rong Zhang, Hongtao Yu  
*Jackson State University, USA*

**P3.26**

**Fluorescence Imaging Of Mrsa Using Carboxylic Acid Edging Planar Surface Graphene Quantum Dots**

Salma Begum, Suhash Reddy Chavva, Avijit Pramanik, Paresh C. Ray  
*Jackson State University, USA*

**P3.27**

**Colorimetric And Optical Discrimination Of Halides By A Simple Chemosensor**

Syed Haque<sup>1</sup>, Bryan Wong<sup>2</sup>, Md. Alamgir Hossain<sup>1</sup>  
<sup>1</sup>*Jackson State University, USA*, <sup>2</sup>*University of California, USA*

**P3.28**

**Anthropogenic Istopic Distribution In The Vicinity Of Grand Gulf Nuclear Plant**

Jermiah Billa<sup>1</sup>, Fengxiang Han<sup>2</sup>, Hongtao Yu<sup>2</sup>, Kenneth Gibson<sup>1</sup>, Joseph Dimpah<sup>1</sup>, Steve Adzanu<sup>1</sup>  
<sup>1</sup>*Alcorn State University, USA*, <sup>2</sup>*Jackson State University, USA*





**P3.29**

**Characterization Of Transport And Thermal Properties Of Pure Mepegn Polymers And Copolymers**

Buddhika Liyanage, Jason Ritchie  
*University of Mississippi, USA*

**P3.30**

**Computational Study On The Binding Energy Between Selected Cephalosporins And Maa**

Chelsea Chaves, Julia Saloni, Glake Hill  
*Jackson State University, USA*

**P3.31**

**Sulfonamide-Based Dipodal Receptors For Anion Binding**

Mohammed Ibrahim<sup>1</sup>, Afsana Jahan<sup>2</sup>, Syed A Haque<sup>2</sup>, Almagir Hossain<sup>2</sup>  
<sup>1</sup>*Ridgeland high School, USA*, <sup>2</sup>*Department of Chemistry and Biochemistry, Jackson State University, USA*

**P3.32**

**Radiation Dose From Consumption Of Locally Produced Catfish**

Shimi Didla<sup>1</sup>, Girish Panicker<sup>2</sup>, Jermiah Billa<sup>1</sup>, Fengxiang Han<sup>3</sup>, Keisha Queen<sup>1</sup>, Santhosh Kanaganti<sup>1</sup>  
<sup>1</sup>*Advanced Technologies, Alcorn State University, USA*, <sup>2</sup>*Conservation Research Center, Alcorn State University, USA*,

**P3.33**

**Radioactivity Levels In Soils Collected Near A Potash Fertilizer Manufacturing Facility**

Michael Atkins<sup>1</sup>, Jermiah Billa<sup>1</sup>, Fengxiang Han<sup>3</sup>, Girish Panicker<sup>2</sup>, Cherish Burrell<sup>1</sup>, Jakeria Bailey<sup>1</sup>, Oluwafemi Oloko<sup>1</sup>  
<sup>1</sup>*Advanced Technologies, Alcorn State University, USA*, <sup>2</sup>*Conservation Research Center, Alcorn State University, USA*,  
<sup>3</sup>*Department of Chemistry, Jackson State University, USA*

**P3.34**

**Istopic Transfer Factor Of Istopes In Selected Vegetation**

Jermiah Billa<sup>1</sup>, Girish Panicker<sup>2</sup>, Fengxiang Han<sup>3</sup>, Steve Adzanu<sup>1</sup>, Obed Brempong<sup>1</sup>, Elecia Harris<sup>1</sup>, Antonnie Giddings<sup>1</sup>, Mahesh Katakam<sup>1</sup>  
<sup>1</sup>*Advanced Technologies, Alcorn State University, USA*, <sup>2</sup>*Conservation Research Center, Alcorn State University, USA*,  
<sup>3</sup>*Department of Chemistry, Jackson State University, USA*

**P3.35**

**Synthesis And Binding Evaluation Of A 4-(Methylthio)Phenyl-Based Thiourea Tripodal Receptor For Anions**

Corey Johnson, and Md. Alamgir Hossain  
*Jackson State University, USA*

**P3.36**

**Sulfate Binding With A Novel Hexafunctional Urea-Based Receptor**

Bobby Portis, Maryam Emami Khansari, Md. Alamgir Hossain  
*Jackson State University, USA*

**P3.37**

**Rapid, Simple Synthesis Of Gold Nanoclusters As Probes For Mercury(Ii) Detection**

Stacy Jones, Paresh Ray  
*Jackson State University, USA*

**P3.38**

**Chemical Vapor Generation For Sensitive Detection Of Uranium And Thorium**

Ahmet Celik<sup>1</sup>, Vedat Yilmaz<sup>2</sup>, Zikri Arslan<sup>1</sup>  
<sup>1</sup>*Jackson State University, USA*, <sup>2</sup>*Erciyes University, Turkey*



Mississippi Academy of Sciences, Eightieth Annual Meeting

**P3.39**

**Raman Spectroscopic And Electrochemical Studies On Blue Copper Protein Amicyanin**

Breland Crudup Crudup, Contesa Franklin Franklin, Manliang Feng Feng

*Tougaloo College, USA*

**P3.40**

**Coprecipitation Of Cadmium Impurities From Multivitamin Tablets And Determination By Id-Icp-MS**

Robert Washington<sup>1</sup>, Ahmet Celik<sup>1</sup>, Jeremy White<sup>1</sup>, Vedat Yilmaz<sup>2</sup>, Zikri Arslan<sup>1</sup>

<sup>1</sup>Jackson State University, USA, <sup>2</sup>Erciyes University, Turkey

**P3.41**

**Novel Ion-Imprinted Polymer For Selective Solid Phase Extraction Cadmium From Saline Matrices**

Vedat Yilmaz<sup>2</sup>, Hayriye Yilmaz<sup>2</sup>, Zikri Arslan<sup>1</sup>, Jerzy Leszczynski<sup>1</sup>

<sup>1</sup>Erciyes University, Turkey, <sup>2</sup>Jackson State University, USA

**P3.42**

**Theoretical Calculation Of The C-H Quantum Vibrational Energies In Hydrogen Cyanide**

Kathryn Penton, Joseph Bentley

*Delta State University, USA*

**Friday, February 19, 2016**

**Morning**

**Room TC 218B**

**Session 4. Computation, Polymer, Energy Chemistry and Biogeochemistry. Chair: Dr. Song Guo**

**7:55 Welcome**

**8:00**

**O3.21 Accelerated Dynamics Of Stress Relaxation In A Bead-Spring Elastomer**

Gopinath Subramanian

*University of Southern Mississippi, USA*

**8:20**

**O3.22 Molecular Imprinting Of Penicillin -A Computational Study**

Julia Saloni

*Jackson State University, USA*

**8:40**

**O3.23 Reaction Mechanism On Generalized Force Modified Potential Energy Surfaces For Diels-Alder Reaction**

Sanjiv Jha<sup>1</sup>, Katie Brown<sup>2</sup>, Gopinath Subramanian<sup>1</sup>

<sup>1</sup>University of Southern Mississippi, USA, <sup>2</sup>Auburn University, USA

**8:55**

**O3.24 Synthesis And Characterization Of Carbon Quantum Dots With Varying Amounts Of Nitrogen**

Stacy Jones, Paresh Ray

*Jackson State University, USA*

**9:10**

**O3.25 Kinetics Study On The Redox Reaction Involving Conjugated Polymers**

Lindsey Bonnette, Frederick McFarland, Song Guo

*University of Southern Mississippi, USA*



Mississippi Academy of Sciences, Eightieth Annual Meeting

9:25

**03.26 Doping-Induced Molecular Packing Of Conjugated Polymers**

Frederick McFarland<sup>1</sup>, Lindsey Bonnet<sup>1</sup>, Benjamin Brickson<sup>2</sup>, Song Guo<sup>1</sup>

<sup>1</sup>University of Southern Mississippi, USA, <sup>2</sup>Petal High School, USA

9:40

**03.27 Study Of Ternary Nanocatalysts For Direct Formic Acid Fuel Cells**

Tamanna Shanta, Wujian Miao

The University Of Southern Mississippi, USA

9:55

**03.28 Cobalt Polyoxometalates As Co-Catalysts For Solar Hydrogen Evolution With Copper Selenide Photocathodes**

Arun Siddarth Sridhar, Wujian Miao

The University of Southern Mississippi, USA

10:10 Break

10:20

**03.29 Electrogenerated Chemiluminescence Of Sulfonated-9,10-Diphenylanthracene And Rubrene In Aqueous With Nitrate Enhancing Agent**

Pradip Bastola, Wujian Miao

The University of Southern Mississippi, USA

10:35

**03.30 Thiol-Ene Polymer Microbeads Prepared Via Suspension Photopolymerization And Used As Heterogeneous Photocatalysts**

Emily M. Barker, J. Paige Buchanan

The University of Southern Mississippi, USA

10:50

**03.31 Effect Of Multi-Walled Carbon Nanotubes On The Electrogenerated Chemiluminescence Of Quantum Dots**

Yiliyasi Wusimanjiang, Wujian Miao

The University of Southern Mississippi, USA

11:05

**03.32 Dissolved Strontium And Phosphorus In Estuarine Waters Of Grand Bay Nerr**

Jacqueline McComb, Fengxiang Han, Christian Rogers, Paul Tchounwou

Jackson State University, USA

11: 20

**03.33 Biogeochemistry Of Grand Bay National Estuarine Reserve In The Gulf Of Mexico**

Fengxiang Han, Jacqueline McComb, Eric Gulledege, Turquoise Perlote, Taimei Harris, Christian Rogers, Paul Tchounwou, Ranjani Kulawardhana

Jackson State University, USA

Student Award Presentation

**Student oral and poster awards are sponsored by the Department of Chemistry and Biochemistry, Jackson State University**



## Ecology & Evolutionary Biology

Chair: Dr. Elgenaid Hamadain, University of Mississippi Medical Center

Vice-Chair: Dr. AHM Ali Reza, Delta State University

Thursday, February 18, 2016

Evening

3:00-7:00 Awards, Dodgen Lecture, Reception & Poster Session

P4.01

**Survey Of Central Mississippi Soils For Entomopathogenic Nematode Species**

Tara Rickman, Elizabeth Hussa,

*Millsaps College, Jackson, MS, USA*

P4.02

**Wetland Changes And Significance To C Storage At Grand Bay Nerr**

Eric Gulledge, Ranjani Kulawardhana, Taimei Harris

*Jackson State University, Jackson, MS, USA*

P4.03

**Spatial Patterns Invegetation Characteristics And Carbon Storageability Of The Grand Bay National Estuarine Research Reserve (Nerr), Mississippi, Usa**

Taimei Harris, Ranjani Kulawardhana, Eric Gulledge, Fengxiang Han, Paul Tchounwou

*Jackson State University, Jackson, MS, USA*

P4.04

**Habitat Use And Food Habits Of Coyote In Dahomey Wildlife Refuge, Mississippi**

AHM Ali Reza, Shawnee Gundry, Megan Clark

*Delta State University, Cleveland, MS, USA*

P4.05

**Webster's Salamander (*Plethodon Websteri*) Occurrence In Legion State Park, Winston County, Ms**

Luke Mcdonald<sup>1</sup>, Jeanne Jones<sup>1</sup>, Tom Mann<sup>2</sup>, Nicole Hodges<sup>1</sup>

<sup>1</sup>*Mississippi State University, Mississippi State, MS, USA* <sup>2</sup>*mississippi Natural Science Museum, Dept Of Wildlife, Fisheries, And Parks, Jackson, MS, USA*

P4.06

**Comparision Of Antibiotic Resistance Between Barataria Bay, La, And Sarasota Bay, Fl**

Shuo Shen, D.Jay Grimes

*University of Southern Mississippi GCRL, Ocean Springs, MS, USA*

P4.07

**Storm Drain Study On Delta State University Campus, Cleveland, Mississippi**

Britney Boles, Kendal Davis, Katie Huff, Jarrette Cooper, Regina Horne, Emily Bodin, Nina Baghai-Riding

*Delta State University, Cleveland, MS, USA*

P4.08

**Carbon Dioxide/Leaf Peel Study For Three Plant Species In The Mississippi Delta**

Emily Bodin, Megan Clark, Shawnee Gundry, Ashley Mrozinski, Tyler Toole, Tara Willingham, Nina Baghai-Riding, *Delta State University, Cleveland, MS, USA*



**P4.09**

**Females Influence Brain Evolution; Arcopallium Volume And Display Complexity In Manakins**

Wilson Helmhout, Glendin Pano, Steven R. Wilkening, Willow R. Lindsay, Lainy B. Day  
*University of Mississippi, University, MS, USA*

**P4.10**

**An Analysis Of A Palynological Sample From The Bucatunna Formation, Southwestern Alabama.**

Nina Baghai-Riding<sup>1</sup>, Kendal Davis<sup>1</sup>, Brian AxSmith<sup>2</sup>  
<sup>1</sup>*Delta State University, Cleveland, MS, USA*, <sup>2</sup>*University of Southern Alabama, Mobile, Alabama, USA*

**P4.11**

**Seasonal Migration Of Webster's Salamanders To And From Rock Outcrop Refugia**

Thomas Mann<sup>1</sup>, Deborah Mann<sup>0</sup> <sup>1</sup>*Mississippi Museum of Natural Science, Jackson, MS, USA*, <sup>2</sup>*Millsaps College, Jackson, MS, USA*

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## **Geology & Geography**

Chair: Dr. Stan Galicki, *Millsaps College*

Vice-Chair: Dr. Zachary Musselman, *Millsaps College*

**Thursday, February 18, 2016**

**Morning**

**Union Room D**

**8:00**

**O5.01 The Geology Of Mississippi Release By University Press Of Mississippi And Mdeq**

David T. Dockery III<sup>1</sup>, David E. Thompson<sup>2</sup>  
<sup>1</sup>*MDEQ Office of Geology, Mississippi, United States*, <sup>2</sup>*Plum Creek Timber Company, Mississippi, United States*

**8:20**

**O5.02 Vadose-Zone Wells: A Potential Strategy For Enhancing Recharge In The Mississippi Delta**

Andrew O'Reilly  
*University of Mississippi, Mississippi, United States*

**8:40**

**O5.03 The Late Cretaceous To Late Oligocene Detrital Chert Hiatus Of Mississippi**

James Starnes  
*Mississippi Office of Geology, Mississippi, United States*

**9:00**

**O5.04 IRON ORE PROSPECTING AND MINING IN MISSISSIPPI**

Michael B. E. Bograd<sup>1</sup>, David Ray Williamson<sup>2</sup>  
<sup>1</sup>*MDEQ Office of Geology, Mississippi, United States*, <sup>2</sup>*Cardno, Louisiana, United States*

**9:20 Break**

**9:40**

**O5.05 Analyzing Temporal Bank Erosion In Eubanks Creek, Jackson, Ms**

Theresa Woehnker, Zachary Musselman  
*Millsaps College, Mississippi, United States*

**10:00**

**O5.06 Distribution Of Heavy Metals In Sediment Of The Ross Barnett Reservoir, Mississippi**

Fabio Ntagwabira, Stan Galicki  
*Millsaps College, Mississippi, United States*



10:20

**05.07 Depositional Systems Analyses Of The Sparta Aquifer In Mississippi**

Robert T. Berry

*Office of Geology, Mississippi Department of Environmental Quality, Mississippi, United States*

10:40

**05.08 Lidar Applications For Sediment Transport Along The Ms-AI Barrier Island Chain**

Eve Eisemann, Maarten Buijsman, Zachary Grimes, Davin Wallace

*University of Southern Mississippi, Mississippi, United States*

**11:00 Business Meeting**

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## Health Sciences

Co-Chair: Dr. Olga McDaniel, MT, PhD., University of Mississippi Medical Center

Co-Chair: Dr. Jana Bagwell, MLS (ASCP)<sup>cm</sup>, University of Mississippi Medical Center

Vice-Chair: Dr. Amy Radican-Wald, DrPH(c), Center for Mississippi Health Policy

Vice-Chair: Dr. George Moll, MD, University of Mississippi Medical Center

**Thursday, February 18, 2016**

**Morning**

**TCC Room 210**

**Thursday, February 18, 2016**

**MORNING**

**TC Room 210**

**Population Health Session I**

Moderator, Amy Radican-Wald, DrPh(c) Center for Mississippi Health Policy

8:15

**06.01 Effect Of An 11-Lecture Electrocardiography Course On Residents' Ability To Interpret ECGs**

Owen Ulmer and Tom Milhorn

*EC-Healthnet Family Medicine Residency Program, Meridian, Mississippi, United States*

8:30

**06.02 Ethnic Difference In Prevalence Of Depression With Socio-Demographics In Mississippi**

Ram Lakhani

*Jackson State University, Jackson, Mississippi, United States*

8:45

**06.03 A Multidisciplinary Approach To Improving Perioperative Care Of Newborns**

Gerri Wilson, Madhankumar Sathyamoorthy, Thurman Robertson, Jakayla Harrell, Penni Lowrey, Melanie Ellis, Jagdish Desai, and Sajani Tipnis

*University of Mississippi Medical Center, Jackson, Mississippi, United States*

9:00

**06.04 Perspectives Of Asthma Health In Mississippi With Spatial And Statistical Approach**

Swatantra Kethireddy

*Mississippi Valley State University, Itta Bena, Mississippi, United States*

9:15

**06.05 Mobile Device Use While Driving And Estimated Policy Impacts In Mississippi**

Amy Radican-Wald

*Center for Mississippi Health Policy, Jackson, Mississippi, United States*



**Clinical/Science Technology Session II**

Moderator, Jana Bagwell, MLS(ASCP)<sup>cm</sup> University of Mississippi Medical Center  
Room 218A

**8:15**

**O6.06 maternal Vertical Sleeve Gastrectomy Results In Reduced Maternal-Fetal Barrier During Gestation**

Bernadette Grayson, William Lawson, Redin Spann, Austin Zamarripa, Bernice Enns, Michael Garrett, and Gene Bidwell  
*University of Mississippi Medical Center, Jackson, Mississippi, United States*

**8:30**

**O6.07 Comparative Antioxidants Effect In Two Ovarian Carcinoma Cell Lines Measuring Potential Biomarkers**

Jennifer Harpole, Michelle Tucci, and Hamed Benghuzzi  
*University of Mississippi Medical Center, Jackson, Mississippi, United States*

**8:45**

**O6.08 Incap Prostate Cancer Cell Theranostics Using Antibody And Aptamer Modified Gold Nanoprobes**

Santanu Banerjee  
*Tougaloo College, Tougaloo, Mississippi, United States*

**9:00**

**O6.09 androgens Influence Neovascularization And Fibroblast Behavior In The Tissue-Implant Response**

Kenneth Butler<sup>1,2</sup>, Hamed Benghuzzi<sup>1</sup>, Michelle Tucci<sup>1</sup>, Aaron Puckett<sup>1</sup>  
*<sup>1</sup>University of Mississippi Medical Center, Jackson, Mississippi, United States, <sup>2</sup>Mississippi College, Clinton, Mississippi, United States*

**9:15**

**O6.10 hop Plant Extract Xanthohumol Inhibits Leukemia Via P21<sup>waf1/Cip1</sup> Gene**

Maricica Pacurari, Nekeisha Walker  
*Jackson State University, Jackson, Mississippi, United States*

**09:30 Break**

**Thursday February 18, 2016**

**Morning**

**Room TC Ballroom II/III**

**10:00 Plenary Session**

**“Gift of Life – Organ Transplantation”**

**11:45 Health Science Division Business Meeting**

**12:00 -1:00 General Sessions**

**3:30-Awards and Recognition and Dodgen Lecture**

**Evening**

**Dodgen Poster Session**

**Room Ballroom II/III**

**P6.01**

**Investigating The Effect Of Selective Serotonin Reuptake Inhibitors And Antidiabetic Drugs On Cardiomyocytes**

Shana Nelson, Gerri Wilson, Michelle Tucci, and Hamed Benghuzzi  
*University of Mississippi Medical Center, Jackson, Mississippi, United States*



**P6.02**

**Effect Of Combination Treatments Of Epigallocatechin-3-Gallate, Thymoquinone, And 5-Fluorouracil On Fadu Cells**

Sharita Williams, Michelle Tucci, and Hamed Benghuzzi

*University of Mississippi Medical Center, Jackson, Mississippi, United States*

**P6.03**

**Novel Signatures Of Microbiome In Chronic Alcohol Consumption Monkeys**

Xiao Zhang<sup>1</sup>, Koji Yasuda<sup>2</sup>, Donna Platt<sup>1</sup>, Eric Vallender<sup>1</sup>

*<sup>1</sup>University of Mississippi Medical Center, Jackson, Mississippi, United States, <sup>2</sup>Harvard Medical School, Southborough, Massachusetts, United States*

**P6.04**

**Modelling Alcohol Relapse In Rodents**

Cassie Chandler, Jaren Reeves-Darby, Sherman Jones, and Donna Platt

*University of Mississippi Medical Center, Jackson, Mississippi, United States*

**P6.05**

**Targeted Combination Strategy For Prostate Cancer Using Prostate-Specific Pten Knockout Mice**

Nasir Butt<sup>1</sup>, Swati Dhar<sup>1</sup>, Avinash Kumar<sup>1</sup>, Agnes Rimando<sup>2</sup>, Xu Zhang<sup>1</sup>, Anait Levenson<sup>1</sup>

*<sup>1</sup>University of Mississippi Medical Center, Jackson, Mississippi, United States, <sup>2</sup>United States Department of Agriculture, Oxford, Mississippi, United States*

**P6.06**

**Obesity-Related Gene Expression In The Developing Rat Placenta**

Danielle Porter and Bernadette Grayson

*University of Mississippi Medical Center, Jackson, Mississippi, United States*

**P6.07**

**The Effects Of Troglitazone And Egcg On Panc-1 Cell Survival**

Victoria Doyne, Michelle Tucci, and Hamed Benghuzzi

*University of Mississippi Medical Center, Jackson, Mississippi, United States*

**P6.08**

**The Effect Of Dry Needling On Pain: A Systematic Review**

A Jones, N Buckalew, L Hood, S Lin, D Mittwede, A Shores, and F Adah

*University of Mississippi Medical Center, Jackson, Mississippi, United States*

**P6.09**

**Diffuse Bullous Rash In A 13 Month Old Female: A Case Report**

Asma Butt and Robert Eubanks

*University of Mississippi Medical Center, Jackson, Mississippi, United States*

**P6.10**

**Cellular Glycolysis And The Differential Survival Of Fibroblast And Lung Carcinoma Cell Lines**

Ibrahim Farah, Veshell Lewis, and Zikri Arslan

*Jackson State University, Jackson, Mississippi, United States*

**P6.11**

**Altered Serotonin Expressing Axon Length In Orbitofrontal Cortex With Age In Depression**

Gouri Mahajan<sup>1</sup>, Beata Legutko<sup>1</sup>, Warren May<sup>1</sup>, David Steffens<sup>2</sup>, Craig Stockmeier<sup>1</sup>, Grazyna Rajkowska<sup>1</sup>

*<sup>1</sup>University of Mississippi Medical Center, Jackson, Mississippi, United States, <sup>2</sup>Department of Psychiatry, University of Connecticut, Farmington, Connecticut, United States*





**P6.12**

**Inhibition Trpv4 To Attenuate Immune Activation Following Spinal Cord Injury**

Raymond Grill

*University of Mississippi Medical Center, Jackson, Mississippi, United States*

**P6.13**

**Thiamine: Treatment In Pyruvate Dehydrogenase Deficiency**

Carolyn Glendye, Mary McLeod, and David Gilliam

*University of Mississippi Medical Center, Jackson, Mississippi, United States*

**P6.14**

**Fibroblast Populations Are Influenced By Amino Acid Coated Uhmw-Pe When Implanted Subcutaneously**

Kenneth Butler<sup>1,2</sup>, Hamed Benghuzzi<sup>1</sup>, Michelle Tucci<sup>1</sup>, Aaron Puckett<sup>1</sup>

*<sup>1</sup>University of Mississippi Medical Center, Jackson, Mississippi, United States, <sup>2</sup>Mississippi College, Clinton, Mississippi, USA*

**P6.15**

**Near Instant Bone Density Analysis Of Spine Using Unenhanced Or Contrast-Enhanced Ct-Images**

Andrew Smith<sup>1</sup>, ThuyVi Nguyen<sup>2</sup>, Xu Zhang<sup>1</sup>

*<sup>1</sup>University of Mississippi Medical Center, Jackson, Mississippi, United States, <sup>2</sup>University of Southern Mississippi, Hattiesburg, Mississippi, United States*

**P6.16**

**Associations Between The Sleep Of Children With Adhd And Their Mothers**

Elizabeth Thorne and Lori Staton

*Mississippi State University, Mississippi State, Mississippi, United States*

**P6.17**

**Building The Evidence To Inform Dental Public Health Policy In Mississippi**

Elizabeth Carr, Jessica Bailey, Bettina Beech, and Denise Krause

*University of Mississippi Medical Center, Jackson, Mississippi, United States*

**P6.18**

**Analysis Of Restorative Dental Materials On The Architectural Integrity Of Gingival Fibroblasts**

Angelia Garner, Hamed Benghuzzi, and Michelle Tucci

*University of Mississippi Medical Center, Jackson, Mississippi, United States*

**P6.19**

**Tougaloo College Let's Get It! Program**

Sandra Hayes, Gary Anderson, Joshua Knox, Hussain Al-Fadhli, and Kristen Harris

*Tougaloo College, Tougaloo, Mississippi, United States*

**P6.20**

**Social Support Among Women Enrolled In Tougaloo College's Healthy Start Program**

Sandra Hayes, Arletha Howard, Carol Mack, and John Bierma

*Tougaloo College, Tougaloo, Mississippi, United States*

**P6.21**

**Starvation Induces Polycystic Ovarian Syndrome (Pcos)-Like Disease In Drosophila Melanogaster**

Kaylon Touchstone, Ashley Pickering, and Stephanie Carmicle

*Mississippi College, Clinton, Mississippi, United States*



Mississippi Academy of Sciences, Eightieth Annual Meeting

Friday, February 19, 2016

Morning

TC 210

**Basic Science Section III**

Moderator, Larry McDaniel, PhD Professor of Microbiology and Immunology University of Mississippi Medical Center

8:15

**O6.11 Trichomonas Vaginalis Virus Characterization**

Cory Toyota<sup>1</sup>, Stephen Stray<sup>2</sup>, John Meade<sup>2</sup>

<sup>1</sup>Millsaps College, Jackson, Mississippi, United States, <sup>2</sup>University of Mississippi Medical Center, Jackson, Mississippi, United States

8:30

**O6.12 The Emerging Pathogen Nonencapsulated Streptococcus Pneumoniae: Chronic Adenoiditis In A Young Child**

Cheshil Dixit and Larry McDaniel

University of Mississippi Medical Center, Jackson, Mississippi, United States

8:45

**O6.13 Vitamin D Enhancement Of Diabetes Mellitus Type 1 Control In Pre-Puberty Children**

Teresa Moll and George Moll

University of Mississippi Medical Center, Jackson, Mississippi, United States

9:00

**O6.14 A Novel Maternally Restricted Pro-Angiogenic Therapeutic For Preeclampsia**

Eric George, Gene Bidwell, Heather Chapman, Fakhri Mahdi, and Omar Logue

University of Mississippi Medical Center, Jackson, Mississippi, United States

Friday, February 19, 2016

Morning

TC 229

**Basic/Clinical Applied Session IV:**

Moderator, Olga McDaniel, MT PhD Professor of Surgery University of Mississippi Medical Center

8:15

**O6.15 Time-Dependent Expression Of Molecular Markers In Trauma Induced Clinical Complications As Sepsis**

Benita Williams<sup>1</sup>, Sara Martin-Robertson<sup>2</sup>, Kenneth Vick<sup>1</sup>, Bashar Ghosheh<sup>1</sup>, Laura Vick<sup>1</sup>, Gregory Timberlack<sup>1</sup>, and D. Olga McDaniel<sup>1</sup>

<sup>1</sup>University of Mississippi Medical Center, Jackson, Mississippi, United States, <sup>2</sup>University of Arkansas Medical Center, Little Rock, Arkansas, United States

8:30

**O6.16 An Analysis Of Challenges And Opportunities For Improving Healthcareaccess In Hattiesburg**

LaQuandra Anderson<sup>1</sup>, D'Angela Smith<sup>2</sup>, Kennedy Clark<sup>3</sup>, Antwan Nicholson<sup>4</sup>

<sup>1</sup>Alcorn State University, Lorman, Mississippi, United States, <sup>2</sup>Tougaloo, Jackson, Mississippi, United States, <sup>3</sup>University of Mississippi, Oxford, Mississippi, United States, <sup>4</sup>My Brother's Keeper, Inc., Ridgeland, Mississippi, United States

8:45

**O6.17 Expression Profile Of Inflammatory Markers Associated With Allograft Outcome After Kidney Transplantation**

Montianah Roseburgh<sup>1</sup>, Joel Duff<sup>2</sup>, Corey W. Sivils<sup>2</sup>, Akshay Bangale<sup>2</sup>, Jack Neill<sup>2</sup>, Fauzia Butt<sup>2</sup>, Christopher Anderson<sup>2</sup>, T. Mark Earl<sup>2</sup>, and Olga McDaniel<sup>2</sup>

<sup>1</sup>Jackson State University, Jackson, Mississippi, United States, <sup>2</sup>University of Mississippi Medical Center, Jackson, Mississippi, United States



9:00

**O6.18 Inhibition Trpv4 To Attenuate Immune Activation Following Spinal Cord Injury**

Raymond Grill

*University of Mississippi Medical Center, Jackson, Mississippi, United States*

9:30 Break

9:45 Poster Session II

P6.22

**Advanced Ct Image Analysis Of Diffuse Liver Disease**

Faizan Tahir, Andrew Smith, and Russell Roberts

*University of Mississippi Medical Center, Jackson, Mississippi, United States*

P6.23

**Application Of The Diversity Index To Educational Environments**

Nia Sims<sup>2</sup>, Ralph Didlake<sup>1</sup>

*<sup>1</sup>University of Mississippi Medical Center, Jackson, Mississippi, United States, <sup>2</sup>Mississippi State University, Starkville, Mississippi, United States*

P6.24

**Cloning And Expression Of Htra Protease From Streptococcus Oralis**

Charles Davis<sup>1</sup>, Mary Marquart<sup>2</sup>

*<sup>1</sup>Murrah High School, Jackson, Mississippi, United States, <sup>2</sup>University of Mississippi Medical Center, Jackson, Mississippi, United States*

P6.25

**Protease Activity Of A Viridans Group Streptococcus Clinical Endophthalmitis Strain**

Brenden Davis<sup>1</sup>, Mary Marquart<sup>2</sup>

*<sup>1</sup>Murrah High School, Jackson, Mississippi, United States, <sup>2</sup>University of Mississippi Medical Center, Jackson, Mississippi, United States*

P6.26

**Identifying Novel Virulence Genes Of Nonencapsulated Streptococcus Pneumoniae**

Aaron Blocker, Haley Pipkins, Jessica Bradshaw, and Larry McDaniel

*University of Mississippi Medical Center, Jackson, Mississippi, United States*

P6.27

**Color Enhanced Detection (Ced) For Ct Angiographic Imaging In Acute Ischemic Stroke**

Alana Kron<sup>1</sup>, Anusha Chinthaparthi<sup>1</sup>, Nisha Swaminathan<sup>1</sup>, Majid Kahn<sup>1</sup>, Patrick Farley<sup>1</sup>, Jason Bryan<sup>3</sup>, Amit Vasanji<sup>3</sup>, Seth Lirette<sup>2</sup>, Michael Griswold<sup>2</sup>, Andrew Smith<sup>1</sup>

*<sup>1</sup>Department of Radiology, University of Mississippi Medical Center, Jackson, Mississippi, United States,, <sup>2</sup>Center of Biostatistics and Bioinformatics, University of Mississippi Medical Center, Jackson, Mississippi, United States, <sup>3</sup>ImagelQ, Cleveland, Ohio, United States*

P6.28

**Effects Of Eta Blockade On Renal Injury Associated With Obesity**

Ashley Szabo-Johnson<sup>1</sup>, Lateia Taylor<sup>2</sup>, Kasi McPherson<sup>2</sup>, Jan Michael Williams<sup>2</sup>

*<sup>1</sup>Murrah High School, Jackson, Mississippi, United States, <sup>2</sup>University of Mississippi Medical Center, Jackson, Mississippi, United States*

P6.29

**Quantitative Ct Imaging Tumor Response Biomarker Validation**

Davesha Doty and Andrew Smith

*University of Mississippi Medical Center, Jackson, Mississippi, United States*



**P6.30**

**The Effect Of Thymoquinone, Blackseed's Active Ingredient, On Pancreatic Cancer Cell Number**

Joseph Neyland, Gerri Wilson, Michelle Tucci, and Ham Benghuzzi

*University of Mississippi Medical Center, Jackson, Mississippi, United States*

**P6.31**

**Is Access To Healthy Food Enough To Achieve An Overall Wellness?**

Christyna Mangum

*Mississippi State University, Starkville, Mississippi, United States*

**P6.32**

**The Effects Of Cumin Bioactive Thymoquinone On Nasopharyngeal Carcinoma Squamous Cell Growth**

Amirrah Watson<sup>1</sup>, Gerri Wilson<sup>2</sup>, Michelle Tucci<sup>2</sup>, Ham Benghuzzi<sup>2</sup>

*<sup>1</sup>William B. Murrah High School, Jackson, Mississippi, United States, <sup>2</sup>University of Mississippi Medical Center, Jackson, Mississippi, United States*

**P6.33**

**Vsg Is Sufficient To Improve Metabolic Health In Surgical Model Of Menopause**

Austin Zamarripa, Redin Spann, William Lawson, Bernadette Grayson

*University of Mississippi Medical Center, Jackson, Mississippi, United States*

**P6.34**

**Bariatric Surgery Results In Altered Immune Signalling During Pregnancy**

Redin Spann, William Lawson, Austin Zamarripa, Michael Garrett, and Bernadette Grayson

*University of Mississippi Medical Center, Jackson, Mississippi, United States*

**P6.35**

**The Trichomonas Vaginalis Virus Among Mississippi And Atcc Isolates**

Allison Judge<sup>1</sup>, John Meade<sup>2</sup>, Cory Toyota<sup>1</sup>

*<sup>1</sup>Millsaps College, Jackson, Mississippi, United States, <sup>2</sup>University of Mississippi Medical Center, Jackson, Mississippi, United States*

**P6.36**

**Ribosomal Frameshifting Of Trichomonas Vaginalis Virus 2,3, And 4 Isolates**

Lizhuo Ai<sup>1</sup>, Stephen Stray<sup>2</sup>, John Meade<sup>2</sup>, Cory Toyota<sup>1</sup>

*<sup>1</sup>Millsaps College, Jackson, Mississippi, United States, <sup>2</sup>University of Mississippi Medical Center, Jackson, Mississippi, United States*

**P6.37**

**Minocycline Reduces Systemic Lipopolysaccharide-Induced White Matter Injury And Neurobehavioral Deficits**

Viviek Patel<sup>1</sup>, Samir Mamoon<sup>2</sup>, Lir-Wan Fan<sup>2</sup>

*<sup>1</sup>Murrah High School, Jackson, Mississippi, United States, <sup>2</sup>University of Mississippi Medical Center, Jackson, Mississippi, United States*

**P6.38**

**Ribavirin Treatment Of Trichomonas Vaginalis Virus**

Hirni Patel<sup>1</sup>, Cory Toyota<sup>1</sup>, John C. Meade<sup>2</sup>

*<sup>1</sup>Millsaps College, Jackson, Mississippi, United States, <sup>2</sup>University of Mississippi Medical Center, Jackson, Mississippi, United States*

**P6.39**

**Citalopram Produces Changes Similar To Human Autism Spectrum Disorder In Rat Models**

Jose Navas<sup>1</sup>, Anna Roller<sup>2</sup>, Natalie Booker<sup>2</sup>, Ian Paul<sup>2</sup>

*<sup>1</sup>Base Pair Program, Jackson, Mississippi, United States, <sup>2</sup>Department of Psychiatry and Human Behavior, Division of Neurobiology and Behavior Research University of Mississippi Medical Center, Jackson, Mississippi, United States*



**P6.40**

**Circulating Cd95 Is Increased In Rats With Hells Syndrome**

Cecil Hill<sup>1</sup>, Taylor Bowles<sup>1</sup>, Kedra Wallace<sup>2</sup>, Shauna Spencer<sup>2</sup>

<sup>1</sup>*Jackson State University, Jackson, Mississippi, United States*, <sup>2</sup>*University of Mississippi Medical Center, Jackson, Mississippi, United States*

**P6.41**

**Angiotensin Peptide Levels In A Rodent Kidney Model**

Trianna Humphrey<sup>1</sup>, Stanley Smith<sup>2</sup>

<sup>1</sup>*Tougaloo College, Jackson, Mississippi, United States*, <sup>2</sup>*University of Mississippi Medical Center, Jackson, Mississippi, United States*

**P6.42**

**Photothermal Therapy Of Prostate And Liver Cancer Cells Using Multifunctional Gold Nanomaterials**

Aurora Washington, Shanterell Redd, and Santanu Banerjee

*Tougaloo College, Tougaloo, Mississippi, United States*

**P6.43**

**Hiv Client Testing And Counseling Satisfaction Study**

Latoria Glaude<sup>2</sup>, Deborah McNeal<sup>1</sup>, Kiana Matthews<sup>3</sup>

<sup>1</sup>*William Carey University, Hattiesburg, Mississippi, United States*, <sup>2</sup>*University of South Alabama, Mobile, Alabama, United States*, <sup>3</sup>*Mississippi University for Women, Columbus, Mississippi, United States*

**P6.44**

**Potential Biomarkers In Rat Acute Kidney Injury Model**

Latoya Brantley<sup>1</sup>, Stanley Smith<sup>2</sup>

<sup>1</sup>*Alcorn State University, Lorman, Mississippi, United States*, <sup>2</sup>*University of Mississippi Medical Center, Jackson, Mississippi, United States*

**P6.45**

**Near Instant Bone Density Analysis Of Spine Using Unenhanced Or Contrast-Enhanced Ct-Images**

Andrew Smith<sup>1</sup>, ThuyVi Nguyen<sup>2</sup>, Xu Zhang<sup>1</sup>

<sup>1</sup>*University of Mississippi Medical Center, Jackson, Mississippi, United States*, <sup>2</sup>*University of southern Mississippi, Hattiesburg, Mississippi, United States*

**P6.46**

**Three Dimensional Arterial Model To Simulate And Characterize Vascular Calcification In Vitro**

Morgan Alexander and Lashan Simpson

*Mississippi State University, Starkville, Mississippi, United States*

**P6.47**

**Influence Of Social Media On Sexual Risk Behavior Among Mississippi College Students**

Allison Bunch<sup>1</sup>, Traneia Johnson<sup>2</sup>, Ursula Offiah<sup>3</sup>, Angela Johnson<sup>4</sup>

<sup>1</sup>*William Carey University, Hattiesburg, Mississippi, United States*, <sup>2</sup>*Alcorn State University, Alcorn, Mississippi, United States*, <sup>3</sup>*Jackson State University, Jackson, Mississippi, United States*, <sup>4</sup>*My Brother's Keeper, Inc., Ridgeland, Mississippi, United States*

**P6.48**

**Examining The Knowledge, Attitudes, & Beliefs Of The Affordable Care Act**

Amanda Williams<sup>1</sup>, DeAndre Nicholson<sup>2</sup>, Ebonie Liggins<sup>2</sup>, Krystal Phillips<sup>3</sup>, Antwan Nicholson<sup>3</sup>

<sup>1</sup>*Mississippi State University, Starkville, Mississippi, United States*, <sup>2</sup>*Alcorn State University, Alcorn, Mississippi, United States*, <sup>3</sup>*My Brother's Keeper, Inc., Ridgeland, Mississippi, United States*



**P6.49**

**What Is The Relationship Between Obesity And Social-Ecological Factors In Mississippi?**

Victor Allen<sup>1</sup>, Iman Washington<sup>2</sup>, Tamaraneshia Jones<sup>3</sup>, DeMarc Hickson<sup>4</sup>

<sup>1</sup>Jackson State University, Jackson, Mississippi, United States, <sup>2</sup>Mississippi Valley State University, Itta Bena, Mississippi, United States, <sup>3</sup>Alcorn State University, Alcorn, Mississippi, United States, <sup>4</sup>My Brother's Keeper, Inc., Ridgeland, Mississippi, United States

**P6.50**

**The Effects Of Sex Education On College Age Females**

Angelyn Martin<sup>1</sup>, Aubrey Kimball<sup>2</sup>, Sierra Shelby<sup>3</sup>, Nakeitra Burse<sup>4</sup>

<sup>1</sup>Tougaloo College, Jackson, Mississippi, United States, <sup>2</sup>Hinds Community College, Raymond, Mississippi, United States, <sup>3</sup>Mississippi State University, Starkville, Mississippi, United States, <sup>4</sup>My Brother's Keeper, Inc., Ridgeland, Mississippi, United States

**P6.51**

**Impact Of Comprehensive Vs. Abstinence Only Sex-Education On Young-People Sexual Risk Behaviors**

Chelesa Martin<sup>1</sup>, Shamir Lee-Gates<sup>2</sup>

<sup>1</sup>Hinds Community College, Raymond, Mississippi, United States, <sup>2</sup>My Brother's Keeper, Inc., Ridgeland, Mississippi, United States

**P6.52**

**Is Physical Access To Healthy Food Enough To Increase The Probability-Of Consumption?**

Christyna Mangum<sup>1</sup>, Deja Abdul-Haqq<sup>2</sup>

<sup>1</sup>Mississippi State University, Starkville, Mississippi, United States, <sup>2</sup>My Brother's Keeper, Inc., Ridgeland, Mississippi, United States

**P6.53**

**Impact Of Beliefs-Regarding Cvd On Cvd Risk-Behaviors Among African-American Women In Central-Mississippi**

Jennie Mallory<sup>1</sup>, LaDaryl Watkins<sup>2</sup>

<sup>1</sup>Alcorn State University, Alcorn, Mississippi, United States, <sup>2</sup>My Brother's Keeper, Inc., Ridgeland, Mississippi, United States

**P6.54**

**The Impact Of Education Level On Hiv/Sti Rates Among African American Msm**

Kelsey Hill<sup>1</sup>, Cedrica Branch<sup>2</sup>, T'Juan Rucker<sup>3</sup>

<sup>1</sup>Jackson State University, Jackson, Mississippi, United States, <sup>2</sup>Mississippi Valley State University, Itta Bena, Mississippi, United States, <sup>3</sup>My Brother's Keeper, Inc., Ridgeland, Mississippi, United States

**P6.55**

**Knowledge-Awareness Of Hiv-Facts, Infection Routes And Myths Among General-Population Jackson, Ms Msa**

Russell Baldwin<sup>1</sup>, Amber Haymer<sup>2</sup>, William Johnson<sup>3</sup>

<sup>1</sup>Belhaven University, Jackson, Mississippi, United States, <sup>2</sup>Mississippi Valley State University, Itta Bena, Mississippi, United States, <sup>3</sup>My Brother's Keeper, Inc., Ridgeland, Mississippi, United States

**P6.56**

**The Importance Of Proper Medical Interpretation**

Sarah Price<sup>1</sup>, Antwan Nicholson<sup>2</sup>

<sup>1</sup>Mississippi College, Clinton, Mississippi, United States, <sup>2</sup>My Brother's Keeper, Inc., Ridgeland, Mississippi, United States

**P6.57**

**Key Factors That Impact The Knowledge-Perceptions Amongst College-Students Involving-Abstience Vs Comprehensive-Sex-Regarding Sexual-Risk-Behaviors**

Tomeka Patterson<sup>1</sup>, Shamir Lee-Gates<sup>2</sup>

<sup>1</sup>Mississippi College, Clinton, Mississippi, United States, <sup>2</sup>My Brother's Keeper, Inc., Ridgeland, Mississippi, United States



**P6.58**

**The Importance Of Rapid Hiv Testing And Client-Satisfaction Surveys In Assessing Testing-Services**

Deborah McNeal<sup>1</sup>, Latoria Glaude<sup>2</sup>, Kiana Matthews<sup>2</sup>, Joseph Lindsey<sup>3</sup>

<sup>1</sup>William Carey University, Hattiesburg, Mississippi, United States, <sup>2</sup>Mississippi Gulf Coast Community College, Perkinston, Mississippi, United States, <sup>3</sup>My Brother's Keeper, Inc., Ridgeland, Mississippi, United States

**P6.59**

**Evaluation Of Sex Education Among Mississippi Students**

Kiana Moore<sup>1</sup>, Jasmine Thompson<sup>2</sup>, Mauda Monger<sup>3</sup>

<sup>1</sup>Jackson State University, Jackson, Mississippi, United States, <sup>2</sup>Alcorn State University, Lorman, Mississippi, United States, <sup>3</sup>Delta Region AIDS Education and Training Center, New Orleans, Louisiana, United States

**P6.60**

**Plant Rhizosphere Bacteria With Antagonistic Activity Against Drug Resistant Pathogens**

Haley Thomas<sup>1</sup>, Rachelle Butler<sup>1</sup>, Yetunde Adewunmi<sup>1</sup>, Dahlia Amato<sup>2</sup>, Olga Mavrodi<sup>1</sup>, Dmitri Mavrodi<sup>1</sup>

<sup>1</sup>Department of Biological Sciences, The University of Southern Mississippi, Hattiesburg, Mississippi, United States, <sup>2</sup>School of Polymers and High Performance Materials, The University of Southern Mississippi, Hattiesburg, Mississippi, United States

**P6.61**

**Nitric Oxide Synthase Expression In Women With Preeclampsia**

Shenequa Wilson<sup>1</sup>, Shauna K. Spencer<sup>2</sup>, Teylor Bolwes<sup>2</sup>, Kedra Wallace<sup>2</sup>

<sup>1</sup>Tougaloo College, Tougaloo, Mississippi, United States, <sup>2</sup>University of Mississippi Medical Center, Jackson, Mississippi, United States

**P6.62**

**Accumulation Of Cholesteryl Esters Is Associated With The Progression Of Prostate Cancer**

Xinchun Zhou<sup>2</sup>, Timera Brown<sup>1</sup>, Jinghe Mao<sup>1</sup>, Lianna Li<sup>1</sup>, Josh Agee<sup>1</sup>, Alex Thompson<sup>1</sup>

<sup>1</sup>Tougaloo College, Tougaloo, Mississippi, United States, <sup>2</sup>University of Mississippi Medical Center, Jackson, Mississippi, United States

**P6.63**

**Evaluation Of Femur Following Delivery Of Estrogen In Osteoporotic Rat Model**

Meisha Ross, Fa'Jada Bobo, Michelle Tucci, Zelma Cason, and Hamed Benghuzzi

University of Mississippi Medical Center, Jackson, Mississippi, United States

**P6.64**

**Evaluation Of Bone Nodule Formation After Stimulation Using A Pulsed Magnetic Field**

Kayla Smith, Tameka Jones, Michelle Tucci, Zelma Cason, and Hamed Benghuzzi

University of Mississippi Medical Center, Jackson, Mississippi, United States

**P6.65**

**Sustained Release Of Estrogen On Spine Preservation In An Osteoporotic Rats**

Keteria Jones, Laneisha Jackson, Michelle Tucci, Zelma Cason, and Ham Benghuzzi

University of Mississippi Medical Center, Jackson, Mississippi, United States

**P6.66**

**The Prevalence Of Cervical Cancer In Mississippi Caused By Hpv**

Tameka Jones and Hamed Benghuzzi

University of Mississippi Medical Center, Jackson, Mississippi, United States



**P6.67**

**Replicative Robustness As A Driver Of Influenza Evolution**

Douglas Campbell<sup>1</sup>, Stephen Stray<sup>2</sup>

<sup>1</sup>*Murrah High School, Jackson, Mississippi, United States*, <sup>2</sup>*University of Mississippi Medical Center, Jackson, Mississippi, United States*

**P6.68**

**Proteolytic and Cytotoxic Activity of *Streptococcus Pneumoniae* Strain K1263deltaply**

Elizia Thomas<sup>1</sup> and Mary Marquart<sup>2</sup>

<sup>1</sup>*Alcorn University, Lorman, MS* and <sup>2</sup>*University of Mississippi Medical Center, Jackson, Mississippi, USA*

**P6.69**

**Isoflurane Induced Cytotoxic Changes In A549 Cells**

Genesis Johnson<sup>1,2</sup>, Temarria Hunter<sup>1,2</sup>, Dejah Carter<sup>1,2</sup>, Michelle Tucci<sup>1</sup>, Hamed Benghuzzi<sup>1</sup>, and Joseph A. Cameron<sup>2</sup>

<sup>1</sup>*University of Mississippi Medical Center, Jackson, MS, USA* and <sup>2</sup>*Jackson State University, Jackson, MS, USA*

**P6.70**

**Isoflurane Induced Changes In Cellular Morphology Of A549 Cells**

Temarria Hunter<sup>1,2</sup>, Genesis Johnson<sup>1,2</sup>, Dejah Carter<sup>1,2</sup>, Michelle Tucci<sup>1</sup>, Hamed Benghuzzi<sup>1</sup>, and Joseph A. Cameron<sup>2</sup>

<sup>1</sup>*University of Mississippi Medical Center, Jackson, MS, USA* and <sup>2</sup>*Jackson State University, Jackson, MS, USA*

**P6.71**

**Epidemiological Analysis Of A Methicillin- Resistant *Staphylococcus Aureus* Outbreak In The Nicu**

Michayla Hunter, Kelli Gutter, Regina Galloway, and Donna Sullivan

*University of Mississippi Medical Center, Jackson, MS USA*

**P6.72**

**Understanding Pain And Opioid Use In Mississippi**

Anna Adorno, Michelle Tucci, Denise Krause, and Hamed Benghuzzi

*University of Mississippi Medical Center*

**11:00 - 11:50**

**Room TC 216**

**Population Health Hands On Workshop**

Michael Ryan and Eric George

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## **History & Philosophy of Science**

Chair: Dr. Mike Schmidt, *University of Mississippi Medical Center*

Vice-Chair: Dr. Nedah Nemati, *Mississippi State University*

Vice-Chair: Dr. Trey Suttle, *Independent Scholar*

**Thursday, February 18, 2016**

**Morning**

**Union Room A**

**8:10**

**07.01 Emergentism Goes Beyond Seeing The Forest For The Trees**

Mike Schmidt

*University of Mississippi Medical Center, Jackson, MS, United States*

**8:40**

**07.02 Law & Order: Ecology**

Georgia Rae Rainer





Mississippi Academy of Sciences, Eightieth Annual Meeting  
Florida State University, Tallahassee, FL, United States

**9:10**

**07.03 A Lange-Maher Rapprochement**

Aaron Brooks

*Florida State University, Tallahassee, FL, United States*

**9:40**

**07.04 Debunking Moral Realism: The Scientific And The Moral-Agent Approaches**

Jorge Oseguera Gamba

*Florida State University, Tallahassee, FL, United States*

**10:10 Break**

**10:20**

**07.05 Public Intellectuals At The Smithsonian: Representatives Of Science In The Nineteenth Century**

Lance Burch

*Florida State University, Tallahassee, FL, United States*

**10:50**

**07.06 The Cuvier-Geoffroy Debate Of 1830: Explaining Animal Structure**

Kenneth Curry

*University of Southern Mississippi, Hattiesburg, MS, United States*

**11:20**

**07.07 The Role Of Theories Of Persistence For Modeling Biological Species**

Paula Smithka and Kenneth Curry

*University of Southern Mississippi, Hattiesburg, MS, United States*

**12:00 -1:00 General Sessions**

**Thursday, February 18, 2016**

**Afternoon**

**Room Union A**

**1:00**

**07.08 The Lost Art Of Medicine: Archiving As A Novel Learning Experience**

Jedd Audry, Lauren Williamson, Mary Ball Markow, Rachel Sharp, and Ralph Didlake

*University of Mississippi Medical Center, Jackson, MS, United States*

**1:30**

**07.09 Two Medieval Logical Models: The Novel Paraphrase Vs. Semantic Innovation**

Michael J Fitzgerald

*Independent Scholar, Hattiesburg, MS, United States*

**2:00 Business Meeting**



## Marine & Atmospheric Sciences

Co-Chair: Dr. Francis Tuluri, Jackson State University

Co-Chair: Dr. Remata Reddy, Jackson State University

Vice-Chair: Dr. Loren White, Jackson State University

Vice-Chair: Dr. Duanjun Lu, Jackson State University

**Thursday, February 18, 2016**

**Morning**

**TCC 227**

**9:00**

### **08.01 Kernel Density Estimation For Identifying The Association Between Air Pollutants And Asthma**

Francis Tuluri<sup>1</sup>, Darius Miller<sup>1</sup>, Amit Gorai<sup>2</sup>

*<sup>1</sup>Jackson State University, Jackson, Mississippi, USA, <sup>2</sup>National Institute of Technology, Rourkela, Odisha, India*

**9:30**

### **08.02 Modeling Analysis Of Emission Sources For Ozone Concentration Over El Paso, Tx**

Duanjun Lu<sup>1</sup>, Rosa Fitzgerald<sup>2</sup>, William Stockwell<sup>3</sup>

*<sup>1</sup>Jackson State University, Jackson, MS, USA, <sup>2</sup>University of Texas at El Paso, El Paso, TX, USA, <sup>3</sup>Howard University, Washington DC, USA*

**9:45**

### **08.03 Ocean-Atmospheric Interactions And Intensity Change Associated With Hurricane Katrina**

Remata Reddy, Duanjun Lu, Francis Tuluri, Mehri Fadavi

*Jackson State University, Jackson, MS, USA*

**10:00 Break**

**10:15**

### **08.04 Variations In Atmospheric Fronts At The Surface From Multi-Platform Measurements**

Loren White

*Jackson State University, Jackson, MS, USA*

**10:30**

### **08.05 Large Scale Fluxes, Processes And Heavy Precipitation Associated With Tropical Storm Lee**

Warith Abdullah, Remata Reddy, Ezat Heydari, Wilbur Walters

*Jackson State University, Jackson, Mississippi, USA*

**10:45**

### **08.06 Wetland Land-Use/ Land-Cover Changes As Affected By Natural And Human Induced Disturbance Regimes**

Ranjani Kulawardhana, Taimei Harris, Eric Gullede, Paul Tchounwou

*Jackson State University, Jackson State University, USA*

**11:00 Session Discussions**

**11:30 Business Meeting**

**Afternoon**

**Poster Session**

**1:30 – 3:00**



Mississippi Academy of Sciences, Eightieth Annual Meeting

**P8.01**

**Studies On Wildfires, Aerosols, Climate Impacts And Health Effects**

Lenetta Mallory, Jordan Darensbourg, Remata Reddy, Mehri Fadavi  
*Jackson State University, Jackson, MS, USA*

**P8.02**

**Adcirc Analysis Of Hurricane Isaac (2012) Storm Surge**

Tony Hurt  
*Jackson State University, Jackson, MS, USA*

**P8.03**

**Weather Observations Consistency Between Mobile Platform And Fixed Stations**

Jaylond Harvey, Loren White  
*Jackson State University, Jackson, MS, USA*

**P8.04**

**Analysis Of Meteorological Variables Influencing Air Quality In New Mexico & Texas**

Kara McCaskill, Duajuan Lu  
*Jackson State University, Jackson, MS, USA*

**P8.05**

**Diagnosing And Modeling A Sea Breeze Case Over Gulf Coasts**

Geselle Coleman, Duanjun Lu, Pao-Chiang Yuan, Hui-Ru Shih  
*Jackson State University, Jackson, Mississippi, USA*

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## **Mathematics, Computer Science and Statics**

Chair: Dr. Warren May, University of Mississippi Medical Center  
Vice-Chair: Dr. Jamil Ibrahim, University of Mississippi Medical Center

**Thursday, February 18, 2016**

**Morning  
TCC 210**

**10:00**

**09.01 The Educational Interface Between Mathematics, Statistics And Computer Science**

Warren L. May  
*University of Mississippi Medical Center, Jackson MS, USA*

**10:15**

**09.02 Data Science And Its Applications In Course Design**

Pradeep Kumar Pittala, Ping Zhang, Babu Patlolla  
*Alcorn State University, Alcorn State, USA*

**10:30**

**09.03 Smart Transportation On The Safety Of School Bus Ridership**

Zsاليا Jones, Yufeng Zheng, Sam Nwaneri  
*Alcorn State University, Lorman, MS, USA*

**10:45**

**09.04 Biometric Identification Example- Fingerprint Used For Students' Identification**

Pavan Kumar Gorthi, Calvin Forte, Ping Zhang, Babu Patlolla, Lixin Yu  
*Alcorn State University, Lorman, MS, USA*



Mississippi Academy of Sciences, Eightieth Annual Meeting

11:00

**09.05 Timed Indicators To Predict A Student's Success In College Algebra**

Lixin Yu, Elizabeth Udemgba

*Alcorn State University, Alcorn State, MS, USA*

11:15 Divisional Business Meeting

12:00 General Symposium

Thursday, February 18, 2016

AFTERNOON

Rom TC 210

1:15

**09.06 Why Statistical Significance Matters: Revisiting Power, Effect Size, Sample Size P-Values**

Elgenaid Hamadain, Warren May

*University of Mississippi Medical Center, Jackson, MS, USA*

1:30

**09.07 Power, Sample Size, Effect Size, And Their Relations To Study Design**

Jamil Ibrahim

*University of Mississippi Medical Center, Jackson, MS, USA*

1:45

**09.08 The Essentials Of Power Analysis**

Seth Lirette, Chad Blackshear

*Blackshear & Lirette, Madison, MS, USA*

2:00

**09.09 The Difference Between Computer Simulations And Theoretical Results**

Zhenbu Zhang

*Jackson State University, Jackson, MS, USA*

2:15

**09.10 Develop Network Management System Using Smnp**

Yong Wang

*Alcorn State University, Lorman/MS, USA*

2:30

**09.11 Creation Of A Mobile Web Application For Scientific Data Entry**

Joshua Bailey

*Mississippi Valley State University, Itta Bena, MS, USA*

Thursday, February 18, 2016

Afternoon

Poster Session –Immediately following the Dodgen Lecture

P9.01

**A Corresponding Study Of Water Evaluation In The Pasquotank Watershed**

Jamal Stevenson<sup>1</sup>, Raveen McKenzie<sup>1</sup>, Steffi Walthall<sup>2</sup>, Ricky Dixon<sup>1</sup>

<sup>1</sup>Mississippi Valley State University, Itta Bena, Mississippi, USA, <sup>2</sup>Savannah College of Arts and Design, Savannah, Georgia, USA, <sup>3</sup>Elizabeth City State University, Elizabeth City, North Carolina, USA



**P9.02**

**The Effect Of Calculators Use On Students' Performance And Attitude In Math: A Meta-Analysis**

Johnny Gary, Abraham Ayebo

*Mississippi Valley State University, Itta Bena, MS, USA*

**P9.03**

**Enhancing Parent Involvement In Nc-Ccss For K-2 Mathematics**

Nyjah Grant, Tayla Frizell, Deanna Mallard

*Mississippi Valley State University, Itta Bena, MS, USA*

**P9.04**

**Mapping Poverty Rate In Mississippi Using Arcgis**

Dominique Marshall, Bryana Ward, Duanjun Lu

*Jackson State University, Jackson, MS, USA*

**P9.05**

**A Visual Approach To Teaching Anova**

Chad Blackshear, Seth Lirette

*Blackshear & Lirette, Madison, MS, USA*

**Friday, February 19, 2016**

**Afternoon**

**Room 210**

**1:15**

**09.12 Enemy At The Gate: Threats To Cloud Computing Security**

Bilal Abu Bakr, Devontrae Williams

*Alcorn State University, Alcorn State, MS 39096, USA*

**1:45**

**09.13 2d And 3d Fruit Bruise Image Display Using Matlab And C++**

Jathin Padmaiah, Ping Zhang, Babu Patlolla

*Alcorn State University*

**2:00**

**09.14 3-D Image Bruised Fruit Detection Algorithm Using A Distributed Cloud-Computing Multiprocessing Environment**

Calvin Forte, Ping Zhang, Babu Patlolla, Pavan Gorthi

*Alcorn State University, Lorman, MS, USA*

**2:15**

**09.15 Fast Method Of Approximate Particular Solution**

Anup Raja Lamichhane<sup>1</sup>, D.L. Young<sup>2</sup>, C.S. Chen<sup>1</sup>

*<sup>1</sup>University of Southern Mississippi, Hattiesburg, Mississippi, USA, <sup>2</sup>National Taiwan University, Taipei, Taiwan, Taiwan*

**2:30**

**09.16 Numerical Solutions Of Elliptic Partial Differential Equations Using Chebyshev Polynomials**

Balaram Khatri Ghimire, Haiyan Tian, Anup Lamichhane

*The University of Southern Mississippi, Hattiesburg, MS, USA*

**2:45 Closing Remarks**



## Physics & Engineering

Chair: Dr. Partha Biswas, Tougaloo College

Vice-Chair: Dr. James Stephens, Southwest Mississippi Community College

Vice-Chair: Dr. Alakabha Datta, University of Mississippi

Thursday, February 18, 2016

Morning

TCC 228

8:30

**O10.01 Searching for a Charged Higgs in  $H \rightarrow \tau \nu_{\tau}^* \tau^+ \nu_{\tau}$**

Shanmuka Shivashankara, Alakabha Datta

*The University of Mississippi, Oxford, USA*

9:00

**O10.02 A Low-Latency Glitch Classification Algorithm Based In Waveform Morphology**

Hunter Gabbard<sup>1</sup>, Soma Mukherjee<sup>2</sup>, Robert Stone<sup>2</sup>

*<sup>1</sup>University of Mississippi, Oxford, MS, USA, <sup>2</sup>University of Texas Rio Grande Valley, Brownsville, TX, USA*

9:15

**O10.03 Search For Neutrinos**

Amin Haque

*Alcorn State University, Alcorn State, USA*

9:30 Break

Session-II, Chair: James Stephen

9:45

**O10.04 Coulomb Enhanced Superconducting Pair Correlations In The Frustrated Quarter-Filled Band**

W.Wasanthi De Silva<sup>1</sup>, Niladri Gomes<sup>2</sup>, Tirthankar Dutta<sup>2</sup>, R.Torsten Clay<sup>1</sup>, S Mazumdar<sup>2</sup>

*<sup>1</sup>Mississippi State University, Starkville, MS 39762, USA, <sup>2</sup>University of Arizona, Tucson, AZ 85721, USA*

10:00

**O10.05 Nanoscale Structure Of Voids In Hydrogenated Amorphous Silicon**

Parthapratim Biswas<sup>1</sup>, Stephen R. Elliott<sup>1</sup>

*<sup>1</sup>The University of Southern Mississippi, Hattiesburg, MS, USA, <sup>2</sup>University of Cambridge, Cambridge, UK*

10:15

**O10.06 Distributed Optical Sensing In Composite Laminate Adhesive Bonds**

Leeanna Meadows<sup>1</sup>, Rani Sullivan<sup>1</sup>, Keith Vehorn<sup>2</sup>

*<sup>1</sup>Mississippi State University, Mississippi State, MS, USA, <sup>2</sup>University of Dayton Research Institute, Dayton, OH, USA*

10:30

**O10.07 Fractal Geometry For Analysis Of Ceramic Fracture Surfaces**

T. Brice McMurphy<sup>1</sup>, Gaurav Joshi<sup>2</sup>, Christopher Harris<sup>3</sup>, Jason Griggs<sup>4</sup>

*<sup>1</sup>Louisiana State University Health Science Center, New Orleans, LA, USA, <sup>2</sup>Glidewell Dental Labs, Newport Beach, CA, USA, <sup>3</sup>Sealy Dental Center, Sealy, TX, USA, <sup>4</sup>University of Mississippi Medical Center, Jackson, MS, USA*

10:45 Break

Session-III, Chair: Alakabha Datta



11:00

**O10.08 Sers Active Graphene Oxide Platform For Identification Of Skbr3 Cells**

Anant Singh<sup>1</sup>, P.C. RAY<sup>2</sup>

<sup>1</sup>*Alcorn State University, Alcorn State, Mississippi, Usa*, <sup>2</sup>*Jackson State University, Jackson, Mississippi, USA*

11:15

**O10.09 Comparative Study Of Elemental Nutrients In Organic And Conventional Vegetables By Libs.**

CR Bhatt, Charles Ghany, Bader Alfarraj, Ayed Binzowaimil

*Mississippi State University, Starkville, MS, USA*

11:30

**O10.10 Turbulent Flow Simulations Of Aortic Thromboembolism In Feline Hypertropic Cardiomyopathy (Hcm).**

Manish Borse, Shanti Bhushan, Keith Walters

*Mississippi State University, Starkville, MS, USA*

11:45

**O10.11 Acoustic Noise Floor Analysis For Ladc-Gemm 2015 Gulf Of Mexico Experiment**

James Stephens

*Southwest Mississippi Community College, Summit, Mississippi, USA*

**12:00 Divisional Business Meeting and Lunch**

**Thursday Afternoon**

**Room 228**

**Session-IV, Chair: Anant Singh**

1:00

**O10.12 Verification And Validation Of Hydro-Turbine Turbulent Wake**

Sanchit Salunkhe, Shanti Bhushan

*Mississippi State University, Starkville, Mississippi, USA*

1:15

**O10.13 Understanding Pipelines And Emergency Response**

Pao-Chiang Yuan, Richterica T. Ford

*Jackson State University, Jackson, MS, USA*

1:30

**O10.14 Virtual Simulation Of Nuclear Emergency**

HuiRu Shih, Ebony Davis, Jeremiah Burns, Lashayla Gilbert, Michael Stevenson, Curtis Frazier

*Jackson State University, Jackson, MS 39217, USA*

1:45 Break

**Session-V, Chair: James Lee Tracy Jr**

**2:00 – 3:00 Career Workshop**

**Thursday Evening**

**Session-VI**

**Division Poster Presentations (Following The Dodgen Lecture )**

**P10.01**

**A Versatile Smartphone-Based Online Monitoring For Detecting Strong Radiation In The Environment**

Joshua Butler, Jarrett McElroy, Darius Miller, Curtis Frazier, Francis Tuluri

*Jackson State University, Jackson, Mississippi, USA*



**P10.02**

**Managing Congestion In A Multi-Modal Transportation Network Under Biomass Supply Uncertainty**

Sushil Poudel, Md Abdul Quddus, Mohammad Marufuzzaman, Linkan Bian

*Industrial and Systems Engineering, MSU, Mississippi State University, MS, USA*

**P10.03**

**A Feasibility Assessment Via Supply-Chain Cost Analysis Of Additively Manufactured Biomedical Implants**

Adindu Emelogu, Linkan Bian, Mohammad Marufuzzaman, Nima Shamsaei, Scott Thompson

*Mississippi State University, Mississippi State, MS, USA*

**P10.04**

**Elucidating Ligand Responses Of Androgen Receptor Through Protein Ligand Hydrogen Bonding Contacts**

Pradip Biswas, Raquema Williams

*Tougaloo College, Tougaloo, Ms, USA*

**P10.05**

**Alizarin Dye Based Sers Probe For Trace Level Cadmium Detection**

Afua A. Antwi-Boasiako, Whitney J. Jackson, Yolanda K. Jones, Anant K. Singh

*Alcorn State University, Alcorn State, MS-39096, USA*

**P10.06**

**Computational Simulation Of Micro- And Nano-Particle Deposition Inside Human Lung Model**

Anupria Davenport, Mohammed Ali

*Jackson State University, Jackson, USA*

**P10.07**

**A Two-Stage Chance-Constrained Stochastic Programming Model For A Biofuel Supply Chain Network**

Md Abdul Quddus, Sudipta Chowdhury, Mohammad Marufuzzaman, Fei Yu, Linkan Bian

*Mississippi State University, Starkville, MS, USA*

**P10.08**

**Decay Study Of Neutron-Rich  $^{74}\text{Zn} \rightarrow ^{74}\text{Ga}$  Nuclei Using Statistically Significant Gamma-Gamma Coincidence Method**

Durga Siwakoti, Umesh Silwal, James Tracy Jr, Jeff A Winger

*Mississippi State University, Starkville, MS, USA*

**P10.09**

**Model-Dependence And Systematic Uncertainties In Simulations Of A Proton Radius Measurement Experiment**

Benjamin Emmich

*Mississippi State University, Starkville, MS, USA*

**February 19, 2016**

**Friday Morning**

**TC 228**

**8:30**

**O10.15 Polarization Properties Of Photoluminescence From Impurities In Lithium Niobate**

Chandrima Chatterjee, Igor Ostrovskii

*University of Mississippi, Oxford, Mississippi, USA*

**8:45**

**O10.16 Three-Dimensional Holography Reconstruction Of Aerosol Particles**

Jing Wen, Nava Subedi, Matthew Berg

*Mississippi State University, Mississippi State, USA*





9:00

**O10.17 Temperature And Pressure Effects On Elastic Properties Of Lead Magnesium Niobate-Lead Titanate**

Sumudu Tennakoon<sup>1</sup>, Joseph Gladden<sup>1</sup>

<sup>1</sup>*Department of Physics and Astronomy, University of Mississippi, University, MS, USA,* <sup>2</sup>*National Center for Physics Acoustics, University of Mississippi, University, MS, USA*

9:15

**O10.18 Temperature Dependence Of Shear Wave Speed In A Wormlike Micellar Fluid**

E.G Sunethra Dayavansha, Cecille Labuda, Joseph Gladden

*University of Mississippi, University, MS, USA*

9:30

**O10.19 Decay Scheme Development Of  $^{74}\text{Ga} \rightarrow ^{74}\text{Ge}$  Decay Based On Stastically Significant  $\text{Gg}$  Coincidence**

Umesh Silwal, Durga Siwakoti, James Tracy, Jeff Winger

*Mississippi State University, Mississippi State University, MS 39762, USA*

9:45 Break

Session-VIII, Chair: Alakabha Datta

10:00

**O10.20 Power-Law Pattern In Electromagnetic Scattering**

Jehan Seneviratne, Matthew Berg

*Mississippi State University, Mississippi State, MS, USA*

10:15

**O10.21 Mechanical Property Improvement Of Carbon Fiber Reinforced Polymeric Composites By Filler Dispersion**

Jamel Alexander

*Mississippi State University, Starkville, MS, USA*

10:30

**O10.22 Ultrasonic Propagation In A Band Gap Of A Two Dimensional Phononic Crystal**

Ukesh Koju<sup>1</sup>, Joel Mobley<sup>1</sup>

<sup>1</sup>*Department of Physics and Astronomy, University of Mississippi, University, MS, USA,* <sup>2</sup>*National Center for Physical Acoustics, University of Mississippi, University, MS, USA*

10:45

**O10.23 Computation Of Ultrasonic Pressure Fields In Feline Brain**

Nazanin Omid, Charles. C Church, Cecille Labuda

*The University of Mississippi, Oxford, USA*

11:00

**O10.24 Detection Of Acoustic Sources In Shallow Water Using Time-Reversal Methods**

Grant Tingstrom

*The University Of Southern Mississippi, Hattiesburg, MS, USA*



## Psychology & Social Sciences

Co-Chair: Dr. Shaila Khan, Tougaloo College

Co-Chair: Dr. Gary Chong, Tougaloo College

Thursday, February 18, 2016

Morning

TCC 229

11:00

**O11.01 Function, Life Histories, Resource Stress: A Network Model For Stone Tool Evolution**

Jason Ervin

*Mississippi State University, USA*

11:15

**O11.02 Stress And Coping Mechanism Among African American College Men And Women**

Jazmine Anderson and Shaila Khan

*Tougaloo College, USA*

11:30

**O11.03 Relationship Satisfaction And Self Esteem Among Male And Female College Students**

Taralyn Rowell and Shaila Khan

*<sup>1</sup>Tougaloo College, USA,*

11:45

**O11.04 Stress Indicators Of College Students From Single Parent Versus Dual Parent Homes**

Antonio Lowell, and Shaila Khan

*Tougaloo College, USA,*

12:00 -1:20 Break

1:15

**O11.06 Drug Use, Perceived Parental Acceptance, And Psychological Adjustment Of African American Students**

Shaila Khan

*Tougaloo College, USA*

1:30

**O11.06 Social Media, Communication Patterns, Self Concept And Shyness: Among College Students**

Shandell Lewis Lewis, and Shaila Khan Khan

*Tougaloo College, USA*

1:45

**O11.07 Parental Authority And Its Affects On Intimate Relationships Among Adult Women**

Laurin Mitchell and Shaila Khan

*Tougaloo College, USA*

2:00

**O11.08 Emotional Regulation And Well Being Among African- American College Students**

Victoria Handy<sup>1</sup>, Shaila Khan<sup>2</sup>

*<sup>1</sup>Tougaloo College, USA, <sup>2</sup>Tougaloo College, USA*

2:15

**O11.09 Attitudes And Perceptions Of Rap Music, Racial Identity, And Self-Esteem**

Alexis Davis, Cheryl Moreland



Mississippi Academy of Sciences, Eightieth Annual Meeting  
Jackson State University, Jackson, MS, USA

**2:30-3:00 P.M. Business Meeting**

**Thursday, February 18, 2016**  
**Afternoon, Immediately Following the Dodgen Lecture**  
**5:30-7:30**

**Poster Session**

**P11.01**

**New Onset Mania In Late Life: Case Report And Literature Review**

Chasity Torrence, Jon Jackson  
*University of Mississippi Medical Center, USA*

**P11.02**

**Population Characterization Of The Behavioral Effects Of Chronic Unpredictable Stress In Rats**

Devin Guillory, Carley Hydrick, Jasmeka Foster, Natalie Booker, Anna Roller, Ian Paul  
*University of Mississippi Medical Center, USA*

**P11.03**

**Understanding Zebrafish Shoaling Patterns**

Courtney Hyter, Kanza Khan, David Echevarria  
*University of Southern Mississippi, USA*

**P11.04**

**Associations Between Maternal Daytime Sleepiness And Multiple Domains Of Parenting**

Lori Staton, Julie Parker  
*Mississippi State University, USA*

**P11.05**

**Loneliness, Stress, And Cortisol**

Chandler Lee and John Young  
*University of Mississippi, USA*

**P11.06**

**Current Mindfulness Stress Reduction Techniques For College Students**

Joanne (Siew) Kwoh and Juliette Schweitzer  
*Jackson State University, USA*

**P11.07**

**Elementary School Parents' Awareness Of Childhood Obesity**

Kira Seaton Seaton and Meherun Lajju  
*Tougaloo College, USA*

**P11.08**

**Gender, Ethnicity, Marital Status, Employment, And Victimization Among Residents Of Jackson, Ms**

Khadijra Britton, and Meherun Lajju  
*Tougaloo College, USA*

**P11.09**

**Comparative Study: Factors Influence African American Students To Attend Hbcu Vs Pwi**

Ineshia Coleman and Meherun Lajju  
*Tougaloo College, USA, <sup>2</sup>Tougaloo College, USA*



Mississippi Academy of Sciences, Eightieth Annual Meeting

**P11.10**

**Gender, Classification, Family Structure, And Awareness Of Planned Parenthood Among College Students'**

Dione James and Meherun Laiju

*Tougaloo College, USA*

**P11.11**

**Gender, Ethnicity, College Classification And The Grieving Process**

Brandon Catchings and Meherun Laiju

*Tougaloo College*

**P11.12**

**Personality Factors And Attitudes Toward Mental Illness Among College Students**

Desiree Reed, and Gary Chong

*Tougaloo College, USA*

**P11.13**

**Drinking, Smoking, Peer Pressure, Gender And Academic Performance**

Treasure Coleman and Gary Chong

*Tougaloo College, USA*

**P11.14**

**Relationships Between Personality, Assertiveness, And Gender Among African-American College Students**

Wynisha Collins and Gary Chong

*Tougaloo College, USA*

**P11.15**

**Comparing Relationship And Self-Esteem Effects Among Domesic Violence Victims**

Dionnca Tubby and Gary Chong

*Tougaloo College, USA*

**P11.16**

**Emotional I.Q. And Its Relationship To Academic Performace**

Ebony Barnes and Gary Chong

*Tougaloo College, USA*

**P11.17**

**The Relationship Between Personality, Birth Order, And Sexual Promiscuity Among College Students**

Dominique King and Shaila Khan

*Tougaloo College, USA*

**P11.18**

**Sports Psychological Skill And Academic Anxiety Among College Athletes And Non-Athletes.**

Mariah Prince and Shaila Khan

*Tougaloo College, USA*

**P11.19**

**Substance Use Among College Students: A Comparison Of Athletes And Non-Athletes.**

Ashley Franklin and Shaila Khan

*Tougaloo College, USA*



## Science Education

Chair: Dr. Ryan Walker, Mississippi State University

Vice-Chair: Dr. Christine McDaniel, Mississippi State University

Thursday, February 18, 2016

Morning

TCC 218A

9:50 Welcome And Introduction

10:00

**O12.01 Using Co-Teaching Collaborations To Unite Scientists, Science Teachers, And Middle School Students**

Renee Clary<sup>1</sup>, Anastasia Elder<sup>1</sup>, James Dunne<sup>1</sup>, Deborah Tucker<sup>2</sup>, Debbie Beard<sup>1</sup>, Svein Saebo<sup>1</sup>, Charles Wax<sup>1</sup>, Joshua Winter<sup>1</sup> <sup>1</sup>Mississippi State University, USA, <sup>2</sup>Independent Science Education Consultant, USA

10:15

**O12.02 Effects Of Antibiotics And Increased Resistance Of Staphylococcus Epidermidis In College Students**

Steffani Belisle

Northwest Mississippi Community College, USA

10:30

**O12.03 Teachers' Perceptions Of Fossil Replicas In Science Classrooms**

Renee Clary

Mississippi State University, USA

10:45

**O12.04 Redesigning College Biology Courses For Enhancement Of Student Involvement And Cognitive Gains**

Johnny Mattox<sup>1</sup>, Elizabeth Prewitt<sup>2</sup>

<sup>1</sup>Blue Mountain, USA, <sup>2</sup>Blue Mountain, USA

11:00

**O12.05 Relationships Among Academic Performance, Science Fair Participation Level, Teaching Methodologies: Pilot Study**

Christina McDaniel, Ryan M. Walker

Mississippi State University, USA

11:15

**O12.06 Using Reflective Writing To Address Religious And Philosophical Conflicts In Science Classrooms**

Renee Clary

Mississippi State University, USA

11:30

**O12.07 Background Factors Affecting Student Success In Aerospace Engineering**

Rachel McFalls-Brown, Jean Mohammadi-Aragh, Rani Sullivan, Danielle Grimes

Mississippi State University, MsState, MS, USA

11:45 Divisional Business Meeting

12:00-1:00 General Session



Mississippi Academy of Sciences, Eightieth Annual Meeting

Thursday, February 18, 2016

Afternoon

**Workshop 218A**

**1:00-2:30**

**Drs. Walker and McDainel on Sci Ed Training Advances in Teaching Methodologies**

**Division Business Meeting**

**Evening**

**Poster Session**

**Following Dodgen Lecture**

**P12.01**

**Female Motivations And Obstructions Into Engineering**

Carla Grimes, Rachel McFalls-Brown, Jean Mohammadi-Aragh

*Mississippi State University, USA*

**Friday, February 19, 2016**

**MORNING**

**TC 218A**

**Symposium on STEM Education and Broadening Participation**

**8:00 Welcome And Introduction**

**Dr. Ashton Hamme,**

Director, Louis Stokes Mississippi Alliance for Minority Participation

Professor of Chemistry, Department of Chemistry and Biochemistry, Jackson State University, Jackson, MS

**8:15**

**O12.08 Impact Of Act Composite And Act Subscale Scores On Underrepresented Minority Student Persistence In Stem**

V. M. White<sup>1,2</sup>, J. H. Alexander<sup>2,3</sup>, Debra L. Prince<sup>4</sup>

<sup>1</sup>Instructional Systems and Workforce Development, <sup>2</sup>Bagley College of Engineering,

<sup>3</sup>Department of Mechanical Engineering, <sup>4</sup>Educational Leadership and Foundation, Mississippi State University, Mississippi State, MS 39762

**8:35**

**O12.09 Mississippi Academy For Science Teaching, Quality Professional Development For 9-12 Grade Teachers**

Mehri Fadavi, Nisaa Kirtman

Jackson State University, College of Science, Engineering, and Technology, Jackson, MS, USA

**8:55**

**O12.10 Institutional Change Through Faculty Advancement In Instruction And Mentoring, Quality Professional Development**

Mehri Fadavi, Abu Khan, Nisaa Kirtman

*Jackson State University, College of Science, Engineering, and Technology, Jackson, MS, USA*

**9:15**

**O12.11 Center Of Excellence In Science, Technology, Engineering And Mathematics Education (Cesteme)**

Constance Martin<sup>1</sup>, Preston Robinson<sup>2</sup>, Jason Webb<sup>3</sup>, Paul Tchounwou<sup>1</sup> <sup>1</sup>Jackson State University, USA, <sup>2</sup>Jackson Public School District, USA, <sup>3</sup>Hinds Community College, USA

**9:35**

**O12.12 Perception Of Minority Faculty On Underrepresentation In Stem In Higher Education**

Martha Tchounwou

*Jackson State University, College of Science, Engineering, and Technology, Jackson, MS, USA*



9:55 Break

Friday, February 19, 2016

Morning

Room: 218A

### **Simulation-based Education in Mississippi: A Statewide Organizational Meeting**

#### **Agenda**

- 10:15 Call to Order and Introductions, Rob Rockhold, PhD; LaNelle Weems, MSN, RN
- 10:20 The Back Story: Mississippi Simulation Alliance, LaNelle Weems, MSN, RN
- 10:35 Overview - Institutional Goals and Priorities, Rob Rockhold, PhD
- 10:40 View from the Community Colleges, Alaina Herrington, MSN, RN
- 10:50 View from IHL campuses, Rebecca Newton, DNP, RN
- 11:00 View from William Carey, Cal Hisley, PhD
- 11:10 View from UMMC, Michael Holder, MD
- 11:20 Wrap up and Next Steps? Rob Rockhold, PhD; LaNelle Weems, MSN, RN
- 11:30 General Discussion and Poster Viewing

#### **P12.02**

##### **Automated External Defibrillator (Aed) Training In The Workplace: A Comprehensive Teaching Model**

Danielle Parker, Chad Mayes, Patrick Parker, Michael Holder, Michelle Schweinfurth, Robin Rockhold, Anna Lerant, W. Bosseau Murray  
*University of Mississippi Medical Center, Jackson, MS, USA*

#### **P12.03**

##### **The Clinical Value Of Understanding The Physics Of Upsloping Capnography Waveform Tracings**

Chadwick Mayes, Patrick Parker, Driscoll DeVaul, Gary Roebuck, Jeffrey Orledge, Anna Lerant, W. Bosseau Murray  
*University of Mississippi Medical Center, Jackson, MS, USA*

#### **P12.04**

##### **Cardiopulmonary Resuscitation (Cpr) And Automated External Defibrillator (Aed) Training With Performance Feedback**

Robin Rockhold, Patrick Parker, Joyce Shelby, Anna Lerant, Jeffrey Orledge, Michael Holder  
*University of Mississippi Medical Center, Jackson, MS, USA*

#### **P12.05**

##### **Theory Driven Experiential Learning And Interprofessional Team**

Paul Chastain, John Stephens, Elizabeth McClain  
*William Carey University College of Osteopathic Medicine, Hattiesburg, MS, USA*

#### **P12.06**

##### **Dancing With Course Concepts: Which One Should Go Where When Using Simulation?**

Alaina Herrington  
*Hinds Community College, Jackson, MS, USA*

#### **P12.07**

##### **Patient-Centered Biochemistry**

Paul Chastain, R. C. Bateman, Jr.  
*William Carey University College of Osteopathic Medicine, Hattiesburg, MS, USA*

#### **P12.08**

##### **Simulation In Infection Control Preparedness With Nursing Students**

Mary Coyne, Elizabeth Holman  
*University of Southern Mississippi, Long Beach, MS, USA*



**P12.09**

**Application Of Video Laryngoscopy To Improvement Of Intubation Methods Real-Time Anatomical Quizzing**

Sarah McClure<sup>1</sup>, Steven Piper<sup>2</sup>, Kenneth (Cal) Hisley<sup>3</sup>

<sup>1</sup>William Carey University College of Osteopathic Medicine, Hattiesburg, Mississippi, USA, <sup>2</sup>William Carey University College of Osteopathic Medicine, Hattiesburg, Mississippi, USA, <sup>3</sup>William Carey University College of Osteopathic Medicine, Hattiesburg, Mississippi, USA

**P12.10**

**A Visual Mapping Method Using Decision Trees Promotes Improved Student Simulation Performance**

Kenneth (Cal) Hisley<sup>1</sup>, Paul Chastain<sup>2</sup>, Italo Subbarao<sup>3</sup>

<sup>1</sup>William Carey University College of Osteopathic Medicine, Hattiesburg, Mississippi, USA, <sup>2</sup>William Carey University College of Osteopathic Medicine, Hattiesburg, Mississippi, USA, <sup>3</sup>William Carey University College of Osteopathic Medicine, Hattiesburg, Mississippi, USA

**P12.11**

**A Performance Improvement Program Using In-Situ Simulation Within A Pediatric Emergency Department**

Justin Davis, Michael Holder, Melissa Frascogna

University of Mississippi Medical Center, Jackson, MS, USA

**P12.12**

**Enhancing Pediatric Residency With Hi-Fidelity Simulation: Training For Pediatric Acute Care Events**

Jennifer Hong, Kasey Davis, Fernando Gomez, Michael Holder, Jr

University of Mississippi Medical Center, Jackson, MS, USA

**P12.13**

**Hi-Fidelity Simulation Can Help Maintain And Augment Case Management And Procedural Skills**

Benjamin Dillard, Melissa Frascogna, Michael Holder, Jr

University of Mississippi Medical Center, Jackson, MS, USA

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## Zoology

Chair: Dr. M.D. Zaman, Alcorn State University

Vice-Chair: Dr. Julius Ikenga, Mississippi Valley State University

Thursday, February 18, 2016

Morning

TCC 226

9:00

**O13.01 Pushing And Pulling Our Way To A Comprehensive Ambrosia Beetle Management Strategy**

Chris Werle<sup>1</sup>, Blair Sampson<sup>2</sup>, John Adamczyk<sup>2</sup>

<sup>1</sup>Louisiana State University, Baton Rouge, LA, USA, <sup>2</sup>Thad Cochran Southern Horticultural Lab, Poplarville, MS, USA

9:15

**O13.02 Pan-Trypanosoma Molecular Diagnosis Of Southern Nigerian Cattle**

Eze Ideozu, T Lepore, G Hide, Alex Acholonu

Alcorn State University, Lorman, MS, USA

9:30

**O13.03 Macrophomina Phaseolina As A Potential Fungal Pathogen Of Flowering Dogwood (Cornus Florida)**

Frank Mrema<sup>1</sup>, Lucas Mackasmiel<sup>2</sup>, Margareth Mmbaga<sup>2</sup>, Alex Acholonu<sup>1</sup>

<sup>1</sup>Alcorn State University, Lorman, MS, USA, <sup>2</sup>Tennessee State University, Nashville, TN, USA





Mississippi Academy of Sciences, Eightieth Annual Meeting

9:45

**O13.04 Shiitake Log Mushroom Cultivation And Consumption In South-West Mississippi**

Frank Mrema, Magid Dagher, Alex Acholonu

*Alcorn State University, Lorman; MS, USA*

10:00

**O13.05 Molecular Complementation Analysis: An Essential Procedure In The Post-Genomic Era**

J. Ignacio Moreno, Marta Piva

*Alcorn State University, Alcorn State, MS, USA*

10:15

**O13.06 Pollution Studies On Groundwater From Alcorn State University, Mississippi, Usa**

Sagar Pasham, Alexander Acholonu

*Alcorn State University, Lorman, MS, USA*

10:30

**O13.07 Spatial Study On Pollution Status Of The Lower Mississippi River, Ms Usa**

Rachael Duffin, Alexander Acholonu

*Alcorn State University, Lorman, MS, USA*

10:45

**O13.08 Comparative Pollution Study On Mississippi River And Pond At Alcorn State University.**

Alex Acholonu

*Alcorn State University, Lorman, USA*

11:00

**O13.09 Pollution Studies On Water From Alcorn State University Waste Water Treatment Facility**

Alex Acholonu, Hannah Vesper, Krystain Coleman, Shanteria Crockett

*Alcorn State University, Lorman, MS, USA*

11:15

**O13.10 Pollution Studies On Water From Liberty Creek**

Alex Acholonu, Frank Mrema, Marquita Jones

*Alcorn State University, Lorman, MS, USA*

11:30

**O13.11 A Pollution Studies On Groundwater From Fayette, Ms.**

Alex Acholonu, Jivarre Hunt

*Alcorn State University, Lorman, MS, USA*

11:45 **Business Meeting**

Thursday, February 18, 2016

**EVENING**

**Poster Session**

**Immediately Following Dodgen Lecture**

**P13.01**

**Aquaonics: A Combined Aquaculture And Hydroponics Technology**

Md Zaman

*Alcorn State University, Alcorn State, USA*

**P13.02**

**Role Of Pentatricopeptide Repeat Motifs In Rna Metabolism**

Tamikka Coleman, J. Ignacio Moreno, Marta Piva

*Alcorn State University, Alcorn State, MS, USA*



**P13.03**

**Regulation Of Mitochondrial Dna Levels In Baker's Yeast**

Ariel Walker, J. Ignacio Moreno, Marta Piva  
*Alcorn State University, Alcorn State, MS, USA*

**P13.04**

**Intramitochondrial Molar Quantitation Of Ccm1p: An Essential Moonlighting Protein For Mitochondria Biogenesis**

Classie Johnson, Marta Piva, J. Ignacio Moreno  
*Alcorn State University, Alcorn State, MS, USA*

**P13.05**

**A Novel Cellular System To Regulate A Respiratory Chain Transient Mutant Phenotype**

Jivarre Hunt, Classie Johnson, Marta Piva, J. Ignacio Moreno  
*Alcorn State University, Alcorn State, MS, USA*

**P13.06**

**Novel Aspects Of Spotted Wing Drosophila Biology And Improved Methods Of Rearing**

Blair Sampson<sup>1</sup>, Trevor Mallette<sup>1</sup>, Karla Adesso<sup>2</sup>, Oscar Liburd<sup>3</sup>, Lindsay Iglesias<sup>3</sup>, Stephen Stringer<sup>1</sup>, Christopher Werle<sup>1</sup>,  
Donna Marshall-Shaw<sup>1</sup>, John Adamczyk Jr.<sup>1</sup>  
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**The Prevalence Of Asthma In Mississippi Delta- A Geospatial Research**

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**The Effects Of Adrenergic Receptor Antagonists On Avian Memory**

Nathaniel Webb, Amy Hribar, J'Undra Pegues, Taylor Williams, Lainy Day  
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**Status Of Toxoplasmosis In Mississippi**

Tracey Williams, Jacqueline Powell, Tekoa Williams, Lavester White, Julius Ikenga  
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- Build biomedical infrastructure
- Train students in biomedical research
- Improve health in Mississippi

Mississippi INBRE provides awards to researchers at primarily undergraduate institutions throughout Mississippi to support research and curriculum development.

Mississippi INBRE hosts two summer internship programs: Mississippi INBRE Research Scholars and Mississippi INBRE Service Scholars. These internships provide undergraduate students with laboratory or public health education training.

Mississippi INBRE funds core research facilities accessible to researchers and students across the State. These facilities are located at the University of Southern Mississippi, Mississippi State University and the University of Mississippi Medical Center.

