MISSISSIPPI ACADEMY OF SCIENCES

SEVENTY-EIGHTH ANNUAL MEETING

March 6-7, 2014

Lake Terrace Convention Center

Hattiesburg, MS

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GENERAL SCHEDULE

MISSISSIPPI ACADEMY OF SCIENCES

Seventy-Eighth Annual Meeting

March 6-7, 2014

WEDNESDAY, MARCH 5, 2014

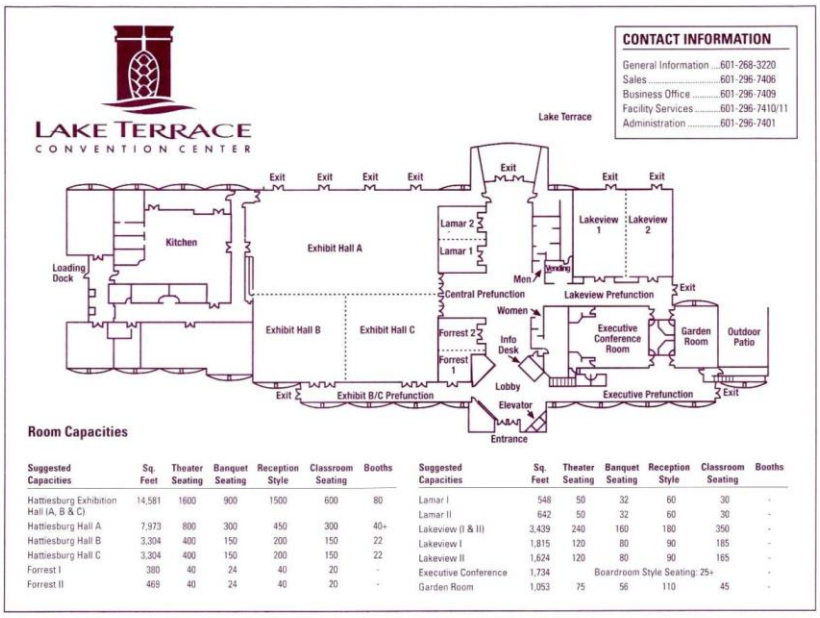
TIME	EVENT	LOCATION
5:00 PM to 7:00 PM	Board of Directors Meeting	TBA

THURSDAY, MARCH 6, 2014

TIME	EVENT	LOCATION
7:30 AM to 2:00 PM	Registration	Lobby
8:00 AM to 3:00 PM	Exhibits	Lobby
8:00 AM to 3:15 PM	Divisional Programs	See Specific Divison Info
10:00 AM to 11:50 AM	Careers in Pharmacology and Biotechnology	Exhibit Hall A
Noon to 1:00 PM	Ethical Challenges in Biomedical Research	Exhibit Hall A
3:30 PM to 6:00 PM	Presentation of Awards, and 2014 Dodgen Lecture "Reconsidering the Scientific Method in the Information Age"	Exhibit Hall A
6:00 PM to 7:30 PM	Reception and Graduate Poster Session	Exhibit Hall C

FRIDAY, MARCH 7, 2014

TIME	EVENT	LOCATION
7:15 AM to 8:15 AM	Past-Presidents' Breakfast	TBA
8:00 AM to 2:00 PM	Registration	Lobby
8:00 AM to 2:00 PM	Exhibits	Lobby
8:00 AM to 5:00 PM	Divisional Programs	See Specific Divison Info
10:00 AM to Noon	Symposium on Silva, Landreth, and Bickle's Engineering the New Revolution in Neuroscience (Oxford Press)	Garden Room
Noon to 2:00 PM	Millsaps-HHMI Undergraduate Symposium	Exhibit Hall A
2:00 PM	MAS Buisness Meeting	Exhibit Hall A



Room Capacities

Suggested Capacities	Sq. Feet	Theater Seating	Banquet Seating	Reception Style	Classroom Seating	Booths
Hattiesburg Exhibition Hall (A, B & C)	14,581	1600	900	1500	600	80
Hattiesburg Hall A	7,973	800	300	450	300	40+
Hattiesburg Hall B	3,304	400	150	200	150	22
Hattiesburg Hall C	3,304	400	150	200	150	22
Forrest I	380	40	24	40	20	-
Forrest II	469	40	24	40	20	-

Suggested Capacities	Sq. Feet	Theater Seating	Banquet Seating	Reception Style	Classroom Seating	Booths
Lamar I	548	50	32	60	30	-
Lamar II	642	50	32	60	30	-
Lakeview (I & II)	3,439	240	160	180	350	-
Lakeview I	1,815	120	80	90	185	-
Lakeview II	1,624	120	80	90	165	-
Executive Conference	1,734	Boardroom Style Seating: 25+				-
Garden Room	1,053	75	56	110	45	-

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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:
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Continue on Hwy 49 through Hattiesburg
Just before Intersection of I-59 and Hwy 49 there will be a traffic light
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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:
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Take Hwy 49 south to first traffic light
Take left at first traffic light

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2014 Dodgen Lecture

Thursday
March 6, 2014
3:30 PM

"RECONSIDERING THE SCIENTIFIC METHOD IN THE INFORMATION AGE"
given by

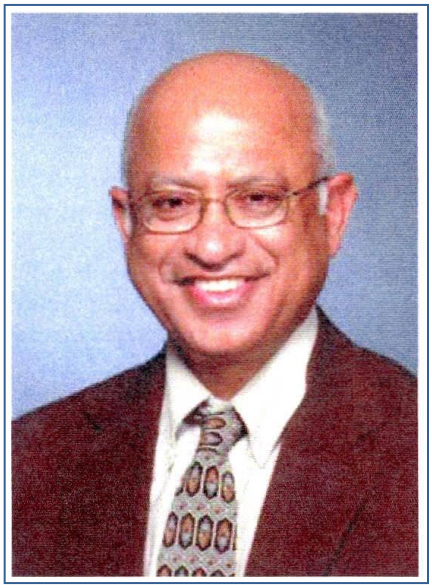
Richard L. Summers, MD, FACEP
Associate Vice Chancellor for Research
Professor and Chair Emeritus of Emergency Medicine
Department of Emergency Medicine
University of Mississippi Medical Center

Richard L. Summers, MD is an attending physician and Professor and Chair Emeritus of Emergency Medicine at the University of Mississippi Medical Center. Dr. Summers, a native of Gulfport Mississippi, graduated from the University of Southern Mississippi magna cum laude in mathematics in 1977. He received his medical degree from the University of Mississippi Medical Center in 1981 after which he entered their residency program in internal medicine. Summers then began graduates studies in physiology and completed a post-doctoral research fellowship under the preeminent cardiovascular physiologists, Drs. Arthur C. Guyton and Thomas G. Coleman. Since 1988, he has been a full-time faculty member at the University of Mississippi and currently holds joint appointments in the Department of Emergency Medicine and the Department of Physiology and Biophysics.

Dr. Summers' primary research interests include both basic science and clinical investigations in the area of cardiovascular disease as it relates to the practice of emergency medicine. He has authored or coauthored over 300 publications, abstracts, and book chapters and has presented at numerous international scientific association meetings, hospitals, and medical schools. Dr. Summers currently reviews manuscripts for 10 different medical journals and is an active member of the Society of Academic Emergency Medicine and the American College of Emergency Physicians where he has been a member on the National Research Committee and Councilor for the Research Section of the College. He has established a national reputation for his work on quantitative models of human physiology on behalf of NASA's Digital Astronaut Program, particularly in regard to measuring the effects of microgravity on space travelers. Dr. Summers is also a member of the Integrated Product Team for the NASA Cardiovascular Laboratory.

Plenary Speaker

Thursday, March 6, 2014
12:00 PM



Ethical Challenges in Biomedical Research

Given by

Subrata Saha, Ph.D.

Editor-in-Chief, Journal of Long Term Effects of Medical Implants; Ethics in Biology; Engineering & Medicine
Director, Biomedical Engineering Program, School of Graduate Studies
Research Professor and Director of Musculoskeletal Research.
Department of Orthopaedic Surgery and Rehabilitation Medicine.
Professor, Dept. Physiology & Pharmacology
SUNY Downstate Medical Center

Dr. Subrata Saha is the Director of Musculoskeletal Research and Research Professor in the Department of Orthopaedic Surgery & Rehabilitation Medicine at SUNY Downstate Medical Center in Brooklyn, New York. Dr. Saha received a BS in Civil Engineering from Calcutta University in 1963, an MS in Engineering Mechanics from Tennessee Technological University in 1969, and Engineering and PhD degrees in Applied Mechanics from Stanford University in 1972 and 1974, respectively. He has been a faculty member at Yale University, Louisiana State University Medical Center, Loma Linda University, Clemson University, and Alfred University. Dr. Saha has received many awards from professional societies, including Orthopedic Implant Award, Dr. C. P. Sharma Award, Researcher of the Year Award, C. William Hall Research Award in Biomedical Engineering, Award for Faculty Excellence, Research Career Development Award from NIH, and Engineering Achievement Award. He is a Fellow of the Biomedical Engineering Society (BMES), The American Society of Mechanical Engineers (ASME), and the American Institute for Medical and Biological Engineering (AIMBE). He currently chairs the Bioethics Committee of the International Federation of Medical and Biological Engineering (IFMBE) and the Development Committee of Sigma Xi, and is Co-Chair of the International Committee of AIMBE. He is the immediate past chair of the Ethics Committee of the American Association of Dental Research (AADR).

He has received numerous research grants from federal agencies (NIH and NSF), foundations, and industry. Dr. Saha is the founder of the Southern Biomedical Engineering Conference Series, and he also started the International Conference on Ethical Issues in Biomedical Engineering. Dr. Saha has published over 118 papers in journals, 45 book chapters and edited volumes, 382 papers in conference proceedings, and 151 abstracts. His research interests are bone mechanics, biomaterials, orthopedic and dental implants, drug delivery systems, rehabilitation engineering, and bioethics.

Abstract:
During the last fifty years, the field of biomedical engineering has been largely responsible for the dramatic advances in modem medicine. These include advanced therapeutic and diagnostic techniques (e.g., total joint replacements, heart-lung machines, artificial heart, computed tomography and magnetic resonance imaging) and that in turn has significantly improved the life span and quality of life of our patients. However, biomedical technology has also contributed to new ethical dilemmas and has challenged some of our moral values. Some of the areas that have shown immense promise but also raised public concern are nanobiotechnology, stem cell research, cloning, genetic engineering and synthetic biology. Other topics that also often face ethical scrutiny are animal research, clinical trials and conflicts-of-interest. A discussion of ethical issues associated with these topics will be presented.

Millsaps-HHMI Undergraduate Scholars Symposium

Honoring Excellence in Science in Mississippi

Friday, March 7, 2014

Exhibit Hall A

Noon to 2:00 PM

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.

Symposium Program

12:00 PM Welcome Remarks by Dr. Stan Smith

12:10 PM Lead Speaker, Dr. Timothy Ward

12:45 PM Poster Competition

1:30 PM James D. Hardy Award Honoring Excellence in Science in Mississippi Ceremony

Presentation of Awards - Dr. Marc Mitchell, James D. Hardy Professor and chairman of the Department of Surgery and Closing

Symposium

Sponsored by the Health Sciences Division
Thursday, March 6, 2014

Exhibit Hall A
10:00-11:50 AM

"Careers in Pharmacology and Biotechnology"

This session will consist of 3 seminars targeting Mississippi's STEM undergraduate students. It will provide direction, insight and guidance to students interested in graduate training for careers in academic and industrial research.

Session Chair: Dr. Richard Roman, Chair of Pharmacology Department, University of Mississippi Medical Center, Jackson, MS

Seminars:

1. **Graduate Studies in Pharmacology at UMMC**
   Dr. Sean Didion

2. **Drug Development: From Preclinical Research to the Clinical Trials**
   Dr. Richard Roman

3. **Genomics Approaches to Research and Medicine**
   Dr. Michael Garrett

Sponsored by the Dr. Richard J. Roman, Chair of Pharmacology Department, University of Mississippi Medical Center

Symposium
(Co-Sponsored by the History and Philosophy and Psychology and Social Sciences Divisions)
Friday, March 7, 2014
Garden Room, 10:00 AM

A SYMPOSIUM ON SILVA, LANDRETH, AND BICKLE'S ENGINEERING THE NEW REVOLUTION IN NEUROSCIENCE (Oxford University Press, 2013)

This interdisciplinary symposium will bring together a neuroscientist and a philosopher of science for a 2 hour author meets critics' session on Alcino Silva, Anthony Landreth, and John Bickle's recent book, with Bickle commenting on both presentations. Possible topics for discussion include the empirical adequacy of Silva, Landreth, and Bickle's Framework for scientific experiments, derived from state-of the-art research in the field of 'molecular and cellular cognition' (MCC); the varieties and specific roles of distinct Integration procedures they articulate for relating distinct experimental results; the potential and plausibility of automated "research maps" to indicate what has been accomplished experimentally and the data still missing for establishing causal hypotheses linking cognitive functions to specific cellular and molecular mechanisms, and the authors' speculations on the future of a science of experiment planning. Each talk will be 20 minutes, followed by 10 minutes of discussion, leaving 30 minutes at the end of the three presentations for audience discussion. Given the book's distinctive interdisciplinary focus, this symposium will be of interest to practicing research scientists interested in the representation of knowledge in their fields, and to philosophers interested in the rationality of short-term and long-term experimental research programs in science.

Panelists

Michael Bishop, Ph.D. is Professor of Philosophy and Director of Graduate Studies at Florida State University. His primary research interests include philosophy of science, epistemology, and philosophy of psychology/mind. He received his Ph.D. in Philosophy from the University of California, San Diego, in 1990. He is the author of Epistemology and the Psychology of Human Judgment (co-author J.D. Trout, Oxford University Press) and more than 30 professional articles, book chapters, and reviews, including in Nous, Philosophy of Science, Synthese, and Studies in the History and Philosophy of Science. His work has been supported by a grant from the National Science Foundation.

Diane Lebesgue, Ph.D., is Assistant Professor of Neurobiology and Anatomical Sciences at the University of Mississippi Medical Center. Her primary research interests include the neural circuitry and molecular machinery that underlies sex differences in neuropsychiatric diseases and addiction. She received her Ph.D. in life sciences at the Universite de Tours in 1997 and did postdoctoral training at the Biotechnology Research Institute at the Universite de Montreal, Canada and in the Department of Neuroscience at the Albert Einstein College of Medicine, where she also served as an instructor in neuroscience. She has published 14 research articles. Her research is supported by a Mentored Scientist Career Development Award from the National Institute of Drug Abuse.

Discussant

John Bickle, Ph.D. is Professor of Philosophy, Adjunct Professor of Psychology, Head of the Department of Philosophy and Religion, and Fellow of the Institute for Imaging and Analytical Technologies (I2AT) at Mississippi State University. His primary research interests include philosophy of neuroscience, scientific reductionism, and cellular/molecular mechanistic explanations in neuroscience. He received his Ph.D. in Philosophy from the University of California, Irvine, in 1989. He is the author of four books (Psychoneural Reduction: The new Wave, MIT Press, 1998; Philosophy and Neuroscience: A Ruthlessly Reductive Account (Kluwer, now Springer, 1992; Understanding Scientific Reasoning, 5th Ed. (co-authors Ronald Giere and Robert Mauldin, Thompson 2006; and Engineering the Next Revolution in Neuroscience (co-authors Alcino J. Silva and Anthony Landreth, Oxford University Press, 2013), editor of the Oxford handbook of Philosophy and Neuroscience (Oxford University Press, 2009), and more than 75 articles, book chapters, and reviews. His work has been supported by grants from the National Science Foundation and the National Institutes of Health.

OVERVIEW OF DIVISIONAL PROGRAMS

General Symposiums

Thursday, March 6

Location: Exhibit Hall A

10:00 CAREERS IN PHARMACOLOGY AND BIOTECHNOLOGY

12:00 ETHICAL CHALLENGES IN BIOMEDICAL RESEARCH

THURSDAY EVENING

Location: Exhibit Hall A

3:30 AWARDS and DODGEN LECTURE

"RECONSIDERING THE SCIENTIFIC METHOD IN THE INFORMATION AGE"

5:30-7:30 DODGEN RECEPTION AND DIVISIONAL POSTER SESSIONS

Posters should not be removed until 7:30 PM to allow judges and attendees ample time to review each poster.

General Symposiums

Friday, March 7

Location: Garden Center

10:00 A SYMPOSIUM ON SILVA, LANDRETH, AND BICKLE'S ENGINEERING THE NEW REVOLUTION IN NEUROSCIENCE (Oxford University Press, 2013)

Location: Exhibit Hall A

12:00 Millsaps-HHMI Undergraduate Symposium

AGRICULTURE AND PLANT SCIENCE

Thursday, March 6

DIVISION POSTER PRESENTATIONS

Following the Dodgen Lecture

Location: Exhibit Hall C

1. **EFFECT OF CADMIUM ON THE PRODUCTION OF PHYTOCHELATIN BY TRITICUM AESTIVUM DURING PHYTOEXTRACTION**
2. **EFFECTS OF HEAT AND ACID PRETREATMENTS ON SUGAR PRODUCTION FROM THE DEGRADATION OF PINE SAWDUST BY AN UNKNOWN FUNGAL ISOLATE AND TRICHODERMA REESEI**
3. **SUGAR PRODUCTION FROM DEGRADATION OF LIGNOCELLULOSIC MATERIAL BY PYCNOPORUS CINNABARINUS UNDER AEROBIC AND ANAEROBIC CONDITIONS**
4. **PHYTOEXTRACTION OF CADMIUM-CONTAMINATED SOIL BY IPOMOEA LACUNOSA: EFFECTS OF CADMIUM, CHELATES AND PLANT GROWTH STAGE**
5. **PHENOLIC AND ANTHOCYANIN COMPOUND CONCENTRATIONS IN BLUEBERRY (VACCINIUM CORYMBOSUM) CULTIVARS**
6. **EFFECT OF SUN AND SHADE ON SOYBEAN PLANT GROWTH AND PHYSIOLOGY UNDER POTASSIUM FERTILIZED AND NON FERTILIZED CONDITIONS**

7. CHROMOSOME SUBSTITUTION LINES: VALUABLE GENETIC RESOURCES TO INTROGRESS USEFUL GENES FROM WILD SPECIES INTO UPLAND COTTON

AGRICULTURE AND PLANT SCIENCE

Friday, March 7

Location: Forrest 1

8:45 OPENING REMARKS

9:00 EFFECT OF LONG-TERM ORGANIC FARMING ON BIOMASS DEVELOPMENT AND SOIL PHYSICO-CHEMICAL CHANGES IN A MUSCADINE VINEYARD

9:15 EFFECT OF TEMPERATURE ON INFECTION OF BOTRYOSPHAERIA STEM BLIGHT IN SOUTHERN BLUEBERRIES

9:30 RHIZOBACTERIAL COMMUNITY STRUCTURE AND FUNCTION IN A DRYLAND AGROECOSYSTEM

9:45 BUSINESS MEETING

CELLULAR, MOLECULAR AND DEVELOPMENTAL BIOLOGY

Thursday, March 6

THURSDAY MORNING

Location: Lakeview I

8:15 OPENING REMARKS

8:30 T CELL CO-RECEPTOR FUNCTION IN CHANNEL CATFISH*, ICTALURUS PUNCTATUS*

8:45 MICRORNA-200 REGULATES CELL MIGRATION/INVASION GENES IN A LUNG METASTATIC CELL MODEL

9:00 FORMATION OF FOUR-WAY DNA JUNCTION FACILITATED BY A SMALL MOLECULE

9:15 EFFECTS OF MICROGRAVITY ON IMMUNE FUNCTION: BENZOFURAN-2-CARBOXYLIC ACID DERIVATIVE AS A COUNTERMEASURE

9:30 EXPRESSION OF THE pcd GENE FROM HALOTHIOBACILLUS NEAPOLITANUS

9:45 MOLECULAR DETECTION OF SPOTTED FEVER GROUP RICKETTSIA IN IXODID TICKS FROM PAKISTAN

10:00 BREAK

10:15 ROLE OF MSA IN VANCOMYCIN RESISTANCE IN STAPHYLOCOCCUS AUREUS

10:30 ARE PEPTIDE NUCLEIC ACIDS (PNAS) CAPABLE OF TRANSFERRING GENETIC INFORMATION VIA AMINOACYL-TRNA SYNTHETASES?

10:45 CORRELATION BETWEEN FIBRONECTIN MATRIX AND EXPRESSION OF MYOFIBROBLASTIC FEATURES IN HUMAN ADIPOSE-DERIVED STEM CELLS

11:00 ANALYSIS OF AMBLYOMMA CEMENT CONE PROTEINS

11:15 INHIBITION OF PROTEASOME AND LYSOSOMAL ENZYMES CAN PARTIALLY RESCUE CFTR DEGRADATION

11:30 EXPANDING THE REPERTOIRE OF AMINO ACID ANALOGUES FOR USE IN THE SYNTHESIS OF NOVEL PEPTIDES

11:45 LUNCH BREAK

THURSDAY AFTERNOON

Location: Lakeview I

1:15 DETERMINING THE ROLE OF THE NITROGEN REGULATORY PROTEIN AREA IN THE DIMORPHIC FUNGUS *HISTOPLASMA CAPSULATUM*

1:30 ENDOGENOUS CFTR EXPRESSION IN HUMAN PANCREATIC DUCT CELLS

1:45 ENHANCEMENT OF RADICAL QUENCHING ABILITY OF CHEDDAR WHEY: MUTUAL SUPPLEMENTATION WITH THERMALLY GENERATED MAILLARD REACTION PRODUCTS

2:00 BETULINIC ACID DOES NOT AFFECT RATES OF IN VIVO SPONTANEOUS FORMATION OF THE [URE3] PRION IN *SACCHAROMYCES CEREVISIAE*

2:15 DECIPHERING THE PHYSIOLOGICAL ROLE OF CORAZONIN IN THE BLACK-LEGGED TICK (IXODES SCAPULARIS)

2:30 BUSINESS MEETING

THURSDAY EVENING

DIVISION POSTER PRESENTATIONS

Following the Dodgen Lecture

Location: Exhibit Hall C

1. **CHARACTERIZATION OF GENE SAUSA300_1295 IN THE *MSA* OPERON OF *STAPHYLOCOCCUS AUREUS***
2. **ROLE OF MSA IN REGULATION OF CELL MORPHOLOGY AND TELLURITE RESISTANCE IN *STAPHYLOCOCCUS AUREUS***
3. **THE EFFECTS OF HIGH ENERGY RADIATION ON THE VESTIBULAR AND IMMUNE FUNCTION IN RATS**
4. **ASYMMETRIC LEAVES1 ESTABLISHES ORGAN BOUNDARIES IN *ARABIDOPSIS* FLOWERS**
5. **BIOCHEMICAL ANALYSIS OF TWO *ASPERGILLUS NIDULANS* SUPPRESSOR MUTATIONS**
6. **SEX DIFFERENCES IN THE PROGRESSION OF RENAL INJURY LEPTIN RECEPTOR KNOCKOUT DAHL SALT-SENSITIVE (SS) RATS**
7. **TRACKING PLASTID (AND MITOCHONDRIAL) GENE MIGRATION IN K. BREVIS**
8. **ENHANCEMENT OF TOTAL RADICAL TRAPPING POTENTIALS OF SWEET WHEY: MUTUAL SUPPLEMENTATION WITH GREEN TEA EXTRACT**
9. **MECHANISM OF repo REGULATION IN GLIAL CELLS OF DROSOPHILA MELANOGASTER**
10. **RECONSTITUTION OF MUNC18-DEPENDENT MAST CELL EXOCYTOSIS**
11. **CHARACTERIZATION OF A NOVEL RING-TYPE UBIQUITIN E3 LIGASE GHRING2 INVOLVED IN COTTON FIBER DEVELOPMENT**
12. **DESIGN OF A MULTIFUNCTIONAL POLYPEPTIDE FOR APPLICATION IN CANCER DIAGNOSIS AND TREATMENT**
13. **HEME OXYGENASE REGULATION OF TROPHOBLAST ENAC MEDIATED MIGRATION**
14. **SUBCLONING AND EXPRESSION OF RAT SYPNATOTAGMIN II FOR THE EXPRESSION RECONSTITUTION OF MAST CELL EXOCYTOSIS**
15. **RECONSTITUTION OF MAST CELL EXOCYTOSIS**
16. **DETERMINING THE PROTEIN EXPRESSION OF THE NITROGEN REGULATORY PROTEIN *AREA* IN THE DIMORPHIC FUNGUS *HISTOPLASMA CAPSULATUM***

17. **IL-17 PROTECTS WEST NILE VIRUS INFECTION BY ENHANCING CD8+ T CELL MEDIATED CYTOTOXICITY**
18. **NOVEL ANTIBODY CONJUGATED NANOPARTICLES BLOCK CMV INFECTION**
19. **OSTEOPONTIN SIGNALING FACILITATES WEST NILE VIRUS ENCEPHALITIS**
20. **HISTONE H2B DIFFERENTIAL EXPRESSION IN YEAST AND MOLD MORPHOTYPES OF A DIMORPHIC PATHOGENIC FUNGUS HISTOPLASMA CAPSULATUM**
21. **EXPRESSION OF STRESS-RELATED GENES IN THE RED BLOOD CELLS OF THE ATLANTIC STINGRAY(*Dasyatis sabina*)**
22. **THE POSSIBLE ROLE OF ABSCISIC ACID SIGNALING IN NITROGEN ASSIMILATION**
23. **ROLE OF AN ABSCISIC ACID-ACTIVATED PROTEIN KINASE IN DROUGHT TOLERANCE**

CELLULAR, MOLECULAR AND DEVELOPMENTAL BIOLOGY

March 7, 2014

FRIDAY MORNING

Location: Lakeview I

8:20 **WELCOME AND OPENING REMARKS**

8:30 **FIVE TRACE ELEMENTS RESPONSIBLE FOR ALTERING THE SOYBEAN SEED PROTEIN, OIL AND FATTY ACIDS COMPOSITION**

8:45 **CYSTATINS PLAY ROLE IN TICK BLOOD FEEDING AND PATHOGEN INFECTION**

9:00 **AN ALLOSTERIC GAIN OF FUNCTION MUTATION CANNOT COUNTERACT A LOSS-OF-FUNCTION MUTATION AT THE GPIB-A BINDING SITE OF VWF A1 DOMAIN**

9:15 **MOSQUITO CELL MODULATES CHIKUNGUNYA VIRUS INFECTIVITY**

9:30 **GOLD-NANOPARTICLES DELIVER ANTI-DENGUE SMALL INTERFERING RNA**

9:45 **STUDY OF THE ROLE OF THE MOLD-SPECIFIC MS95 GENE IN DNA REPAIR IN THE PATHOGENIC, DIMORPHIC FUNGUS HISTOPLASMA CAPSULATUM**

10:00 **BREAK**

10:15 **CHARACTERIZING A NEW OPERON, msa, AND ITS ROLE IN BIOFILM DEVELOPMENT AND VIRULENCE**

10.30 **THE ROLE OF GenF IN THE ASYMMETRIC DISTRIBUTION OF THE VIRULENCE PROTEIN, IcsA IN SHIGELLA FLEXNERI**

10:45 **ENHANCEMENT OF RADICAL QUENCHING ABILITY OF CHEDDAR AND EDAM WHEY: MUTUAL SUPPLEMENTATION WITH BLACK TEA EXTRACT**

11:00 **THE REGULATORY RELATIONSHIP BETWEEN MSA AND SARA IN STAPHYLOCOCCUS AUREUS**

11:15 **EVALUATION OF SMALL MOLECULES AS A METHOD TO STABILIZE THE FORMATION OF A STABLE FOUR WAY JUNCTION (4WJ)**

CHEMISTRY AND CHEMICAL ENGINEERING

March 6, 2014

THURSDAY MORNING

Room: Exhibit Hall B

7:55 **INTRODUCTION AND WELCOME**

Plenary Session I – Analytical Chemistry/Applied Spectroscopy

8:00 SELECTIVE EXTRACTION OF COPPER IONS FROM WATER SAMPLES USING ION-IMPRINTED POLYMER

8:15 ENVIRONMENTAL FATES AND TRANSFORMATION OF Cs, Co, AND Sr IN THE SOILS OF US COASTAL ECOSYSTEM

8:30 SORPTIVE REMOVAL OF ORGANIC COMPOUNDS AND METALS FROM AQUEOUS SOLUTION USING BIOMASS CHAR

8:45 MERCURY GAS EXCHANGES OVER BARE SOILS AND OTHER LANDFORMS IN MISSISSIPPI

9:00 STABILITY AND ANALYSIS USING THIN LAYER CHROMATOGRAPHY OF CURCUMIN & CURCUMIN IN TURMERIC AFTER HEATING IN EDIBLE OILS

9:15 COLORIMETRIC AND OPTICAL SENSING OF ANIONS BY SYNTHETIC RECEPTORS IN WATER

9:30 BREAK

Plenary Session II – Organic and Biochemistry

9:45 METHODOLOGY DEVELOPMENT USING OXYALLYL SILANES AS HOMOENOLATE EQUIVALENTS

10:00 (*E*)-1-(2-HYDROXYPHENYL)-3-(PIPERIDIN-1-YL)-PROP-2-EN-1-ONE: STRUCTURAL CHARACTERIZATION BY X-RAY AND V-T NMR

10:15 THE PHOTOCHEMISTRY OF N-SUBSTITUTED HETEROAROMATIC SALTS

10:30 OXALATE OXIDASE ACTIVITY IN *E. COLI*

10:45 SYNTHETIC STUDIES TOWARD SPIRO-ISOXAZOLINE DERIVED MCF-7, MDA-MB-231, PC-3, AND DU-145 ANTI-CANCER AGENTS

11:00 CELLULAR AND MOLECULAR STUDIES ON PLANT FLAVONOIDS AGAINST OXIDATIVE STRESS

11:15 SYNTHESIS, CHARACTERIZATION AND STRUCTURAL STUDIES OF COPPER(II) LEVULINATE CONTAINING NITROGEN AND OXYGEN DONORS

11:30 BUSINESS MEETING AND LUNCH BREAK

THURSDAY AFTERNOON

Plenary Session III – Physical Chemistry and Material Science

12:30 STUDIES OF CHARGE RETENTION AND DISSIPATION IN ORGANIC THIN FILMS

12:45 SUPERAMPHIPHOBIC INORGANIC-ORGANIC THIOL-ENE SURFACES VIA SPRAY-DEPOSITION AND PHOTOPOLYMERIZATION

1:00 SELF-ASSEMBLY AND RESPONSIVENESS IN POLYPEPTIDE-BASED STAR AND TRIBLOCK COPOLYMERS: FROM DESIGN TO FUNCTION

1:15 ZERO TO THREE DIMENSIONAL NANO ARCHITECTURE FOR LABEL-FREE SENSING AND WATER PURIFICATION

1:30 EVALUATION OF CARBON NANOTUBES AS A POTENTIAL ADSORBER OF ORGANIC POLLUTANTS FROM WATER MATRIX

1:45 BREAK

Plenary Session IV – Computational Chemistry and Nanotechnology

2:00 NANOPARTICLES PROPERTIES PREDICTION: PHYSICO-CHEMICAL, TOXICOLOGICAL AND PHARMACOLOGICAL ASSESSMENT

2:15 COMPUTATIONAL STUDIES ON SELECTED NANOMATERIALS: PROPERTIES AND INTERACTIONS

2:30 QUANTUM CALCULATIONS USING SPREAD SHEET

2:45 ARE CONVENTIONAL STRAIN ENERGIES ADDITIVE?

3:00 ACCURATE THEORETICAL CALCULATIONS ON SILVER CLUSTERS: AVOIDING EMPIRICAL CORRECTIONS

3:15 UNDERSTANDING ELECTRON INTERACTIONS WITH DNA BASES, BASE PAIRS, AND STACKS

THURSDAY EVENING

DIVISION POSTER PRESENTATIONS

Following the Dodgen Lecture

Location: Exhibit Hall C

1. **THEORETICAL STUDIES OF PERMEABILITY PROPERTIES OF POPC LIPID BILAYER**
2. **CHEMOENZYMATIC SYNTHESIS OF BOTH ENANTIOMERS OF 3-AMINOALCOHOLS FROM A COMMON SYNTHETIC INTERMEDIATE**
3. **STUDY OF VARIOUS CARBON NAONOTUBES AS ALTERNATIVE EXTRACTORS OF SULPHONAMIDES FROM WATER**
4. **APPLICATION OF CARBON NANOTUBES AS A SOLID PHASE EXTRACTION SORBENT FOR ISOLATION OF VITAMINS FROM BIOLOGICAL SAMPLES**
5. **IMMOBILIZATION OF SALEN ON CHROMOSORB 106 POLYMER AND APPLICATION TO SOLID PHASE EXTRACTION OF TRACE ELEMENTS FOR ICP-MS ANALYSIS**
6. **A COMPARISON OF THE BRADFORD ASSAY WITH THE BICINCHONINIC ACID ASSAY FOR MEASURING PROTEIN IN SOIL EXTRACTS**
7. **ENCAPSULATION AND SELECTIVITY OF SULFATE WITH A FURAN-BASED HEXAAZA MACROCYCLIC RECEPTOR IN WATER**
8. **CHARACTERIZATION OF NIR EMISSIVE SILVER NANOCLUSTERS ON SINGLE STRANDED DNA TEMPLATE**
9. **A THIOPHENE LINKED TRIPODAL POLYAMINE RECEPTOR FOR ANION SENSING**
10. **STUDIES OF A MACROCYCLE-BASED RECEPTOR FOR ANION SENSING**
11. **POLYPHENOLIC COMPOUNDS AGAINST OXIDATIVE STRESS IN HEPG2 CELLS**
12. **INFLUENCE OF FLAVONOIDS IN REDUCING OXIDATIVE STRESS IN HUMAN SERUM ALBUMIN: A CRITICAL STUDY USING OPTICAL SPECTROSCOPY AND MOLECULAR MODELING**
13. **CONVENTIONAL STRAIN ENERGIES OF THE DIAZETIDINES AND THE DIPHOSPHETANES**
14. **CALCULATING ENTHALPIES OF FORMATION FOR AMINO DERIVATIVES OF TRINITROTOLUENE**
15. **COMPUTATIONAL ANALYSIS OF GOLD CLUSTERS WITH DNA BASES**
16. **MOLECULAR MODELLING OF MOLECULARLY IMPRINTED POLYMERS**
17. **AN AFM ANALYSIS ON PVP/PMMA BLEND**

18. **HIGH TEMPERATURE SOLVENT ANNEALING OF DH6T ON HOPG: AN ATOMIC FORCE MICROSCOPY STUDY**
19. **AMPHIPHILIC COPOLYMER-GRAFTED SILICA NANOPARTICLES AS A TEMPLATE FOR NOVEL OIL DISPERSANTS**
20. **INTERACTION OF RECOMBINANT CBBO AND CBBQ, OF *HALOTHIOBACILLUS NEAPOLITANUS,* WITH RUBISCO**
21. **SYNTHESIS AND BINDING STUDIES OF HEXAUREA-BASED TRIPODAL RECEPTORS**
22. **CATALYTIC EFFECTS OF Al(III), Sc(III), Y(III) ON GENERATION OF CADMIUM VAPOR IN THE PRESENCE OF KCN**
23. **A NEW DIPODAL UREA-BASED RECEPTOR FOR SELECTIVE BINDING OF FLUORIDE**
24. **DECONTAMINATION OF TOXIC FLUORIDE FROM WATER BY A NOVEL CLASS OF SYNTHETIC RECEPTOR**
25. **SELECTIVE DETECTION AND PHOTOTHERMAL THERAPY OF CANCER CELLS USING IRON CORE GOLD SHELL NANOPARTICLE-SWCNT HYBRID NANOSTRUCTURES**
26. **DESIGN OF A SOLAR PHOTOREACTOR: GREEN CHEMISTRY APPLICATIONS AT MILLSAPS COLLEGE**
27. **PHOTOCHEMISTRY OF N-ALKOXY HETEROAROMATIC TETRAFLUOROBORATES: ANALYSIS OF THE REACTION PATHWAYS BY pH MONITORING**
28. **BIFUNCTIONAL 1,8-NAPHTHALIMIDES AS FLUORESCENCE SENSORS**
29. **ANALYSIS OF THE DNA-CLEAVING EFFICIENCIES OF BIFUNCTIONAL DNA-CLEAVING REAGENTS**
30. **GOLD NANOPOPCORN ATTACHED SINGLE-WALLED CARBON NANOTUBE HYBRID FOR RAPID DETECTION AND EFFECTIVE KILLING OF BACTERIA**
31. **SWCNT-CONJUGATED IRON-CORN GOLD-SHELL NANOPOPCORN FOR TARGETED MAGNETIC SEPARATION & ENRICHMENT AND PHOTOTHERMAL DESTRUCTION OF MULTI DRUG RESISTANCE SALMONELLA**
32. **ADSORPTION OF HERBICIDES ON THE SURFACE OF NANO-PARTICLES OF IRON OXIDE AND IRON OXIDE**
33. **PHOTO-ENHANCED TOXICITIES OF SULFUR-DOPED TiO_2 NANOPARTICLES TO ZEBRAFISH EMBRYOS (*DANIO RERIO*): AN *IN VIVO* INVESTIGATION**

CHEMISTRY AND CHEMICAL ENGINEERING

March 7, 2014

FRIDAY MORNING

Location: Exhibit Hall B

Plenary Session V

8:00 WELCOME AND OPENING REMARKS

8:15 SOLUBILITY AND ION RELEASE PROPERTIES OF SILVER NANOPARTICLES: EFFECTS OF pH AND SURFACE COATINGS

8:30 A NOVEL ROUTE TOWARDS THE SYNTHESIS OF BROMOTYROSINE DERIVED SPIROISOXAZOLINE NATURAL PRODUCTS AND ANALOGOUS CORE STRUCTURES

8:45 INVESTIGATION OF THE CO-SOLVENT-SUBSTRATE INTERACTION IN PLE HYDROLYSIS

REACTIONS

9:00 ELECTROCHEMICAL STUDY OF PALLADIUM BASED NANOCATALYSTS FOR DIRECT FORMIC ACID FUEL CELLS

9:15 CHEMOENZYMATIC PREPARATION OF α-METHYL-β-PROLINE ANALOGUES: EFFICIENT TEMPLATE BASED DEVELOPMENT OF ORGANOCATALYSTS FOR ASYMMETRIC *ANTI*-MANNICH REACTIONS

9:30 TRACE METALS AND CHOLORPHYL *a* CONCENTRATIONS IN THE MISSISSIPPI RIVER AND SIX MAJOR TRIBUTARIES DURING 2012 AND 2013

9:45 FROM RADIOISOTOPE SYNTHESIS AT JOHNSON & JOHNSON TO ORGANIC RESEARCH AT SOUTHERN MISS

10:00 BREAK

PLENARY SESSION – VI

10:15 PHOTOELECTROCHEMICAL STUDIES ON LAYERED ORGANIC-INORGANIC HYBRID PEROVSKITE PHOTOELECTRODES FOR WATER SPLITTING

10:30 ANION BINDING AND SELECTIVITY OF THIOUREA-BASED RECEPTORS: A COMPARATIVE STUDY

10:45 FATTY ACID SYNTHESIS IS INHIBITED BY INEFFICIENT UTILIZATION OF UNUSUAL FATTY ACIDS FOR GLYCEROLIPID ASSEMBLY

11:00 INTERACTIONS OF ANTIPARASITIC ALKALOIDS WITH *LEISHMANIA* PROTEIN TARGETS: A MOLECULAR DOCKING ANALYSIS

11:15 HIGH-THROUGHPUT VIRTUAL SCREENING OF FULLERENE NANOPARTICLES FOR BIOLOGICAL TARGETS: LIGAND-PROTEIN INVERSE DOCKING

11:30 ELECTROGENERATED CHEMILUMINESCENT STUDIES OF CHARGE TRANSFER BETWEEN CdSe/ZnS and CdTe/CdS QUANTUM DOTS AND THEIR APPLICATIONS TOWARDS THE DEVELOPMENT OF HIGHLY SENSITIVE ECL IMMUNOSENSORS

11:45 SYNTHESIS OF ENANTIOMERIC ENRICHED C^{α}- METHYL-GAMMA AND DELTA- SERINE AND OTHER UNNATURAL AMINO ACIDS THROUGH A LACTAM INTERMEDIATE

12:00 SYNTHESIS OF AN UNSYMMETRICAL GLUTATHIONE DISULFIDE ANALOGUE AS A POTENTIAL GLUTATHIONE REDUCTASE INHIBITOR

12:30 ANNOUNCEMENT OF STUDENT PRESENTATION AWARDS

(Student awards sponsored by JSU Department of Chemistry & Biochemistry)

ECOLOGY AND EVOLUTIONARY BIOLOGY

March 6, 2014

THURSDAY AFTERNOON

Location: Executive Conference Room

1:00 AN INTEGRATIVE APPROACH TO DELIMITING SPECIES BOUNDARIES IN TARANTULAS FROM A NORTH AMERICAN BIODIVERSITY HOTSPOT

1:15 THE EVOLUTIONARY HISTORY OF TWO LARGELY SYMPATRIC FRESHWATER CATFISH SPECIES (HEPTAPTERIDAE: *RHAMDIA*) REVEALS CONGRUENT PHYLOGEOGRAPHIC PATTERNS IN A COMPLEX MIDDLE AMERICAN LANDSCAPE

1:30 ANALYSIS OF FISHING HOOKS REMOVED FROM IMMATURE SEA TURTLES INCIDENTALLY CAPTURED BY RECREATIONAL FISHERMEN IN THE NORTHERN GULF OF MEXICO

1:45 VEGETATION AND FLORA ON LOWLANDS IN THE CENTRAL BLACK BELT OF MISSISSIPPI—HOW LOW DID THE ORIGINAL PRAIRIE GO?

2:00 VARIABILITY OF METHANE AND NITROUS OXIDE EMISSIONS FROM AN AGRICULTURAL LANDSCAPE IN THE MISSISSIPPI DELTA

2:15 BUSINESS MEETING

THURSDAY EVENING

DIVISION POSTER PRESENTATIONS

Following the Dodgen Lecture

Location: Exhibit Hall C

1. **RESPONSE OF THE GUT MICROFLORA TO THE ENERGETIC DEMANDS OF LONG-DISTANCE PASSERINE MIGRATION**
2. **A FLORA OF THE JOHN C. STENNIS SPACE CENTER IN HANCOCK COUNTY, MISSISSIPPI, USING SPECIFY 6 SOFTWARE AND DIGITALLY IMAGED COLLECTIONS FROM THE USM HERBARIUM (USMS)**
3. **PLETHODON WEBSTERI PHYLOGENY IN MISSISSIPPI**
4. **DEPARTURE DECISION OF RUBY-THROATED HUMMINGBIRDS (ARCHILOCHUS COLUBRIS) DURING AUTUMN MIGRATION**

GEOLOGY AND GEOGRAPHY

Thursday, March 6

THURSDAY MORNING

Location: Forrest 2

9:00 NATURAL HISTORY AND THE MISSISSIPPI GEOLOGICAL SURVEY

9:15 NEWLY RECORDED PREHISTORIC TALLAHATTA QUARTZITE QUARRY SITE DISCOVERED DURING GEOLOGICAL MAPPING PROJECT IN NESHOBA COUNTY, MISSISSIPPI

9:30 NATIVE AMERICAN EFFIGY PIPES MADE FROM THE GLENDON LIMESTONE OF MISSISSIPPI

9:45 GLACIALLY FACETED STONE FROM THE PRE-LOESS TERRACE DEPOSITS IN MISSISSIPPI

10:00 LATE OLIGOCENE MAMMALS AND HERPTILES FROM WAYNESBORO, MISSISSIPPI

10:15 BREAK

10:30 DINOSAURS NESTING NEAR A LOWER COFFEE FORMATION (UPPER CRETACEOUS) MUD FLAT?

10:45 LATE PLEISTOCENE TO HOLOCENE MEANDERING AND LATERAL MIGRATION WITHIN THE BIG BLACK RIVER, MISSISSIPPI

11:00 LUNCH

THURSDAY AFTERNOON

Location: Forrest 2

1:00 TEMPORAL AND STRATIGRAPHIC ANALYSIS OF THE SHTOJ ALLUVIAL FAN, SHKODRA, ALBANIA

1:15 HISTORICAL CHANNEL ADJUSTMENT IN THE PASCAGOULA RIVER BASIN AND ADJACENT SYSTEMS, SOUTHEAST MISSISSIPPI

1:30 SPATIAL DISTRIBUTION OF SOCIAL VULNERABILITY AND VULNERABLE POPULATIONS IN COASTAL HAZARD INDUCED AT-RISK ZONES

1:45 PHOTOOXIDATION OF PYROGENIC ORGANIC CARBON AND CONSEQUENCES FOR CO2 AND NUTRIENT LOADING TO THE GULF OF MEXICO

2:00 REACTIONS IN RIPARIAN SOILS AND THEIR IMPACT ON PHOSPHATE AND NITRATE RETENTION

2:15 BUSINESS MEETING

HEALTH SCIENCES

March 6, 2014

THURSDAY MORNING

Location: Lamar 1

9:00 SCOLIOSIS AND OTHER LONG-TERM COMPLICATIONS OF RADIATION THERAPY IN PEDIATRIC CANCER PATIENTS WITH CHEST WALL SARCOMAS

9:15 COMPARISON OF CONVENTIONAL AND SUSTAINED DELIVERY OF ANTIOXIDANTS TO SUPPRESS THE SK-OV-3 CELL LINE IN OVARIAN CANCER

9:30 MEDICATION MEASUREMENTS OF FRED'S PHARMACY CLIENTS

9:45 TRAUMA INDUCED INFLAMMATION, SEPSIS AND AGING

10:00-12:00 Career Symposium Sponsored by Health Sciences

12:00-1:00 PLENARY SPEAKER

THURSDAY EVENING

DIVISION POSTER SESSION 1

Following the Dodgen Lecture

Location: Exhibit Hall C

1. **DATA MINING AND VISUALIZATION TECHNIQUES TO SUPPORT EPIDEMIOLOGIC RESEARCH IN ORAL HEALTH**
2. **COMPARATIVE ANALYSIS OF FLUORESCENT AND NON-FLUORESCENT IMMUNOSTAINING FOR LASER CAPTURE MICRODISSECTION (LCM) OF SINGLE CELLS FROM FROZEN TISSUE SAMPLES**
3. **ASSESSING THE ROLE OF SUPRA-PHYSIOLOGIC LEVELS OF RETINOIC ACID (ATRA) IN OVALBUMIN AND MOLD-SENSITIZED F344 RAT LUNG TISSUES AND IMPROVEMENT OF RELATED PATHOLOGY BY CITRAL**
4. **TRICHOMONAS VAGINALIS VIRUS IN TRICHOMONIASIS**
5. **THE EFFECTS OF LOW LEVEL LASER THERAPY ON ADULT PATIENTS WITH CARPAL TUNNEL SYNDROME: A SYTEMATIC REVIEW**
6. **RESEARCH STUDY: CANCER PATIENTS' MOTIVATORS**
7. **TOXICITY OF VIBRIO CHOLERA IN MISSISSIPPI COASTAL WATERS**
8. **LINKAGE TO CARE AND MEDICATION ADHERENCE IN PERSONS LIVING WITH HIV/AIDS**
9. **ROLE OF HEPATOMA UP-REGULATED PROTEIN (HURP) IN PROSTATE CANCER RESISTANCE TO CHEMOTHERAPEUTIC DRUGS**

10. **CONFIRMATION OF SOUTHERN BLOT GENOTYPING IN HBV USING THE POLYMERASE CHAIN REACTION**
11. **DESIGNER DRUG BATH SALTS: FOR MORE THAN JUST HOT WATER**
12. **ASSESSING THE PSYCHOMETRIC PROPERTIES OF THE CHRONIC STRESS INVENTORY**
13. **CONTRASTING DIFFERENCES OF CHRONIC ENDOTHELIN A RECEPTOR (ETA) BLOCKADE DURING THE PROGRESSION OF RENAL INJURY IN TYPE-1 AND TYPE-2 DIABETIC NEPHROPATHY**
14. **THE USE OF ANTIOXIDANTS TO SUPPRESS THE 3 CELL LINE IN OVARIAN CANCER**
15. **USEFULNESS OF HEALTH FAIR URINE SCREENING**
16. **SYNERGISM BETWEEN ESSENTIAL OILS AND AMPICILLIN AGAINST VANCOMYCIN-RESISTANT *ENTEROCOCCUS FAECIUM***
17. **THE EFFECTS OF GENISTEIN AND 5-FU ON OVARIAN CANCER CELLS**
18. **THE EFFECTS OF GENISTEIN AND 5-FU ON CANCER CELLS**
19. **THE EVALUATION OF THE ANTIMICROBIAL PROPERTIES OF TEA TREE OIL**
20. **THE EFFECT OF GARLIC ON FADU CELLS**
21. **MORPHOLOGICAL EFFECTS OF GENISTEIN, THYMOQUINONE, FLUOROURACIL, AND LASER THERAPY ON LARYNGEAL CARCINOMA CELLS**
22. **THE EFFECTS OF FLAXSEED OIL AND 5-FU ON CAOV-3**
23. **THE EFFECTS OF DEMINERALIZED BONE MATRIX PROTEIN AND ESTROGEN ON SERUM MARKERS OF BONE FORMATION IN OSTEOPOROTIC FEMALE RATS**
24. **THE EFFECTS OF SUSTAINED DELIVERY OF ESTROGEN ON THE GLOMERULI PATHOLOGY**
25. **EVALUATING EFFECTIVENESS OF LABORATORY TRAINING OF CYTOTECHNOLOGY STUDENTS USING TURNINGPOINT, A PRODUCT OFFERING OF TURNING TECHNOLOGIES, INC.**
26. **COMPARISON BETWEEN SUSTAINED DELIVERY OF DANAZOL AND ANDROGENS ON THE MORPHOLOGICAL STATUS OF VENTRAL PROSTATE IN ADULT RATS**
27. **COMPARISON OF THE HEMOCYTOMETER AND THE COUNTESS AUTOMATED CELL COUNTER**
28. **MORPHOLOGICAL EVALUATION OF A549 CELLS FOLLOWING THE EXPOSURE TO OMEGA FATTY ACIDS IN CULTURE**

HEALTH SCIENCES

March 7, 2014

FRIDAY MORNING

Location: Forrest 2

9:00 BUSINESS MEETING

DIVISION POSTER SESSION II – Base Pair Students

Location: Exhibit Hall C

10:00-11:50

29. **SOCIAL BEHAVIORAL PHENOTYPING OF THE C57BL/6 MOUSE**

30. **THE EFFECTS OF MYCOPHENOLATE MOFETIL ON THE PROGRESSION OF DIABETIC NEPHROPATHY**
31. **NORMAL PREGNANT T REGS INHIBIT PATHOPHYSIOLOGY ASSOCIATED WITH HYPERTENSION IN RESPONSE TO REDUCED UTERINE PERFUSION PRESSURE (RUPP) IN PREGNANT RATS**
32. **INHIBITION OF AT1-AAS BY INTERRUPTING LYMPHOCYTE COMMUNICATION OR BY DIRECT BINDING REDUCES BLOOD PRESSURE IN RESPONSE TO PLACENTAL ISCHEMIA OF PREGANCY; EMPHASIZING THE IMPORTANCE OF NOVEL DRUG DEVELOPMENT IN THE TREATMENT OF PREECLAMPSIA**
33. **ROLE OF TNF-ALPHA IN THE PROGRESSION OF DIABETIC NEPHROPATHY**
34. **PROLONG COLD/WARM PRESERVATION TIME MAY HAVE IMPACT ON KIDNEY ALLOGRAFT FUNCTION IN ASSOCIATION WITH EXPRESSION OF ALLOGRAFT INFLAMMATORY FACTOR-1 AFTER TRANSPLANTATION**
35. **THE EFFECTS OF IGF-1 ON MESENCHYMAL STEM CELLS**
36. **THE EFFECTS OF LOW LEVEL LASER LIGHT THERAPY ON LPS STIMULATED MACROPHAGE CELLS**
37. **THE EVALUATION OF CHONDROCYTES ON PCL SCAFFOLDS**
38. **UNDERSTANDING THE LINK BETWEEN REWARD AND OBESITY**
39. **THE GEOGRAPHIC DISTRIBUTION OF MAMMOGRAPHY RESOURCES IN MISSISSIPPI**
40. **MAPPING AND IDENTIFICATION OF A GENETIC MUTATION THAT CAUSES CATARACTS**

FRIDAY AFTERNOON

Location: Exhibit Hall A

12:00-2:00 Millsaps-HHMI Undergraduate Scholas Symposium

HISTORY AND PHILOSOPHY OF SCIENCE

March 6, 2014

THURSDAY MORNING

Room: Forrest I

9:00 **THE UTILITY OF ARISTOTLE'S BIOLOGY IN CURRENT TAXONOMIC PRACTICE**

9:30 **COMTE DE BUFFON AND CONCEPTS OF BIOLOGICAL SPECIES IN THE EIGHTEENTH CENTURY**

10:00 **BUSINESS MEETING**

10:15 **THE METAPHYSICAL INCOMPATIBILITY OF SPECIES AS NATURAL KINDS**

10:45 **HOMEOSTASIS AND THE COHESION OF BIOLOGICAL SPECIES**

THURSDAY AFTERNOON

Room: Forrest I

1:00 **BIOLOGICAL ENTITIES AND PERSISTENCE OVER TIME: PERDURING LINEAGES OF ENDURING ORGANISMS**

1:30 **ALTRUISM AS AN EVOLUTIONARY TOOL**

2:00 **BREAK**

2:15 **THEORETICALLY SPEAKING: HUME, SCIENCE, & THE CHARACTER OF THEORETICAL**

TERMS

2:45 GLOBAL NAVIGATION SATELLITE SYSTEMS AND REMOTE SENSING LAW: DOES SCIENTIFIC PROGRESS AUGMENT OR THREATEN CONSTITUTIONAL RIGHTS?

3:15 AGAINST A GLOBAL RESOURCES TAX

HISTORY AND PHILOSOPHY OF SCIENCE

March 7, 2014

FRIDAY MORNING

Location: Garden Room

8:45 JUMPING THE GUN: ELUCIDATING THE EVIDENTIAL GULF BETWEEN CLAIMS OF AUTOMATICITY IN THE BRAIN AND THE ILLUSORY FUNCTION OF CONSCIOUSNESS

9:15 CONSCIOUSNESS: A PHYSICAL PROCESS

9:45 BREAK

10:00 Sponsored Symposium

A SYMPOSIUM ON SILVA, LANDRETH, AND BICKLE'S ENGINEERING THE NEW REVOLUTION IN NEUROSCIENCE (Oxford University Press, 2013)

MARINE AND ATMOSPHERIC SCIENCES

March 6, 2014

THURSDAY MORNING

Location: Lamar 1

10:15 A VIROMIC STUDY ON SERUM COLLECTED FROM WILD *TURSIOPS TRUNCATUS* (BOTTLENOSE DOLPHIN)

10:30 THE EFFECTS OF OCEAN ACIDIFICATION ON COASTAL MARINE NON-CALCAREOUS PHYTOPLANKTON

10:45 STUDIES OF LARGE-SCALE SURFACE FLUXES, VERTICAL MOTIONS, INTENSITY CHANGE AND TRACK PREDICTION ASSOCIATED WITH LAND FALLING HURRICANE KATRINA

11:00 STUDIES OF ATLANTIC TROPICAL STORM/HURRICANE DEVELOPMENT AND RESPONSES TO CONDITIONS IN EQUATORIAL PACIFIC OCEAN

11:15 VARIATIONS OF TROPICAL CYCLOGENESIS FACTORS OVER THE PAST 10,000 YEARS

11:30 A STUDY OF LARGE-SCALE VERTICAL MOTIONS, PROCESSES AND INTENSITY CHANGE ASSOCIATED WITH LAND FALLING TROPICAL STORM LEE OVER THE GULF OF MEXICO USING REMOTE SENSING AND SATELLITE DATA

11:45 CAN THEY BE HEARD? A SPATIAL STATISTIC ANALYSIS OF TORNADO SIRENS ACROSS THE STATE OF MISSISSIPPI

12:00 BUSINESS MEETING AND LUNCH BREAK

1:00 INFLUENCES ON THE DEVELOPMENT OF HYPOXIA IN MISSISSIPPI BIGHT WATERS

1:15 NUMERICAL SIMULATION OF ATMOSPHERIC MERCURY IN MISSISSIPPI

1:30 DISSOLVED METHANE CONCENTRATIONS IN MISSISSIPPI AND LOUISIANA COASTAL AND ESTUARINE WATERS

1:45 ASSEMBLAGE COMPARISONS OF LIVING BENTHIC FORAMINIFERA WITHIN BATHYAL OILED AND UN-OILED SITES OF THE NORTHEASTERN GULF OF MEXICO

2:00 A MARINE INFECTIOUS DISEASE MODEL

2:15 A STUDY OF REGIONAL AIR QUALITY TRENDS OVER GULFPORT REGION FOR ASSOCIATION WITH METEOROLOGICAL PARAMETERS, AND HEALTH IMPACTS

MATHEMATICS, COMPUTER SCIENCE AND STATISTICS

March 6, 2014

THURSDAY EVENING

DIVISION POSTER PRESENTATIONS

Following the Dodgen Lecture

Location: Exhibit Hall C

1. **ADDING FUNCTIONALITY TO FREEMAT: IMPLEMENTING *fzero* FUNCTION TO FIND ROOTS OF NONLINEAR FUNCTIONS**
2. **ADDING FUNCTIONALITY TO FREEMAT: IMPLEMENTING compan FUNCTION TO GENERATE CPMPANION MATRX OF A GIVEN POLYNOMIAL**

MATHEMATICS, COMPUTER SCIENCE AND STATISTICS

March 7, 2014

FRIDAY MORNING

Location: Lamar 2

8:30 WELCOME

8:35 COBWEB AND BIFURCATION DIAGRAMS

9:00 FRACTAL DIMENSION BASED DETECTION OF ARCHITECTURAL DISTORTION ANOMALIES IN MAMMOGRAPHY

9:15 TESTING STATISTICAL HYPOTHESIS RELEVANT TO PARAMETERS OF INVERSE HYPERGEOMETRIC DISTRIBUTION

9:30 IMPACT OF HEARING AID USE ON SPEECH PERCEPTION- IN- NOISE AND SELF- PERCEIVED OUTCOMES IN INDIVIDUALS WITH UNILATERAL SENSORY HEARING IMPAIRMENTS

9:45 AN AUTOMATED MEDICATION COMPLIANCE ASSISTANT

10:00 BIG DATA FOR DEFENSE AND HOMELAND SECURITY: DEFINITION, APPLICATIONS, CHALLENGES AND OPPORTUNITIES

10:15 BUSINESS MEETING

10:30 BREAK

10:45 ESTABLISHING A STUDENT-CENTERED OPEN SOURCE SOFTWARE COMMUNITY

11:00 ANTIGENBRIDGES: AN ONLINE RESOURCE TO QUANTIFY AND VISUALIZE INFLUENZA ANTIGENIC DISTANCE USING SEQUENCE INFORMATION

11:15 BIGDATA X-INFORMATICS MOOC: RESEARCH INTO INCREASING ITS EFFICACY

11:30 USING EXCEL IN THE HEALTH SCIENCES DISCIPLINES EFFICIENTLY AND EFFECTIVELY

11:45 COMPUTATIONAL STUDIES ON SELECTED NANOMATERIALS: PROPERTIES AND INTERACTIONS

12:00 USING GEOMETER'S SKETCHPAD TO DRAW 2D FRACTALS

12:15 ITERATING A LOGARITHM

12:30 APPROXIMATION OF SOLUTIONS TO DIFFERENTIAL EQUATIONS: 1D TO 2D PROBLEMS

12:45 CREATING EMERGENCY MANAGEMENT MOBILE APPS USING MIT APP INVENTOR

1:00 TOWARD A FRAMEWORK FOR DIVERSE, DISTRIBUTED INTERACTIVE SYSTEMS

PHYSICS AND ENGINEERING

March 6, 2014

THURSDAY MORNING

Location: Lamar 2

8:30 STUDY OF HYDROGEN MICROSTRUCTURE IN AMORPHOUS SILICON: AN AUGMENTED SPACE APPROACH

8:45 DUAL FUNCTION SERS ACTIVE NANOPARTICLE PLATFORM FOR MELAMINE SENSING

9:00 DIGITAL HOLOGRAPHIC MICROSCOPY TECHNIQUE FOR PARTICLE IMAGING AND CHARACTERIZATION

9:15 ADSORPTION OF NITROGEN ON GRAPHENE: A FIRST-PRINCIPLES STUDY

9:30 BREAK

9:45 EXPERIMENTAL VERIFICATION OF SIMULATED TEMPERATURE-TIME PROFILES ASSOCIATED WITH ACOUSTIC RADIATION FORCE IMPULSE IMAGING PUSH PULSES IN TISSUE-MIMICKING PHANTOMS

10:00 THEORETICAL INVESTIGATION OF ACOUSTIC-GROUND AND WIND-GROUND COUPLING

10:15 ACOUSTO-ELECTRIC IMPEDANCE OF PERIODICALLY POLED LiNbO3 WAFER

10:30 LAMB WAVE PROPAGATION IN ELECTRONIC MATERIAL PLATES

10:45 BREAK

11:00 A SIMPLIFIED METHOD TO ESTIMATE FLOOD DEPTH FOR YAZOO RIVER

11:15 EMERGENCY MANAGEMENT: SHELTER-IN-PLACE

11:30 EARTHQUAKE PREPAREDNESS AT MISSISSIPPI HBCU (HISTORICALLY BLACK COLLEGES AND UNIVERSITIES) CAMPUSES

11:45 FINDING THE ELASTIC BOTTOM PARAMETERS OF AN ELASTIC SEAFLOOR USING EQUIVALENT FLUIDS

12:00 BUSINESS MEETING AND LUNCH BREAK

THURSDAY AFTERNOON

Location: Garden Room

1:00 EXPLORING NEW PHYSICS IN FLAVOR EXPERIMENTS

1:30 TAU NEUTRINO AS A PROBE OF NONSTANDARD INTERACTION

1:45 CP VIOLATION PREDICTED AT LHC FOR BSM

2:00 COSMOLOGICAL TEST OF THE UNIMODULAR GRAVITY

2:15 EFFECTS OF GENIPIN ON DECELLULARIZED PORCINE CARTILAGE

2:30 USE OF FIBER LOOP RINGDOWN (FLRD) SENSOR FOR HEAVY ELEMENTS DETECTION IN WATER

2:45 FIRST-PRINCIPLES CALCULATIONS OF MAGNETIC PROPERTIES OF MnBi DOPED WITH Co

3:00 EXPERIMENTAL INVESTIGATION OF STARTUP BEHAVIOR OF FLAT-PLATE OSCILLATING HEAT PIPES

THURSDAY EVENING

DIVISION POSTER PRESENTATIONS

Following the Dodgen Lecture

Location: Exhibit Hall C

1. **SURFACE PREPARATION FOR IMPROVED MOLYBDENUM DISULFIDE NANOELECTRONICS**
2. **LORENTZ COVARIANCE OF THE ORDERED QUANTUM VACUUM**
3. **DETERMINING THE PHOTOMETRIC PRECISION OF THE 0.9M CTIO SMARTS TELESCOPE**
4. **MISSISSIPPI STATE AXION SEARCH**
5. **MEASUREMENT OF PARTICLE SIZE AND CHARGE DISTRIBUTIONS OF ASTHMA DRY POWDER INHALER AEROSOLS**
6. **STUDY OF MASS DISTRIBUTION OF MATTER IN GRAVITATIONAL LENSING**
7. **NEW PRODUCT DEVELOPMENT CHALLENGES FOR HOMELAND SECURITY PROJECTS**

PHYSICS AND ENGINEERING

Friday, March 7

FRIDAY MORNING

Location: Lamar 2

8:30 STRUCTURES OF PROTEINS AND PEPTIDES ASSEMBLY VIA HIERARCHICAL COARSE-GRAINED MODEL

9:00 NUCLEAR LANDSCAPE AND DRIP LINES IN COVARIENT DENSITY FUNCTIONAL THEORY

9:15 REPORTING ON THE A=74 CHAIN IN THE BETA DECAY OF Z=29-31

9:30 NUCLEAR THERMAL PROPULSION SYSTEMS: EVALUATING PAST AND PRESENT EFFLUENT TREATMENT PROCESSES IN TEST FACILITIES

9:45 A REVIEW OF MARINE ACOUSTICS PROJECTS UNDERTAKEN BY THE LITTORAL ACOUSTIC DEMONSTRATON CENTER

10:00 BREAK

10:15 SEARCH FOR THE MYSTERIOUS DARK MATTER

10:30 SEARCH FOR THE MYSTERIOUS DARK ENERGY

10:45 EFFECT OF GLOBAL EXPANSION ON GRAVITATIONAL LENSING

PSYCHOLOGY AND SOCIAL SCIENCES

March 6, 2014

THURSDAY MORNING

Location: Garden Room

9:00 OBESITY IN HIGH SCHOOL STUDENTS IN MISSISSIPPI

9:15 WEIGHT GAIN AND TRAIT ANGER: IS THERE A LINK?

9:30 EXAMINING RELATIONSHIPS BETWEEN HEALTH-PROMOTING BEHAVIORAL LIFESTYLES AND PSYCHOSOCIAL FACTORS AMONG COLLEGE STUDENTS

9:45 BREAK

10:15 RATES OF TWIN BIRTHS IN A CAPTIVE BUSHBABY COLONY

10:30 RELATIONSHIP BETWEEN SEASONAL CORTISOL AND BEHAVIOR IN CHIMPANZEES

10:45 EFFECTS OF QUESTION ORDER ON EXAM PERFORMANCE

11:00 BREAK

11:15 STUDY-HABITS AMONG AFRICAN AMERICAN COLLEGE STUDENTS

11:30 KNOWLEDGE OF GOVERNMENTAL CONSPIRACY AND ITS EFFECTS ON BELIEF

11:45 LUNCH BREAK

THURSDAY AFTERNOON

Location: Garden Room

1:00 THE EFFECTIVENESS OF COPING WITH SCHOOL-FAMILY CONFLICTS AMONG AFRICAN-AMERICAN COLLEGE STUDENTS

1:15 ATHLETIC COPING SKILLS AND PERSONALITY DIFFERENCE AMONG COLLEGE STUDENTS

1:30 GENDER DIFFERENCES IN EMPATHY AMONG AFRICAN AMERICAN COLLEGE STUDENTS

1:45 RELATIONSHIP BETWEEN POSTTRAUMATIC STRESS DISORDER SYMPTOMATOLOGY AND ALCOHOL USE IN A CIVILIAN AND MILITARY POPULATION AT AN HISTORICALLY BLACK UNIVERSITY

2:00 PERCEPTION OF RESILIENCE TO DISASTER OF THE COASTAL COMMUNITIES OF MISSISSIPPI

2:15 BUSINESS MEETING

THURSDAY EVENING

DIVISION POSTER PRESENTATIONS

Following the Dodgen Lecture

Location: Exhibit Hall C

1. **EFFECTS OF A SHORT-TERM RECEPTIVE MUSIC-BASED INTERVENTION ON ADULT PARALYZED PATIENTS**
2. **SOCIO-PSYCHOLOGICAL FACTORS ASSOCIATED WITH OBESITY AMONGST AFRICAN AMERICAN WOMEN**

PSYCHOLOGY AND SOCIAL SCIENCES

March 7, 2014

FRIDAY MORNING

Location: Garden Room

10:00 A SYMPOSIUM ON SILVA, LANDRETH, AND BICKLE'S ENGINEERING THE NEW REVOLUTION IN NEUROSCIENCE (Oxford University Press, 2013)

*This symposium is co-sponsored with **History and Philosophy of Science** (Kenneth Curry is chairman).*

SCIENCE EDUCATION

March 6, 2014

THURSDAY MORNING

Location: Lakeview 2

9:00 INTRODUCTION AND OVERVIEW OF SESSION

9:15 EXPERIMENTATION OF THE IMPACT ON SOCIAL MEDIA ON THE COAST

9:30 A PUBLIC INFORMATION ON VIBRIO CHOLERA, A PATHOGENIC BACTERIA IN OYSTERS

9:45 UNDERSTANDING THE DELIVERED CURRICULUM AT A RESIDENTIAL ENVIRONMENTAL LEARNING CENTER

10:00 REDEFINING THE ROLE OF THE SCIENCE EDUCATOR IN ENVIRONMENTAL EDUCATION

10:15 AN ALIGNMENT OF THE NEXT GENERATION SCIENCE STANDARDS TO A HISTORICALLY SIGNIFICANT CURRICULUM

10:30 BREAK

10:45 CRITICAL THINKING IN INTELLECTUALLY GIFTED STUDENTS

11:00 THE DEMAND FOR ENGINEERS AND WHY IT SHOULD BE ADDRESSED

11:15 CHEMISTRY SAFETY PROTOCOL: A VIDEO PRESENTATION

11:30 PASCAGOULA WATERSHED PROJECT

11:45 ARGUING SCIENCE: USING LEGITIMATE SCIENTIFIC CONTROVERSIES TO ENGAGE STUDENTS IN DISCOURSE AND THE NATURE OF SCIENCE

12:00 BUSINESS MEETING

THURSDAY AFTERNOON

Location: Lakeview 2

1:00 HUMAN POPULATION GROWTH AND EXTINCTION OF LIVING SPECIES

1:15 COLLECTING GLOBE DATA IN THE PASCAGOULA WATERSHED

1:30 COLLEGE STUDENTS' PERCEPTIONS OF THE RELATIVE IMPORTANCE OF EIGHT OF THE EARTH'S KEY NATURAL RESOURCE CATEGORIES

1:45 EFFECT OF THE FLIPPED CLASSROOM ON ACHIEVEMENT IN AN INTRODUCTORY COLLEGE PHYSICS COURSE

2:00 PERCEPTIONS OF ART AND GRAPHIC REPRESENTATION IN COLLEGE SCIENCE CLASSROOMS

2:15 OVERVIEW OF POSTER SESSION

THURSDAY EVENING

DIVISION POSTER PRESENTATIONS

Following the Dodgen Lecture

Location: Exhibit Hall C

1. **CONSUMER PREFERENCES OF ORGANIC VS. CONVENTIONAL FOODS IN THE MISSISSIPPI GULF COAST REGION**
2. **THE ABILTY TO IDENTIFY HAND-WRITTEN FORGERY: INSTRUCTION OF GIFTED STUDENTS AT MAGNOLIA PARK ELEMENTARY SCHOOL**
3. **TERASCAN CURRICULUM DEVELOPMENT AND INTEGRATION OF SEASPACE TECHNOLOGY INTO THE CLASSROOM**
4. **GULF COAST RESEARCH LABORATORY: A COMPENDIUM OF GROWTH AND CHANGE AT TWO CAMPUSES**

ZOOLOGY AND ENTOMOLOGY

March 6, 2014

THURSDAY MORNING

Location: Executive Conference Room

9:00 **ASSESSMENT OF WATER QUALITY OF TWO LOTIC BODIES OF WATER IN JEFFERSON COUNTY, MISSISSIPPI**

9:15 **INVESTIGATING THE WATER QUALITY OF FOUR LARGE MISSISSIPPI LAKES AND GRAND BAY, MS-AL GULFCOAST**

9:30 **STATE OF WATER QUALITY OF LAKES GRENADA, ENID, SARDIS, AND ROSS BARNETT RESERVOIR IN MISSISSIPPI, USA**

9:45 **ALGAL COMMUNITY STRUCTURE IN FOUR MAJOR MISSISSIPPI LAKES AND IN GRAND BAY, MISSISSIPPI-ALABAMA GULF COAST**

10:00 **BREAK**

10:15 **STUDIES ON THE PARASITES OF THE COCKROACH, Periplaneta americana (Insecta:Blattide) IN LAGOS, NIGERIA**

10:30 **THE EFFECTS OF EMERGENT CONTAINER MOSQUITOES ON SURROUNDING PREDATOR COMMUNITIES**

10:45 **FITNESS LINKAGES ACROSS DIFFERENT LIFE STAGES: CONCLUSIONS FROM TEMPERATURE IMPACTS ON FECUNDITY AND SURVIVAL IN A CONTAINER-INHABITING MOSQUITO**

11:00 **DIFFERENCES IN CONSUMPTION RATES BETWEEN LARVAL AND ADULT *LACCOPHILUS FASCIATUS RUFUS* (*COLEOPTERA: DYTICIDAE*) ON LARVAL *CULEX QUINQUEFASCIATUS* (*DIPTERA: CULICIDAE*)**

11:15 **A COMPARATIVE STUDY ON THE HABITAT PROFILE OF THE LOWER MISSISSIPPI RIVER IN PORT GIBSON AREA AND THE POND NEAR THE FRONT GATE OF ALCORN STATE UNIVERSITY (ASU) CAMPUS DURING THE FALL OF 2014**

11:30 **BUSINESS MEETING**

12:00 **LUNCH BREAK**

THURSDAY AFTERNOON

DIVISION POSTER PRESENTATIONS

Location: Exhibit Hall C

1:00-2:45

1. **TOXICOLOGICAL EFFECTS OF INORGANIC NITROGEN POLLUTION ON AQUATIC ECOSYSTEMS**
2. **COMPREHENSIVE VIEW OF WATER QUALITY OF ROSS BARNETT RESERVOIR, MS, USA**
3. **APPLICATION OF MOLECULAR PEDIGREES TO STUDIES OF VARIANCE IN REPRODUCTIVE SUCCESS AMONG CAPTIVE SPOTTED SEATROUT BRED FOR STOCK ENHANCEMENT**
4. **COMPREHENSIVE VIEW OF WATER QUALITY OF LAKE ENID, MISSISSIPPI, USA**
5. **MOLECULAR DETECTION OF SPOTTED FEVER GROUP RICKETTSIA IN IXODID TICKS FROM PAKISTAN**
6. **WATER QUALITY AND HARMFUL ALGAL BLOOM ANALYSIS OF LAKE SARDIS, MISSISSIPPI, USA**
7. **INVESTIGATION OF THE WATER QUALITY OF LAKE GRENADA, MS, USA**

NOTE PAGE