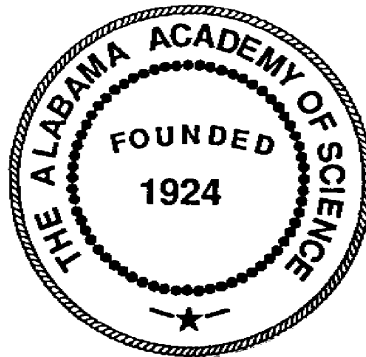


PROGRAM

EIGHTY-SEVENTH ANNUAL MEETING

of the

ALABAMA ACADEMY OF SCIENCE, INC.



Meeting Jointly With

ALABAMA JUNIOR ACADEMY OF SCIENCE

GORGAS SCHOLARSHIP COMPETITION

March 30 – April 1, 2010
Alabama A&M University
Normal, AL



www.alabamaacademyofscience.org

Tips for a safe stay:

- *When walking, stick to the main thoroughfares and well-lit areas.
- *If walking, don't wear fancy jewelry in plain sight.
- *Don't wear your meeting badge outside the motels.
- *Be cognizant and alert to surroundings. Look alert.
- *When walking after dark, don't hug the buildings or cars; walk in the open or near the curb
- *Carry your purse close to your body.
- *Don't leave valuables in your room. Get a motel safe deposit box.
- *Travel in groups. Don't be a loner, particularly in the evening.
- *Abide by common sense: If something looks suspicious, report it and/or avoid it.

***On-campus police, fire, medical service:**

Police: 256-372-5555

Medical: 256-372-4735

***Off-campus:**

Off-campus police: 256-722-7100/256-427-7120

Off-campus emergencies:

Huntsville Emergency Medical Services 256-722-7158

Other Frequently Called Numbers:

Emergency off Campus: 911

Huntsville Hospital: 256-265-1000

Crestwood Hospital: (256) 882-3100

Madison County Health Department: (256) 539-3711

Central North Alabama Health Services: (256) 533-6311

Crisis Services of North Alabama: (256) 716-1000

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88 th Annual Meeting (2011).....	Inside Back Cover



Office of the President
P.O. Box 1357
Normal, Alabama 35762
(Office) 256-372-5230
(Fax) 256-372-5244

March 30, 2010

Dear AAS Members and Guests:

On behalf of the faculty, staff, and students at the Alabama Agricultural & Mechanical University (AAMU), it is my great pleasure to welcome you to our campus for the 87th meeting of the Alabama Academy of Science, the annual meeting of the Alabama Junior Academy of Science, the Gorgas Scholarship Competition, and the 4th Annual AAMU STEM Day.

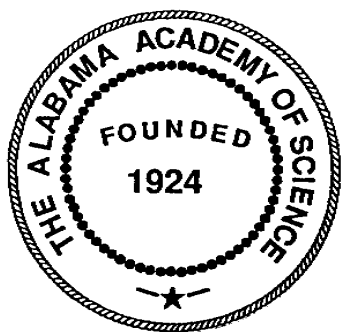
AAMU maintains a legacy as an 1890 Land-Grant Institution, operating in the tri-fold functions of teaching, research, and public service. Our faculty and students are actively engaged in cutting-edge scientific research and education. We planned to have this year's AAMU STEM Day concurrently with AAS/AJAS meeting, hoping to provide an opportunity for our guests to meet AAMU faculty and student researchers and to explore potential collaborations.

I hope you will find that your trip to AAMU a very rewarding and beneficial experience. Please enjoy yourselves, the city of Huntsville (one of the best in USA), and the camaraderie of the participants who share your interest and aspirations. I thank you for visiting AAMU and being a part of an exciting and fruitful experience.

Sincerely yours,

A handwritten signature in cursive script that reads 'Andrew Hugine, Jr.'.

Andrew Hugine, Jr. PhD
President



ALABAMA ACADEMY OF SCIENCE, INC

Dear AAS Members and Guests:

Greetings and welcome to the 87th Annual Meeting of the Alabama Academy of Science. The AAS was founded in 1924 so that scientists from across Alabama could meet each year for the purpose of advancement and sharing of scientific knowledge and the promotion of science education. This year we continue this great tradition as Alabama A & M University graciously hosts our annual meeting. This meeting provides opportunities to present and learn new science, meet others from around the state with similar interests, and see what great work our young scholars are accomplishing. We have twelve sections within the Academy, representing a variety of disciplines, which provide forums for the presentation of scientific papers and posters. Also there are several forums for young scientists. Outstanding high school students from around the state participating in research will be presenting their work in the Alabama Junior Academy of Science as well as the prestigious Gorgas Scholarship Competition. College-level students will be presenting their results at the Alabama Statewide Chemistry Undergraduate Research Symposium. And this year, the AAS poster sessions will be held concurrently with Alabama A & M University's Science, Technology, Engineering, and Mathematics Day poster sessions. Finally, allow me to invite each of you to this year's symposium, which will be held Thursday morning and is entitled "Science and Technology for the 21st Century."

None of this would be possible without the dedicated and caring people who help in the planning and organization of this meeting. Firstly, I thank Alabama A & M for hosting this meeting. I also wish to thank the AAS trustees, officers, committee members, section chairs, and other volunteers who make this organization and meeting a success. Special thanks go to Drs. Yong Wang and Phil Bording and other members of the local arrangements committee at Alabama A & M University. Lastly, I thank Dr. Larry Krannich, our Executive Director, for his extraordinary commitment and dedication to the overall success of the Academy.

In closing, whether you are here for the first time or you are a long time participant, I hope that you will have a wonderful and valuable experience here, meeting new friends or reconnecting with old friends, and learning new scientific and educational ideas. I also hope that you will tell others about the opportunities the Academy offers, and that you will be back with us next year.

Sincerely,

D. Brian Thompson, Ph.D.
President, Alabama Academy of Science.

LOCAL ARRANGEMENTS COMMITTEE

The officers and members of the Academy express their appreciation to Alabama A&M University and the Local Arrangements Committee for their efforts in planning and hosting this 87th Annual Meeting.

Local Chair: Yong Wang, Natural Resource & Environmental Science

Co-Chairs: Phil Bording, Computer Science; Florence Okafor, Biology; Mezemir Wagaw, Natural Resource & Environmental Science

University Liaison Officers: Matthew Edwards, Dean of School of Arts and Sciences; Robert Taylor, Dean of School of Agricultural and Environmental Sciences; Trent Montgomery, Dean of School of Engineering and Technology

AAS Coordinators: Yong Wang, Natural Resource & Environmental Science; Mohan D. Aggarwal, Physics

AJAS Coordinators: Jay R. Gangasani, Computer Science; Mostafa Dokhanian, Physics

Gorgas Program Coordinators: Malinda Gilmore, Chemistry; Elica Moss, Natural Resource & Environmental Science; Ruby Jewel, Education

Registration Coordinators: Dawn Lemke, Natural Resource & Environmental Science; Padmaja Guggilla, Physics; Sheral Roberson, Physics; Ruffina Ward, Natural Resource & Environmental Science

Audio/Visual Equipments: Sha Li, Education; William Sutton, Natural Resource & Environmental Science; Andrew Cantrell, Natural Resource & Environmental Science

Parking and Traffic Coordinator: Charlie Porter, Interim Chief of AAMU Police Department

Poster Coordinator: Sheral Roberson, Physics; Phil Bording, Computer Science; Mezemir Wagaw, Natural Resource & Environmental Science

Publicity Coordinator: Dianne Kirnes, Arts and Science; Susan Brown, English; Padmaja Guggilla, Physics

Website Coordinator: Sha Li, Education

GENERAL INFORMATION

- Registration badges will be required for admission to all scientific paper sessions, the Wednesday evening social, and the banquet.
- Applications for membership and payments of annual dues will be accepted by the Secretary in the registration area. At least one of the authors of a presented paper or poster must be a member of the Academy.
- Tickets for the Joint AJAS/AAS banquet may be purchased at the registration desk until 9:30 Wednesday morning.
- Computers will be provided where needed for presentations. If presenters bring their own, they are responsible for their computer.

POSTERS

On Wednesday, all posters are to be available for viewing in the Elmore Gym from 10:00 am until Noon. The Gym will be open at 7:30 am for presenters to put up their posters. **Each poster should be limited to 39" x 30" [w x h] (including margins).** A label will be provided at the registration desk to distinguish AAS and AAMU STEM Day posters. A poster identification number will also be provided to match the specific poster location in the room. Authors should be present for discussions with reviewers and judges between 10:00 am–12:00 pm. The posters must be removed by 5:00 pm on the same day. After 5:00 pm, all unclaimed posters will be removed for recycle.

Wednesday AM: The following sections have Posters in Elmore Gym; Viewing and Judging 10:00 AM -- Noon

Biological Science; Chemistry; Alabama Chemistry Undergraduate Research Symposium; Earth Science; Geography, Forestry, Conservation and Planning; Physics and Mathematics; Engineering and Computer Science

Wednesday PM: Behavioral Sciences posters in Elmore Gym Room 4 with viewing and judging 3:30 – 4:30 PM.

On Thursday, all poster sessions will be held in the Engineering Building at the specified Section times. **Each poster will be allotted a 4' x 6' wall space.**

Thursday:

1:00 – 2:00 PM *Gorgas Competition (dining room)*
1:00 – 2:00 PM *Industry and Economics (1st fl hallway)*
1:00 – 4:00 PM *Science Education (1st fl hallway)*

NOTE: On Thursday, please remove posters when your respective poster session has concluded.

PROGRAM
of the
ALABAMA ACADEMY OF SCIENCE
March 30 – April 1, 2010
Elmore Gym (EG), Agricultural Research Center (ARC), and Engineering Bldg (Eng B)

Tuesday

4:00 - 6:00 PM Registration.....Knight Center
6:30 - 10:00 PM Executive Committee Dinner/ Meeting.....Knight Center

Wednesday Morning

7:00 - Noon
Registration..... Elmore Gym Foyer
Breakfast Elmore Gym Foyer
8:30 AM Academy of Science Program Sessions
Section Program Sessions:
8:00 *Earth Science III*..... *EG Room 7*
8:00 *Geography, Forestry, Conservation and Planning* *EG Room 7*
8:10 *Chemistry I (Section II)*..... *EG Room 3*
8:20 *Engineering and Computer Science (Section X)*..... *EG Room 6*
8:30 *Biological Sciences I (Section I)*..... *EG Lecture Room*
9:30 *Health Sciences (Section IX)*..... *EG Room 4*
10:00 AM Coffee Break..... Elmore Gym Foyer
10:00 AM – Noon Poster ViewingElmore Gym
Authors may set-up beginning at 8:00 AM [obtain poster ID card at registration] and
must be present to discuss these section posters from
10:00 AM – Noon *Biological Sciences*
10:00 AM – Noon *Chemistry*
10:00 AM – Noon..... *Alabama Chemistry Undergraduate Research Symposium*
10:00 AM – Noon *Earth Science*
10:00 AM – Noon *Geography, Forestry, Conservation and Planning*
10:00 AM – Noon *Physics and Mathematic*
10:00 AM – Noon *Behavioral and Social Sciences*
10:00 AM – Noon *Engineering and Computer Science*
11:00 AM – Noon Poster Viewing
Authors present to discuss this section’s posters
11:00 AM – Noon *Health Sciences (EG Room 4)*

Wednesday Afternoon

Noon – 1:00 PM

Lunch
Lunch (Trustees, Elected Officers, Exec. Dir.).....

12:45 PM Group Picture

1:00 - 4:00 PM

Registration Elmore Gym Foyer
Refreshments (3:00 PM) Elmore Gym Foyer

1:00 – 5:00 PM Academy of Science Program Sessions.....

Program Sessions:

1:00 Behavioral Sciences I (Section VIII).....EG Room 4
1:00 Engineering and Computer Science II (Section X).....EG Room 6
1:30 Biological Sciences II (Section I).....EG Lecture Room
2:00 Chemistry II (Section II)EG Room 3
2:00 Earth Science (Section III).....EG Room 7
2:00 Geography, Forestry, Conservation and Planning (Section IV)EG Room 7
2:00 Physics and Mathematics I (Section V)ARC Food Service Conf. Rm

3:30 - 4:30 PM Poster Viewing
Authors present to discuss this section's posters from

3:30 – 4:30 PM Behavioral Sciences (Section VIII).....EG Room 4

Wednesday Evening

5:30 PM	Section Officer's Meeting	Knight Center
6:00 PM	AJAS/AAS Annual Business Meeting	Knight Center
7:00 PM	Joint AJAS/AAS Banquet.....	Knight Center

D. Brian Thompson, Presiding

Science, Technology, Engineering and Mathematics (STEM) for the 21st Century

Dr. Robert Taylor, Dean
School Agriculture and Environmental Science
Alabama A&M University.

Presentation of the Alabama Academy of Science Awards
D. Brian Thompson, Richard Hudiburg, Prakash Sharma

Presentation of Gorgas Finalists
Ellen Buckner

Thursday Morning

7:00 – Noon	
Registration	Engineering Building
Breakfast (7:30 AM)	Engineering Building and ARC
Refreshments (10 AM)	Engineering Building and ARC
10:00 – Noon	SYMPOSIUM..... Engineering Auditorium

10:00 AM to 12:00 noon Engineering Auditorium

**Symposium Sponsored by Biological Sciences, Chemistry, Physics and Mathematics,
Science Education, Behavioral and Social Sciences, Engineering and Computer
Science Sections**

SCIENCE AND TECHNOLOGY FOR THE 21st CENTURY

10:00 AM	Opening Remarks, Phil Bording, Alabama A&M University
10:10 AM	<i>How to get your paper published in Nature or where you want</i> , Chris Gunter, HudsonAlpha, Institute for Biotechnology
10:35 AM	<i>Future of computational chemistry</i> , David Young, Alabama Supercomputer Authority
11:00 AM	<i>Forest ecosystem function and assessment research at AAMU: Biodiversity for the future</i> , Yong Wang, Alabama A&M University
11:25 AM	<i>Why Graduate School is important for STEM Careers</i> , Cheryl Seals, Auburn University
11:50 AM	INTERMISSION [pick up box lunch]
Noon	Luncheon Symposium Talk -- <i>From Huntsville to Haiti: Using Earth Observations to Address Disasters and Environmental Issues in the Developing World through NASA's SERVIR Program</i> , Dan Irwin Head of SERVIR and Jim Smoot Manager of the Earth Science Office, NASA Marshall Space Flight Center, Earth Science Office
12:50 PM	Closing remark by AAS president – D. Brian Thompson
1:00 PM	Adjourn to Gorgas Competition and Section Poster Sessions [Engineering Bldg Hallways]

8:00 - 10:00 AM Academy of Science Program SessionEng. Bldg & ARC

Program Sessions:

8:00 *Physics and Mathematics (II) (Section V)*ARC Food Service Conf. Rm.
8:30 *Biological Sciences III (Section I)*ARC Auditorium
8:30 *Science Education I (Section VII)*..... ARC Wildlife Lab
9:00 *Anthropology I (Section XI)*..... Eng. Bldg Rm. 121
10:20 *Industry and Economics I (Section VI)*..... ARC Forestry Conf. Rm

Noon – 1:00 PM Lunch & Symposium Speaker Eng. Bldg Dining Room
Symposium Speaker.....

Thursday Afternoon

1:00 - 2:00 PM Registration.....Engineering Building

1:00 – 2:00 PM Poster Viewing.....Engineering Building

Authors present to discuss these section posters from

1:00 – 2:00 PM*Industry and Economics (Rm 102)*

1:00 – 2:00 PM*Science Education (Rm. 110)*

1:00 – 2:00 PM*Gorgas Competition (Eng. Aud. hallway)*

1:00 – 5:00 PM Academy of Science Program Sessions.....

Program Sessions:

1:00 *Anthropology (Section XI)* Eng. Rm. 121

1:00 *Bioethics and History & Philosophy of Science (Section XII)*..... Eng. Rm. 101

1:15 *Science Education (Section VII)* Eng. Rm. 110

1:30 *Biological Sciences IV (Section I)*ARC Auditorium

2:00 *Industry and Economics II (Section VI)*..... Eng. Rm. 102

**PROGRAM of the
ALABAMA JUNIOR ACADEMY OF SCIENCE
Henry Barwood, State Counselor
March 31 and April 1, 2010
Engineering Building**

Wednesday

- 1 - 4:00 PM Early Arrival Registration..... Elmore Gym Foyer
- 6:00 PM AJAS/AAS Annual Business MeetingKnight Center
- 7:00 PM Joint AJAS/AAS Banquet.....Knight Center

See page 8 for Banquet Program

Thursday

- 7:30 AM Continental BreakfastEng. Bldg. Foyer
- 7:45 AM Registration.....Eng. Bldg. Foyer
- 7:45 AM Paper Reading
OrientationEng. Bldg. Rm. 120
Judges OrientationEng. Bldg. Rm. 101
- 8:15 AM Paper Competition
Biology.....Eng. Bldg. Rm. 120
HumanitiesEng. Bldg. Rm. 101
Mathematics/EngineeringEng. Bldg. Rm. 102
Physical ScienceEng. Bldg. Rm. 120
- 11:30 AM Caucus.....Eng. Bldg. Rm. 120
- 12:00 Noon Luncheon with Symposium Speaker Eng. Auditorium
From Huntsville to Haiti: Using Earth Observations to Address Disasters and Environmental Issues in the Developing World through NASA's SERVIR Program
- 1:00 PM Paper Competition Finals.....Eng. Bldg. Rm. 120
- 2:30 PM Elections and Business Meeting Eng. Bldg. Rm. 120
Group Photograph
- 3:00 PM Awards Reception, Joint AJAS/Gorgas.....Eng. Bldg. Rm. 120

GORGAS SCHOLARSHIP COMPETITION
Wednesday, March 31, 2010

Ellen Buckner, Chair, Judges

7:00 PM Joint AJAS/AAS Banquet.....Knight Center

Joint Banquet and Recognition of Gorgas Finalists
See page 8 for Banquet Program

Thursday, April 1, 2010

Final Competition: Finalists' Presentations to Judges and Interviews
Engineering Building
Ellen Buckner, Chair, Judges

8:00 AM Set Up Science Exhibits.....Eng. Bldg. Rm. 121

8:45 AM Demonstrations for JudgesEng. Bldg. Rm. 121

9:45 AM Refreshment Break..... Eng. Bldg.

10:00-Noon Individual Interviews with JudgesEng. Bldg. Faculty Offices

Noon Lunch with Symposium Speaker Eng. Auditorium
From Huntsville to Haiti: Using Earth Observations to Address Disasters and Environmental Issues in the Developing World through NASA's SERVIR Program

1:00 PM Gorgas Competition Poster ViewingEng. Aud. Hallway

2:15 PM Remove Exhibits and Posters

3:00 PM Awards Reception, Joint AJAS/Gorgas.....Eng. Bldg. Rm. 120

Announcement of Winners
Ellen Buckner, Chair
Gorgas Scholarship Program

The Alabama Science Scholar Search and Gorgas Scholarship Competition is supported by the Alabama Power Foundation, Incorporated, and administered by the Alabama Academy of Science, Inc.

The Gorgas Scholarship Competition website, www.GorgasScholar.org, contains detailed information on the annual competition and awards available to winners and finalists.

SECTION I – BIOLOGICAL SCIENCES
Session I
Wednesday Morning, 8:30 AM – 12:00 PM
Elmore Gym Lecture Room
George Cline, Presiding

1. 8:30 Analysis of fish communities: results from student observations. *George R Cline*, James R Rayburn, Frank A Romano, III, Kelly D Gregg, and Robert E Carter, Jacksonville State University.
- ~~*2. 8:45 Community structure in a Sumter County, AL stream: correlating darter distribution with physical factors. *Ashley Gray*, Trishonna Kennedy, Hillary Moseley, Kyle Wiggins, Lee Stanton, and John McCall, University of West Alabama. WITHDRAWN~~
- ~~*3. 9:00 Environmental parameters influencing distribution of a stream fish community. *Chanelle Esteban*, Shaquenta Mapp, Reshai Reeves, Mary Wright, Lee Stanton, and John McCall, University of West Alabama. WITHDRAWN~~
- *4. 8:45 Survival of white-tailed deer fawns at Fort Rucker, Alabama. *Angela M Jackson* and Stephen S Ditchkoff, Auburn University.
- *5. 9:00 Photosynthetic pigment concentration pattern throughout the year in selected evergreen and deciduous shrubs. *Walid Chacon* and Safaa H Al-Hamdani, Jacksonville State University.
- *6. 9:15 The potential use of kudzu as a phytoremediator for heavy metal. *Kristin M Schwarzauer*, Safaa H Al-Hamdani, James R Rayburn, and Nixon O Mwebi, Jacksonville State University.
- *7. 9:30 Elevational changes in community composition in montane longleaf pine forests, Oak Mountain State Park, AL. *Ruth An Hanks* and R Scot Duncan, Birmingham-Southern College.
- *8. 9:45 Fire suppression and ecological succession in montane longleaf pine forests, Oak Mountain State Park, AL. *Michelle Anne Maciejewsk*, and R Scot Duncan, Birmingham-Southern College.
- 10:00 INTERMISSION (Poster Session, Elmore Gym)
- *9. 11:00 The effect of dietary ascorbic acid on weight gain and organ production in juvenile *Lytechinus variegatus*. *Warren T Jones*, Laura Wright, Victoria Gibbs,

Addison L Lawrence, and Stephen A Watts, University of Alabama at Birmingham.

- *10. 11:15 Antioxidant concentration comparison between kudzu and common food sources. *David Marc Ponder* and Safaa H Al-Hamdani, Jacksonville State University.
- 11. 11:30 N-acetyl-L-cysteine protects frog embryos against acrylamide-induced malformations and mortality. *James R Rayburn* and Mendel Friedman, Jacksonville State University, ARS-USDA Western Regional Research Center.
- *12. 11:45 The interaction study effect of warfarin and caffeine on the embryos of *Xenopus laevis*. *Sunde M Jones*, Kristin D Shirey, James Rayburn, George Cline, and Mark Meade, Jacksonville State University.

SECTION I – BIOLOGICAL SCIENCES

Poster Session

Wednesday Morning

Elmore Gym

Authors Set-up: 8:00 AM

Authors Present: 10:00 AM – Noon; Viewing and Judging

- *13. Sequencing individual chromosomes – a novel approach towards completing cotton genome. *Venkateswara Rao Sripathi*, TaShundra J Bryant, Govind Sharma, and Ramesh Kantety, Alabama A&M University.
- *14. Analysis of the reniform nematode genome using massively parallel 454 micro-bead sequencing. *Seloame Tatu Nyaku*, Ramesh Kantety, Venkateswara Sripathi, Sarah Cseke, and Govind Sharma, Alabama A&M University.
- *15. Genome-wide expression profiling within the reniform nematode genome. *Seloame Tatu Nyaku*, Sid Nanda, Leland Cseke, and Ramesh Kantety, Alabama A&M University (1,4), Grissom High School (2), University of Huntsville (3).
- *16. Identification of conserved micrnas in the genome of reniform nematode, *Rotylenchulus reniformis*. *Venkateswara Rao Sripathi*, Seloame Tatu Nyaku, and Ramesh Kantety, Alabama A&M University.
- *17. Functional genomics of *Rotylenchulus reniformis* interactions with cotton species; *Gossypium arboreum* and *Gossypium longicalyx*. *Natasha L Simpson* and Ramesh Kantety, Alabama A&M University.
- *18. Functional genomics of the reniform nematode interactions with the cotton species, *Gossypium hirsutum* and *Gossypium barbadense*. *Geraldine Nicole Moss* and Ramesh Kantety, Alabama A&M University.

- *19. Genetic variation within the ribosomal rDNA region of the reniform nematode. *Siddhartha Nanda*, Seloame Tatu Nyaku, and Ramesh Kantety, Grissom High School, Alabama A&M University.
- *20. Predicted structure of the alpha box domain from MATalpha1 of *Saccharomyces cerevisiae*. *Chelley Lawson* and Doba Jackson, Huntingdon College.
- *21. Chemopreventive potential of almonds and pecans against the development of azoxymethane induced tumorigenesis in Fisher 344 male rats. *Antonio Miller*, Martha Verghese, J Boateng, Latonya Dukes, and Louis Shackelford, Alabama A&M University.
- 22. Chemopreventive potential of coffee and cocoa against azoxymethane-induced aberrant crypt foci in a rat model. *Louis Shackelford*, Martha Verghese, Lloyd Walker, and David Asiamah, Alabama A&M University.
- *23. Effect of processing on chemopreventive potential of grapes and beets in azoxymethane-induced Fisher 344 male rats. *Stephen Appiah*, Martha Verghese, Belinda Kanda, J Boateng, and Louis Shackelford, Alabama A&M University.
- 24. Screening of heavy metal accumulation in selected cruciferous vegetables and their impact on antioxidant enzymes in human cells. *Rhona Miller-Cebert*, Martha Verghese, and J Boateng, Alabama A&M University.
- 25. Effect of processed peaches in reducing azoxymethane-induced aberrant crypt foci in Fisher 344 male rats. *Belinda Kanda* and Martha Verghese, Alabama A&M University.
- *26. Chemopreventive effects of bitter melon. *David Asiamah*, Martha Verghese, J Boateng, Louis Shackelford, and Lloyd Walker, Alabama A&M University.
- *27. Effect of fermentation conditions on individual phenolics in cranberries during wine making. *Vijaya Bhaskar Poreddy*, Lloyd T Walker, Yvonne C Chukwumah, Martha Verghese, and Simon O Ogutu, Alabama A&M University.
- *28. Effects of postharvest processing on total phenolic and flavonoid content in red apples (*Malus domestica*) and grapes (*Vitis vinifera*). *Santosh K Chintapandu*, Lloyd T Walker, Yvonne C Chukwumah, Martha Verghese, and Simon O Ogutu, Alabama A&M University.
- *29. Processing effects on phenolics and antioxidant activity in banana peppers. *Lisa Disney* and Martha Verghese, Alabama A&M University.
- *30. Effect of roasting on the quality of peanut butter. *Jordan Moore*, Peter Wambura, and Martha Verghese, Alabama A&M University.
- *31. Application of power ultrasound to improve adhesion of honey on roasted peanuts. *Henock Tegete*, Peter Wambura, and Martha Verghese, Alabama A&M University.

- *32. Effect of pH on hydroponically grown plants (bush bean). *Megan Harris*, Alabama A&M University.
- *33. Determining investment in carnivory by *Drosera capillaris*: effects of varying light levels on trichome number and density. *Rebecca Lee Godwin*, Auburn University.
- *34. Extracting DNA from corn, oats, rice, and wheat: which species has more DNA? *Vinootna VS Kantety*, Columbia Elementary School.
35. Germination, growth and response to *Colletotrichum graminicola* of biofungicide-coated sweet corn seeds in the greenhouse. *Robinson Brandon*, Leopold M Nyochembeng, and Udai R Bishnoi, Alabama A&M University.
- *36. The involvement of SCL3 in salt tolerance in *Arabidopsis thaliana*. *Omowunmi A Owoseni*, Kun Yuan, and Joanna W Diller, Auburn University.
- *37. Variation among progenies of biparental cross of sweet potato for phenotypic traits, storage root yield, and insect-pest damage levels. *Shambhu Prasad Katel*, Srinivasa Rao Menterreddy, Arnold Caylor, Padma Nimmakayala, Umesh Reddy, and David M Jackson, Alabama A&M University(1,2), Auburn University (3), West Virginia State University (4,5), USDA Vegetable Research Laboratory, South Carolina (6).
38. Microbes from professor's shoes. *Brittany N Wilson*, Keshonda M Summerville, and Brian S Burnes, University of West Alabama.
39. Comparison and identification of microbes obtained from tap water on UWA campus. *Markita L Watkins* and John N McCarter, University of West Alabama.
40. Determining the genera and species of bacteria in the family Enterobacteriaceae through the observation of biochemical differentiation. *Cressida Cowan*, Ereka Winters, and Brian S Burnes, University of West Alabama.
- *41. A survey of the bacteria and fungi in Alamuchee Creek. *Ryan M Woods*, Matthew Miller, and Brian S Burnes, University of West Alabama.
- *42. Processed dry beans reduced azoxymethane-induced colon tumors in Fisher 344 male rats. *Reuel Field*, Martha Verghese, Judith Boateng, and Louis Shackelford, Alabama A&M University.
- *43. Effect of selected spices on antioxidant activity and inhibition of colon cancer. *Latonya Dukes*, Martha Verghese, J Boateng, Louis Shackelford, and Lloyd Walker, Alabama A&M University.
- *44. Vitamin nutrition in the variegated sea urchin, *Lytechinus variegatus*. *Warren T Jones*, Addison L Lawrence, and Stephen A Watts, University of Alabama at Birmingham.
- *45. Drifting invertebrates of Estill Fork Creek, Jackson County, Alabama. *Brittany N Holmes* and Bruce W Stallsmith, University of Alabama in Huntsville.
- *46. Growth rates of captive reared yearlings in the Alabama diamondback terrapin recovery program. *Nicole White*, Andrew Coleman, Thane Wibbels, Ken

Marion, and John Dindo, Birmingham-Southern College (1), University of Alabama at Birmingham (2-4), Dauphin Island Sea Lab (5).

47. Factors influencing distribution of darter species in Sumter County, Alabama. *Tyler Earwood*, Katie Lemay, Chris Tucker, Ryan Woods, and John N McCall, University of West Alabama.
- *48. Potential impacts of ocean acidification on regeneration, nutrient allocation, and behavior of the soft bottom sea star *Luidia clathrata*. *Julie B Schram* and James B McClintock, University of Alabama at Birmingham.
49. Water depth and density of *Nyssa biflora* as growth factors for the rare cypressknee sedge, *Carex decomposita*. *Charles K Carver*, Mason C Cooner, and LJ Davenport, Samford University.
- *50. Fast extracellular biosynthesis of silver nanoparticles and their characterization using *Actaea racemosa* extract. *Ibukun O Kusimo*, Candis Johnson, Tatiana Kukhtareva, and Florence Okafor, Alabama A&M University.
- *51. Preliminary evaluation of histological methods examining effects of pine tree extract (from Virginia pine, *Pinus virginiana*) on African clawed frogs (*Xenopus laevis*). *Lindsey M Minton* and James Rayburn, Jacksonville State University.
52. Differential expression of Bax and Bcl2 in retinoid induced differentiation of leukemia cells. *William K Love* and Joseph T Deangelis, University of Alabama at Birmingham.
53. EGCG inhibition of neoplastically transformed human mammary epithelial cell proliferation is accompanied by alterations in methylation pattern of h TERT. *Tyson T DeAngelis* and William K Love, University of Alabama at Birmingham.
- *54. Antimicrobial activity of biosynthetic silver nanoparticles against pond water microorganisms. *Casey Johnson*, Ibukun Kusimo, Tatiana Kukhtareva, and Florence Okafor, Alabama Agricultural and Mechanical University
55. Annotated Checklist of the Vascular Plants of Alabama, Brian R. Keener, Alvin Diamond, Curtis J. Hansen, University of West Alabama.
56. A proposed comparative study of o,p'-DDT vs p,p'-DDT. *Fatou Y Jammeh*, Jacksonville State University.

SECTION I – BIOLOGICAL SCIENCES

Session II

Wednesday afternoon, 1:30 – 5:00 PM

Elmore Gym Lecture Room

Ketia Shumaker, Presiding

- *57. 1:30 Examining evolutionary and conservation implications of maternal influence on egg size and hatchling fitness in the Mississippi diamondback terrapin (*Malaclemys terrapin pileata*). Andrew Coleman, Thane Wibbels, Ken Marion, and Yu-hui Huang, John Dindo, and Nicole White, University of Alabama at Birmingham (1-3), Dauphin Island Sea Lab (5), Birmingham Southern College (6).
58. 1:45 Use of a sedimentation risk index to assess unpaved road-stream crossings in the upper Pea River watershed, Alabama. Suman Chitrakar, Neil Billington, Paul M Stewart, and Christopher K Metcalf, Troy University (1-3), U.S. Fish and Wildlife Service (4).
59. 2:00 Population genetic variation in mid-western and Great Plains walleye and sauger. Jiangquan Zhu, Neil Billington, Jamie McDaniel, Sirisha Bethala, and Janet Gaston, Mahmoud H Alami, and Houda El Brak, Troy University.
60. 2:15 Population genetics of bald cypress in southeastern Alabama. Puja Shrestha, Zach Heath, Michael W Morris, and Neil Billington, Troy University.
- *61. 2:30 Teratogenic effects of Ginkgo biloba on the Japanese medaka embryogenesis. Priestly Uhomba, Brian Burnes, University of West Alabama.
- *62. 2:45 The comparative study of bitter melon (*Momordica charantia*) and turmeric (*Curcuma longa*) using high performance liquid chromatography (HPLC). Sunde M Jones, Nagarajan Vasumathi, Nixon Mwebi, and Mijitaba Hamissou, Jacksonville State University.
- 3:00 INTERMISSION
- *63. 3:15 Study of the microbial diversity in a newly discovered East Antarctic freshwater lake L27C using both culture-independent and culture-dependent methodologies. Jonathan P Huang and Asim K Bej, University of Alabama at Birmingham.
- *64. 3:30 Preliminary developmental toxicity and comparison of the tarantula species, *Grammostola rosea* and *Haplopelma lividum*, on embryos of *Xenopus laevis*. Kristin D Shirey, Sunde M Jones, and James R Rayburn, Jacksonville State University.
65. 3:45 Investigation of genetic diversity in microbial populations from soil samples. Jennifer L Stalma, George Williams, Athens State University.
- *66. 4:00 *Lentinula edodes*: fungus with potential antimicrobial properties. Harjinder Kaur, Leopold Nyochembeng, and Srinivasa Rao Mentreddy, Alabama A&M University.

- *67. 4:15 Modulation of TRPV4 calcium entry by cytoskeletal tension. *Angela L Mayer*, Marc Mouner, Paul Boothe, and James C Parker, University of South Alabama.
- *68. 4:30 Lantern plasticity in the sea urchin *Lytechinus variegatus*. *Laura E Heflin*, Victoria K Gibbs, Mickie L Powell, Addison L Lawrence, John M Lawrence, and Stephen A Watts, University of Alabama at Birmingham (1-3, 6), Texas Agrilife Research Mariculture Laboratory (4), University of South Florida (5).

SECTION I – BIOLOGICAL SCIENCES

Session III

Thursday Morning, 8:30 – 10:00 AM

ARC Auditorium

Mickie Powell, Presiding

- 69. 8:30 Factors leading to cannibalism in *Lytechinus variegatus* (Echinodermata: Echinoidea) in the laboratory. *Cristina M Richardson*, John M Lawrence, and Stephen A Watts, University of Alabama at Birmingham (1,3) University of South Florida (2).
- 70. 8:45 Distribution of the Confederate daisy (*Helianthus porteri*) in Alabama. *David M Frings* and LJ Davenport, Samford University.
- 71. 9:00 Road-kill survey and conservation of Alabama red-bellied turtles on the Mobile Bay causeway - IX. *David H Nelson* and Cynthia Scardamalia-Nelson, University of South Alabama, Providence Hospital.
- 72. 9:15 Tracking landscape changes in the upper Cahaba River watershed (1974-2007) by analyzing multispectral satellite image data. *Steve Padgett-Vasquez*, Robert U Fischer, Jr., Sarah H Parcak, and Ken R Marion, University of Alabama at Birmingham.
- 73. 9:30 Energy allocation for egg production during starvation in sympatric crayfish, *Procambarus clarkii* and *P. acutus acutus*. *Mickie L Powell* and Stephen A Watts, University of Alabama at Birmingham.
- 74. 9:45 Acuity and spectral sensitivity of the midland banded water snake determined with visually evoked potentials. *Michael S Loop*, Jack R Wimbish, and Timothy J Gawne, PhD, University of Alabama at Birmingham.
- 10:00 SYMPOSIUM

SECTION I – BIOLOGICAL SCIENCES

Session IV

Thursday afternoon, 1:30 – 4:30 PM

ARC Auditorium

Brian Burnes, Presiding

75. 1:30 Diversifying plant selection and improving performance of vegetated roofs in the southeastern U.S. *Julie G Price*, Stephen A Watts, Amy N Wright, Jason T Kirby, and Robert W Peters, University of Alabama at Birmingham.
76. 1:45 Expanded coliform sampling of four Perry Lakes Park aquatic environments. *Katherine Elyse McIntyre*, Judson College.
77. 2:00 Identifying sources of pathogen contamination in upper Fish River, Baldwin County, AL. *Brian S Burnes* and Shelton Michael, University of West Alabama.
78. 2:15 The effect of photoperiod on hatchability and hatching time of northern bobwhite quail (*Colinus virginianus*) strains Jumbo Wisconsin and Georgia Giant. *Caroline Rankin Price*, Judson College.
79. 2:30 Systematics of the Tennessee River endemic blenny darter, *Etheostoma blennioides*. *Logan S McDaniel*, W Patrick McKinney, Damien J Simbeck, and Jeffery M Ray, University of North Alabama.
80. 2:45 Analysis of selected southeastern herpetological communities: frogs and salamanders. *Brett A Macek*, George R Cline, and Robert E Carter, Jr., Jacksonville State University.
- 3:00 INTERMISSION
81. 3:15 The vascular flora of Marengo County, AL. *J Kevin England* and Brian R. Keener, University of West Alabama.
82. 3:30 Ant5-2 – a novel Antarctic bacterium provides clue of life processes in extreme cold environment to potent antimicrobial and anticancer agent. *Nazia Mojib* and Asim K Bej, Department of Biology, University of Alabama at Birmingham.
83. 4:15 Mitochondrial variation in genetics students. *Brian S Burnes*, University of West Alabama.

SECTION II – CHEMISTRY
Session I
Wednesday Morning 8:00 –10:00 AM
Elmore Gym Room 3
Emanuel Waddell, Presiding

- *1. 8:10 The rotatory power of isoborneol and (S)-(-)-endo borneol at different wavelength regions, *Sani Maman Brah* Kristin Diane Shirey and Nagarajan Vasumathi, Jacksonville State University.
- *2. 8:30 Effect of solvent on the fluorescence property of benzene and its derivatives. *Ajibola Dawodu*, Sani Brah, Kristin Shirey, Caterina Lazzaroni, and Nagarajan Vasumathi, Jacksonville State University.
- *3. 8:50 Effects of mercury on protein translation in earthworms. *Russell Price*, Al Nichols, and David Steffy, Jacksonville State University.
- *4. 9:10 The comparative study of bitter gourd (*Momordica charantia*) and turmeric (*Curcuma longa*) using high performance liquid chromatography (HPLC). *Sunde M. Jones*, Nagarajan Vasumathi, Nixon Mwebi, and Mijitaba Hamissou, Jacksonville State University.
- *5. 9:30 Synthesis and characterization of temperature-responsive polyethyleneglycol dendrimers. *Michelle M. Gabriel* and Amanda L Hofacker, University of North Alabama.

- 9:50 BUSINESS MEETING

SECTION II – CHEMISTRY
Poster Session
Wednesday Morning
Elmore Gym
Authors Set-up: Begin at 8:00 AM
Authors Present: 10:00 AM – Noon; Viewing and Judging

- *6. Chemical components of fraxinus species of northern Alabama. *Twaskia S. Johnson*, University of Alabama in Huntsville.
- *7. Developing of nmr spectroscopic methods to probe the binding of small molecules towards albumin, papain, and cruzain.. *Can Tan* and Bernhard Vogler, University of Alabama in Huntsville.
- *8. Effect of buffers on aggregate structure formation in tpps solution. *Anjelica Rivers*, Daniel Higgins, and Kamala N. Bhat, Alabama A&M University.
- 9. Theoretical studies of the properties of high energy density molecules. *Mary Hayes*, Andrea Tolbert, Jong Hwa Kim, and Jamiu Adeola Odutola, Alabama A & M University.

SECTION II – CHEMISTRY
Session II
Wednesday Afternoon 2:00 –3:20 PM
Elmore Gym Room 3
Emanuel Waddell, Presiding

10. 2:00 Evaluation of extracting reagents on p solubility from ash, ash-soil, and soils of Montserrat, West Indies. *Kamala N. Bhat*, Robert W. Taylor, Thilini D. Ranatunga, Clarissa White and Zachary Senwo, Alabama A&M University.
11. 2:20 Comparison of aluminum and its forms in the ash, ash-soil, and soils of Montserrat, West Indies. *Kamala N. Bhat*, Robert W. Taylor, Thilini D. Ranatunga, and Zachary Senwo, Alabama A&M University
13. 2:40 Heavy metal content of medicinal Holy Basil plant (*Ocimum.tenuiflorum* syn, Sanctum). *Kamala N. Bhat*, Srinivas R. Mentreddy, Tabitha C. Robbins, and Zachary Senwo, Alabama A&M University.
14. 3:00 Recollections of a hydrogen cyanide chemist. *Richard C. Sheridan*, Tennessee Valley Authority (Retired), Muscle Shoals, AL.

* Denotes presentation is entered in competition, Section II

ALABAMA STATEWIDE CHEMISTRY UNDERGRADUATE RESEARCH
SYMPOSIUM
Poster Session
Wednesday Morning
Elmore Gym
Authors Set-up: Begin at 8:00 AM
Authors Present: 10:00 AM – Noon; Viewing and Judging

- *1. Effect of storage on the antioxidant potential of blackberries and raspberries. *Samantha Gacasan*, and Nixon Mwebi, Jacksonville State University.
- *2. Evaluation of extracting reagents on p solubility from ash, ash-soil, and soils of Montserrat, West Indies.. *Clarissa White*, Kamala N. Bhat, Robert W. Taylor, Thilini D. Ranatunga, and Zanchary Senwo, Alabama A&M University.
- *3. Heavy metal content of medicinal holy basil plant (*Ocimum.tenuiflorum* syn.Sanctum). *Tabitha C. Robbins*, *Kamala N. Bhat*, and *Srinivas R. Mentreddy*, Alabama A&M University.
- *4. Heavy metal speciation and availability in composted sludge. *Cain Eric Kirk* and *Nixon Mwebi*, Jacksonville State University.
- *5. Investigating the effect of adding milk on the antioxidant potential of teas. *Jennifer Brown* and Nixon Mwebi, Jacksonville State University.

- *6. Quantitative detection of alkanethiols as alkanesulfonates by negative-ion electrospray-ionization mass spectrometry. *Sagar H. Amin*, Danielle M. Brown, and Brian W. Gregory, Samford University.
- *7. Theoretical study of two tautomers of Losartan in gas phase and aqueous solution. *Andrea Tolbert* and Jong Hwa Kim, Alabama A&M University.
- *8. Synthesis and utility of 4-alkoxy-dithionaphthoic acids. *Anna C Worth*, Catherine E Needham, Katherine E King, and Andrew J. Lampkins, Samford University.
- *9. Investigating the presence of mercury in sea bottom sediment samples collected from the continental shelf of the eastern Gulf of Mexico. *George Kiplagat*, David Steffy, and Al Nichols, Jacksonville State University.
- *10. Mercury levels in rough scad, *trachurus lathami*, collected in the eastern Gulf of Mexico. *Meriem Zettili*, Al Nichols, and David Steffy, Jacksonville State University.

SECTION III – EARTH SCIENCE
and
SECTION IV – GEOGRAPHY, FORESTRY, CONSERVATION, AND PLANNING
Session I
Wednesday Morning 8:00 –10:00 AM
Elmore Gym Room 7
Ralph Phillip Bording, Presiding

1. 8:00 Water use sustainability and global climate change trend modeling of Northern Alabama region. *Girma Kebede*, Mezemir F Wagaw, and Wubishet Tadesse, Alabama A&M University.
2. 8:20 Anisotropic Travel Times. *Ralph Phillip Bording*, Alabama A&M University.
3. 8:40 Effects of Overstory Density and Fertilizer Supplement on the Growth of American Chestnut Seedlings. *Clint T. Patterson* and Luben Dimov, Alabama A&M University.
4. 9:00 Sustainable winter water harvesting for irrigation. *Cameron Troy Handyside* and Richard McNider, University of Alabama in Huntsville.
5. 9:30 Adaptive wet season water harvesting in Alabama, the geologic geomorphologic perspective. *Mezemir F Wagaw*, Wubishet Tadesse, Girma Kebede, and Tommy Coleman, Alabama A&M University.
6. 9:50 Blame it on El Niño?. *Sig Harden* and John Boncek, Troy University, Montgomery, AL.

JOINT SESSION:
SECTION III – EARTH SCIENCES
SECTION IV – GEOGRAPHY, FORESTRY, CONSERVATION, & PLANNING
Poster Session
Wednesday Morning
Elmore Gym
Authors Present: 10:00 AM – Noon; Viewing and Judging

- *7. Assessment of surface water quality of Huntsville Bpring branch and Indian Creek watersheds. *Alisha J Sledge*, Elica M Moss, and Jonjala F Jackson, Alabama A&M University
- *8. Developing a spatial decision support system for urban stormwater management and water quality assessment. *Nally Kaunda* and Wubishet Tadesse, Alabama A&M University.
- *9. Karst distribution and groundwater availability in Madison/Limestone counties of Alabama. *Feron R Washington* and Mezemir F Wagaw, Alabama A&M University.
- *10. Kinematic structure and features of a cool-season bow echo. *Calvin M Elkins*

and Kevin R Knupp, University of Alabama in Huntsville.

- *11. Modes of occurrence of siderite in the Barnsdall formation, northeastern Oklahoma: relationships to fossil preservation and implications for depositional dynamics. *James R. Thomka*, Dept. of Geology and Geography, Auburn University.
- *12. The regional climate trend in Alabama over the last 50 years. *Theobald Micah Davis* and *Mezemir F Wagaw*, Alabama A&M University.
- *13. Response of ground layer vegetation to thinning and burning on the Southern Cumberland Plateau. *Dana A Virone*¹, *Luben D Dimov*², *Callie J Schweitzer*³, and *Joel C Zak*⁴ 1, 2, 4 Alabama A&M University; 3 USDA Forest Service, Southern Research Station.
- *14. Herpetofaunal and small mammal response to oak-regenerating Silvicultural Practices in the Mid-Cumberland Plateau in Southern Tennessee. *Andrew W Cantrell*¹, *Yong Wang*², *Callie J Schweitzer*³, and *Cathryn H Greenberg*⁴, 1, 2 Alabama A&M University; 3,4 USDA Forest Service.
- *15. Implementing LiDaR and Color Infrared Imagery to characterize select stands of Bankhead National Forest. *Szymanski A. Fields II* and *Wubishet Tadesse*, Alabama A&M University.
- *16. Comparing spectral and object-oriented based approaches of land use/land cover change based on landsat spectral bands. *Sharadha Seerla*, *Wubishet Tadesse*, *Dawn Lemke*, and *Joe Gardinski*, Alabama A&M University.
- *17. Urbanization effect on stream habitat in the Flint River Watershed. *Stephanie Ann Whitaker* and *Webishet Tadesse*, Alabama A&M University.
- *18. Developing a decision support tool by integrating forest stand projections with wildlife occupancy models. *Michelle F. Tacconelli*, and *Edward F. Loewenstein*, Auburn University.
- 19. Invasive plant species current control measures, their impact on biodiversity, and economic control costs. *Jeanette R Williams* and *Luben Dimov*, Alabama A&M University.
- 20. Occurrence of pesticides in soil and surface water of the Tennessee River basin. *Karnita F. Golson-Garner*, *Teferi D. Tsegaye*, *Paul S. Okweye*, and *Dirk Spencer*, Alabama A&M University.
- 21. Response of Carabid beetle assemblages to five different levels of overstory retention in an upland mixed hardwood forest. *Heather Howell*, *Kenneth Ward*, *Rufina Ward*, and *Felix Zack*, Alabama A&M University.
- 22. The utilization of real property interests held by land trust for carbon sequestration and mitigation processes. *Daniel B. Gossett*, *Daniel E. Smith*, and *Ronald N. Hunsinger*, Samford University.
- 23. Net ecosystem exchange of soybean/winterwheat cropping on rainfed zero-tilled soil in northern Alabama. *Maheteme Gebremedhin* and *Teferi Tesgaye*,

Department of Natural Resources and Environmental Sciences, Alabama A&M University.

24. Diurnal and seasonal carbon and energy flux over no-tillage farming. Hwan Hee Han, Maheteme Gebremedhin, and Teferi Tsegaye. Department of Natural Resources and Environmental Sciences. Alabama A&M University.
25. *Castanea dentata* (american chestnut) growth in response to overstory density and fertilizer supplement. *Clint T. Patterson* and Luben D. Dimov, Alabama A&M University.

**JOINT SESSION:
SECTION III – EARTH SCIENCES
SECTION IV – GEOGRAPHY, FORESTRY, CONSERVATION, & PLANNING
Session II
Wednesday Afternoon, 2:00 – 3:40 PM
Elmore Gym Room 7
T. Markham Puckett, Presiding**

- *25. 2:00 Ecological Monitoring of Enhanced Oil Recovery (EOR) Activities, *Kathleen A Roberts* and Xiongwen Chen, Alabama A&M University.
 - *26. 2:10 Forest management practices reveal habitat use gradients in southeastern lizard species, *William B. Sutton*¹, Yong Wang², and Callie J. Schweitzer³, 1,2 Alabama A&M University, 3 USDA Forest Service.
 - *27. 2:20 Relationship of Pool Breeding Amphibian Diversity and Local and Landscape Forest Cover Surrounding Temporary Wetlands in Northern Alabama, *Timothy E Baldwin*¹, Yong Wang², Callie Jo Schweitzer³, and Gregory Ruark⁴, 1,2 Alabama A&M University, 3,4 USDA Forest Service.
 28. 2:40 Cerulean Warbler: Does Alabama provide a good breeding ground for a declining species? *Yong Wang*¹, John Carpenter², and Callie Schweitzer³, 1, Alabama A&M University, 2,3 USDA Forest Service.
 29. 3:00 Blame it on El Niño?. *Sig Harden* and John Boncek, Troy University, Montgomery, AL.
 30. 3:20 Paleobiogeographical and plate tectonic significance of Late Cretaceous Ostracodes (Crustaceans) from Chiapas, Mexico, T. Markham. Puckett¹, *Bradley Arnett*¹, and Gerardo Carbot-Chanona², ¹University of North Alabama; ²Museo de Paleontología “Eliseo Palacios Aguilera”, Instituto de Historia Natural, Chiapas, México.
- 3:40 BUSINESS MEETING (Elect a Section IV Chair and Vice Chair, 2010-2012)

SECTION V – PHYSICS AND MATHEMATICS
Poster Session
Wednesday Morning
Elmore Gym
Akshaya Kumar, Presiding
Authors Present: 10:00 AM – Noon; Viewing and Judging

- *1. Novel approach for using pyroelectric effect as a re-usable battery. *Eugene L Harris Jr.*, Nicolai Kukhtarev T. Kukhtareva , Jai C, Wang, Alabama A&M University.
- *2. Modified Friedmann Equation with a scalar field . *Manish M Jadhav*, Tianxi Zhang , Amy Winebarger, Alabama A&M University.
- *3. SERS of chemical and biological objects. *Paul D Robinson*, Anup Sharma, Tatiana Kukhtareva ,Florence Okafor, Alabama A&M University.
- *4. A search for optical counterparts of rotating radio transients (RRATs). *Teri Tidwell.*, Mel Blake, University of North Alabama.
- *5. Synthesis and characterization of zinc-iron-oxide nanoparticles by high energy ball mill. *Edwards G Arthur*, Sessa S. Srinivasan, Akshaya Kumar, Prakash C. Sharma, Tuskegee University.
- *6. Mathematical modeling of viruses: A study of the H1N1 influenza virus. *Amina C. Dozier*, The University of Alabama in Huntsville.
- *7. Optical interferometric measurement of temperature changes. *Carlton W. Farley*, Rami Reddy Bommarreddi , Alabama A& M University.
- 8. Heating & acceleration of ions in solar ^3He -rich events. *April T. Broaden* , T.X. Zhang , Alabama A & M University.
- 9. Optical properties of Er^{3+} ions doped in glass. *Akshaya Kumar* , Prakash C. Sharma, Sessa S. Srinivasan, Tuskegee University.
- 10. Carrier concentration and the phonon conductivity of semiconductors. *Prakash C. Sharma*, Akshaya Kumar, Sessa S. Srinivasan, Tuskegee University.
- 11. Optical trapping of nano-(micro)particles by gradient and photorefractive forces *Tatiana V. Kukhtareva*, Nickolai V. Kukhtarev, Florence Okafor, Alabama A&M University.
- 12. New materials with potential for optical-device applications. *Quianna S Johnson*, Mohan D. Aggarwal, Ashok Batra, Alabama A&M University.
- 13. Choosing fundamental constants in four-dimensional space. *Arjun Tan*, Matthew E. Edwards, Alabama A & M University.
- 14. Fundamental constants and fundamental units. *Arjun Tan*, Mohammed R. Karim, Tianxi Zhang, Matthew E. Edwards, Alabama A & M University.
- 15. Some theorems on electric fields and potentials of point, line and plane

charge, *Arjun Tan*, Mohammed R. Karim, Tianxi Zhang, Matthew E. Edwards Dr. Alabama A & M University.

SECTION V – PHYSICS AND MATHEMATICS

Session I

Wednesday Afternoon, 2:00 – 4:30

ARC Food Service Conference Room

Akshaya Kumar, Presiding

16. 2:00 Optical Properties of Rare Earth Doped Tellurium Niobate Glass. *Hashim K. Samuel*, Akshaya Kumar, Sessa S. Srinivasan, Prakash C. Sharma, Tuskegee University.
17. 2:20 Mathematical Modeling of the Radiated Acoustic Field of Axisymmetric Ultrasonic. *Albert J Osei*, Sihon H Crutcher, Yazmin Ince, Oakwood University; US Army Research, Development and Engineering Command, Huntsville, AL.
18. 2:40 Heron-like Area Formula Expressed in Terms of a Triangle Medians. *Herman L. Windham*, Tuskegee University.
- *19. 3:00 AlGaIn/GaN DNA hybridization biosensor. *Siddharth Alur*, Tony Gnanaprakasa, Jing Dai, Yaqi Wang, Yogesh Sharma, Jong Wook Hong, Aleksandr L. Simonian, Michael J. Bozack, Claude Ahyi, Minseo Park, Auburn University.
- 3:20 INTERMISSION
- *20. 3:30 Constructing a photonic molecule: separation-sensitive measurements of Resonance. *David A. Keating*, Emre Guler, Kazuya Ichimura, David B. Thompson, University of North Alabama.
- *21. 3:50 High breakdown and Low Leakage Schottky rectifiers fabricated on free-standing GaN. *Yaqi Wang*, Siddharth Alur, Yogesh Sharma, Minseo Park, Auburn University.
22. 4:10 Nanostructured Polymer Fibers for Hydrogen Storage. *Sessa S Srinivasan*, Prakash C Sharma, Tuskegee University.

SECTION V – PHYSICS AND MATHEMATICS

Session II

Thursday Morning, 8:00 – 10:00 AM

ARC Food Service Conference Room

Akshaya Kumar, Presiding

23. 8:00 Black hole universe theory. *Tianxi Zhang* Physics Department, Alabama A & M University.
24. 8:20 Comparative study of partially ordered materials and mathematical sets. *Marie T. Oumba* , Ashok K. Batra , M. D. Aggarwal, Alabama A&M University.
25. 8:40 Optical solitons by He's variational principle in a non-Kerr Law Media. *Russell W. Kohl*, Alabama A&M University.
26. 9:00 Optical solitons in a Kerr Law Media with fourth order dispersion. *Fayequa B. Majid*, Alabama A&M University.
27. 9:20 Soliton Perturbation Theory for Phi-Four model and nonlinear Klein-Gordon Equations. *Anjan Biswas* , Delaware State University, Dover, DE.
- 9:40 BUSINESS MEETING [Election a Vice-Chair]

* Denotes presentation is entered in competition.

SECTION VI – INDUSTRY AND ECONOMICS

Session I

Thursday Morning, 10:20 AM - Noon

ARC Forestry Conference Room

Marsha D. Griffin, Presiding

1. 10:20 The economics of adult education in the workforce. *Chris Miller* and R. Bryan Kennedy, Athens State University.
2. 10:40 The public image of labor unions: individual perceptions and public views. *R. Bryan Kennedy*, Susan D. Herring, Michael Essary, Matthew Holland, Laura Lynn Kerner, Kim LaFevor, and Linda Shonesy, Athens State University.
3. 11:00 Anatomy of a recession: a comparative study. *James G. Alexander* and Marsha D. Griffin, Alabama A&M University.
4. 11:20 Remote proctor use in online classes: what we've learned the first year. *Janie R. Gregg* and Linda Carr, The University of West Alabama.
5. 11:40 Creating syllabi focused on enhancing student learning outcomes. *Janie R. Gregg* and Mitzi Green, The University of West Alabama.

12:00 LUNCH

SECTION VI – INDUSTRY AND ECONOMICS

Poster Session

Thursday Afternoon

Eng. Bldg. Room 102 Hallway

Janie R. Gregg, Presiding

Authors Present 1:00 – 2:00 PM

6. Entrepreneurial challenges and the concept of zero waste in a society of wastage and environmental pollution. *Yinusa Adeboye Omidiran*, Alabama A&M University.
- *7. The role person-related factors play in guiding psychiatric nurses' decisions to turnover: a mixed-methods study. *Beverly J. Myers*, Kathleen C. Brown, Natalyia V. Ivankova, Andres Azuero, and Henry Robertson, University of Alabama at Birmingham.
- *8. The role work environment factors play in psychiatric nurses' decisions to turnover.. *Beverly J. Myers*, Kathleen C Brown, Natalyia Ivankova, Andreas Azuero, and Henry Robertson, University of Alabama at Birmingham.

SECTION VI – INDUSTRY AND ECONOMICS

Session II

Thursday Afternoon

Eng. Bldg. Room 102

Janie R. Gregg, Presiding

9. 2:00 The economics approach: an assessment of the reduction of sulfur dioxide and nitrogen oxide pollution reduction in the United States, 1993-2008. *Teshome Gabre*, Rory Fraser, Constance Jordan, and Gete Bekele, Alabama A&M University
10. 2:20 Did you hear me? Failures in upward communication. *R. Bryan Kennedy*, Kimberly Bell, Michael Essary, Susan D. Herring, Jim Kerner, Laura Lynn Kerner, and Linda Shonesy, Athens State University.
- *11. 2:40 Sexual harassment. *Samuel E. Salvatore* and Janie R. Gregg. The University of West Alabama.
3:00 INTERMISSION
12. 3:20 Why is it so hard to see our fingers? *James G. Alexander* and Marsha D. Griffin, Alabama A&M University.
13. 3:40 Old green, new green forest green, blue-green. *Marsha D. Griffin* and James G. Alexander, Alabama A&M University.
4:00 BUSINESS MEETING [Elect a Chair and Vice Chair, 2010-2012]

*Denotes presentation entered in competition

SECTION VII – SCIENCE EDUCATION

Session I

Thursday Morning 8:00 –10:00 AM

ARC Wildlife Lab

Karen Utz, Presiding

1. 8:30 Jones Valley and the minerals beneath: How geology built a city. *Heather E Guy, Miss*, University of Alabama at Birmingham.
 - *2. 9:15 Green landscapes and environmental policy: A conceptual model for service learning. *Stephanie E. Freeman*, Catherine Sabota, Rudy Pacumbaba Jr., and Mezimer Wagaw, Alabama A&M University.
- 10:00 FEATURED SYMPOSIUM
- Noon LUNCH with Symposium Lecture

SECTION VII – SCIENCE EDUCATION

Poster Session

Thursday Afternoon

Eng. Bldg. Room 110

Authors Present: 1:00 AM – 4:30PM

- *3. Connecting lives: A community outreach and field study in Titusville Alabama. *SaBrina D Bone*, Barry McNealy, Jordan Croft, and Angelik Johnson, Malcolm Ryans, Melvin Griffin, Delana Buford, Christopher Evans, Brea Roper, Kenneth Sutton, Sharyn R. Jones, and Loretta A. Cormier, University of Alabama at Birmingham; Birmingham City Schools, A.H. Parker High School.
4. Ethnohistory of food: Food and folk medicine of Alabama Slaves. *Ashley Wilson*, Loretta A. Cormier, University of Alabama at Birmingham.
5. If you are what you eat, then maybe we should learn more about the food we eat: Increasing awareness of nutritional benefits and consequences among elementary students in Alabama. *Lindsay Lee Whiteaker*, University of Alabama at Birmingham.

SECTION VII – SCIENCE EDUCATION

Session II

Thursday Afternoon 1:15 - 5:00 PM

Eng. Bldg. Room 110

Karen Utz, Presiding

6. 1:15 Teaching critical thinking in a physical chemistry course. *Michael B. Moeller*, University of North Alabama.

7. 2:00 Death in a box: Packaging the decomposition process for the museum environment. *James P Cormier*, Spring Valley School, Birmingham, AL.
 8. 2:45 Science education through an interdisciplinary field school on Nayau, Fiji. *Sharyn R. Jones and Loretta A. Cormier*, University of Alabama at Birmingham.
 9. 3:30 Fostering young researchers through REU. *Sha Li* and *Yong Wang*, Alabama A&M University.
 - *10. 4:15 Genes and consequences: A bioinformatics laboratory experience. *April M Reis*, *Madelene Loftin*, *Jennifer Carden*, and *George Williams*, Athens State University; Hudson Alpha Institute for Biotechnology.
- 5:00 BUSINESS MEETING [Elect a Section Vice-Chair]

*Denotes presentation entered in competition

SECTION VIII – BEHAVIORAL AND SOCIAL SCIENCES

Wednesday Afternoon 1:00 PM – 3:40 PM

Elmore Gym Room 4

Richard A. Hudiburg, Presiding

1. 1:00 Effect of harsh early family environment on the mental and physical health of children and adults. *R. Bryan Kennedy*, Susan D. Herring, Kim Bell, Susan Calhoun, Michael Essary, Matthew Holland, and Linda Shonesy, Athens State University.
2. 1:20 Jungian psychology and the twelve steps. *R. Bryan Kennedy* and Maureen J. Chemsak, Athens State University.
3. 1:45 Alcoholics Anonymous as a resource for business and industry. *R. Bryan Kennedy* and Maureen J. Chemsak, Athens State University.
- *4. 2:10 A comparison of physical and mental health indicators of people exposed to PCB contamination as related to access to health care. *Eric G Brown*, Christie Shelton, and Jan Case, Jacksonville State University.
5. 2:35 A state of emergency in Alabama: prison overcrowding. *Larry E Spencer*, Alabama State University.
6. 2:55 Bias Based Policing: Comparing the Views of Minority Officers versus Non-minority Officers. *Ralph E. Ioimo*, Auburn University Montgomery.
7. 3:20 Mapping the taboo: offensiveness of images and discomfort for words among religious fundamentalists. *Amy L. Vosburgh*, Ben S. Tate, Sara M. Blasingame, Larry W. Bates, and Richard A. Hudiburg, University of North Alabama.
- 3:40 BUSINESS MEETING [Elect a Chair and Vice Chair for 2010-2012]]

SECTION VIII – BEHAVIORAL AND SOCIAL SCIENCES

Poster Session

Wednesday Afternoon

Elmore Gym Room 4

Authors Present: 3:30 PM – 4:30 PM

- *8. Assessing toddlers' verb comprehension in varying sentence contexts using eye gaze. *Shayne L. Keyes* and Brenda L. Beverly, University of South Alabama.
- *9. Spotlight effect and religious fundamentalism. *Trent H. Walters*, Leif E. Hetland, Jessica M. Williams, Richard A. Hudiburg, and Larry W. Bates, University of North Alabama.
- *10. Self-bp monitoring, stage of change, medication adherence, self-efficacy and blood pressure control in hypertension workers. *Tonya Breaux-Shropshire* and Kathleen C. Brown, University of Alabama at Birmingham.

* Denotes presentation is entered in the student competition

SECTION IX – HEALTH SCIENCES
Wednesday Morning 9:30 AM -- Noon
Elmore Gym Room 4
Bettina Riley, Presiding

- *1. 9:30 Mixed-methods designs: an overview of procedural issues. *Beverly J. Myers*, Kathleen C. Brown, Natalya V. Ivankova, PhD, Andres Azuero, and Henry Robertson, University of Alabama at Birmingham.
2. 10:00 Promoting health literacy among diverse populations. *Leigh Anne Minchew*, University of South Alabama.
3. 10:30 Two-photon biophotonic materials for cancer diagnostics and treatment. *Michael James Curley*, Vernessa Edwards, Tania Kukhtareva, and Florence Okafor, Alabama A&M University.

SECTION IX – HEALTH SCIENCES
Poster Session
Wednesday Morning
Elmore Gym Room 4
Authors Present 11:00 – 11:45 AM

4. Milk thistle subchronic effects - a 30-day study in rats. *Ronald N. Hunsinger* and Franklin M. Franklin, Samford University.
5. Promoting health literacy among diverse populations. *Leigh Anne Minchew*, University of South Alabama.

11:45 BUSINESS MEETING [Elect a Section Vice Chair]

*Denotes presentation is entered in competition

SECTION X: ENGINEERING AND COMPUTER SCIENCE

Poster Session

Wednesday Morning

Elmore Gym

Authors Present: 10:00 AM – Noon; Viewing and Judging

- *1. An object-oriented software approach for the development of a library management system. Ashlee Gray, Alabama A&M University.
- *2. Biaxial compliance changes in mitral valve leaflets following radiofrequency ablation. Shawn Price and Caroline Norwood, University of Alabama at Birmingham.
- 3. Embedded cellular phone system. Jonathan Graham Pitts, Alabama A&M University.
- 4. Traffic light signal simulation. Rama K Nagalla and Yujian Fu, Alabama A&M University.
- *5. Properties of carbon nano fiber reinforced cement composites for smart materials and sensors. *Jacob Caine*, Marcus Powe, and Justin Allen, Alabama A&M University.
- *6. Cmos-based vlsi design and fabrication of a bidirectional low-power adc/dac converter using mosis c5f/n 0.5 μm mixed signal cmos process technology. *Otis Graves*, Omar Rhodes, John Williams, and Iveth Giron, Alabama A&M University.

SECTION X: ENGINEERING AND COMPUTER SCIENCE

Session I

Wednesday Morning 8:20 – 10:00 AM

Elmore Gym Room 6

David Thornton, Presiding

- 7. 8:20 Multicore architecture and performance considerations. Srinivasarao Krishnaprasad, Jacksonville State University.
- 8. 8:40 Elevator controlled embedded system. Lavanya Chava, Lav and Fu Jenny Yujian, Fu, Alabama A and M University.
- *9. 9:00 An optimized image clustering and feedback-based retrieval framework. Liping Zhou and Chengcui Zhang, University of Alabama at Birmingham.
- 10. 9:20 Anode materials for h₂s splitting in electrolytic cell. Jonathan C Mbah, Burton Krakow, Elias Stefanakos, and Wolan T Wolan, Tuskegee University, Tuskegee, AL; University of South Florida.
- *11. 9:40 Compressible flow over rectangular cavity. Billy A McConathy and Jungwook

Goldsmith, University of Alabama at Birmingham.

SECTION X: ENGINEERING AND COMPUTER SCIENCE

Session II

Wednesday Afternoon 1:00 –5:00 PM

Elmore Gym Room 6

David Thornton, Presiding

- *12. 1:00 A variable bin width histogram-based image clustering algorithm. Song Gao and Chengcui Zhang, University of Alabama at Birmingham.
- *13. 1:20 Hierarchical detection in large wireless sensor networks that use multibit quantization. Thomas Anthony and Thomas C Jannett, University of Alabama at Birmingham.
- 14. 1:40 Lightweight malicious URL classification. Jason R Britt and Daniel P Mills, University of Alabama at Birmingham.
- *15. 2:00 Metamodel recovery from multi-tiered domains with extended MARS. Qichao Liu, Marjan Mernik, and Barrett Bryant, University of Alabama at Birmingham.
- 2:20 INTERMISSION
- *16. 2:40 Model-based implementation of automated web-based information system. Sriharsha Jasti, Alabama A&M University.
- *17. 3:00 A statistical approach to DSL learning. Upendra Sapkota, Marjan Mernik, Barrett Bryant, Alan Sprague, and Thamar Solorio, University of Alabama at Birmingham.
- *18. 3:20 Optimization of multi-layered casings for energetic materials. Kenneth C Walls, III, David L Littlefield, and David Lambert, University of Alabama at Birmingham.
- 19. 3:40 Spam clustering based on sender information. Soma Halder, Alan Sprague, and Chun Wei, University of Alabama at Birmingham.
- *20. 4:00 Development of a transverse isotropic material model for brain tissue to model the response of human head to impact loads. Sandeep Kulathu and David L. Littlefield, University of Alabama at Birmingham.
- 21. 4:20 R&d required to establish modeling and simulation (m&s) verification, validation and accreditation (vv&a) guidance and practices for certifying simulations used for software requirements based verification. *Ernest Everett Moyers*, Alabama A&M University.
- 4:40 BUSINESS MEETING (Elect a Vice-Chair for Section X)

*Denotes presentation is entered in competition

SECTION XI – ANTHROPOLOGY

Session I

Thursday Morning, 9:00-11:20

Engineering Building Room 121

Harry Holstein Presiding

- 9:00 Welcome, *Harry Holstein*
1. 9:05 The City of Oxford, Alabama stone and earthen mound controversy from an archaeological perspective. *Harry Holstein*, Jacksonville State University.
 2. 9:25 Fort Alabama and the Alabama volunteers during the Second Seminole War. *Phillip Koerper*, Jacksonville State University.
 - *3. 9:45 Ceramic assemblage of a Mississippian domestic structure from 1mc25. *John A. Gullatte* and Hamilton H. Bryant. Auburn University.
 4. 10:05 Locomotion variability of *Ateles geoffroyi* in captivity. *Anne Dorland*. Auburn University.
- 10:25 INTERMISSION
- *5. 10:40 Dumped: An exploration of the material culture of the past and present in Nayau, Fiji. *Anna Destin McCown and Sharyn Jones*, University of Alabama at Birmingham.
 6. 11:00 The art of photographing archaeological artifacts for technical reports. *Sean Williamon*. Jacksonville State University.
- 11:20 LUNCH

SECTION XI – ANTHROPOLOGY

Session II

Thursday Afternoon, 1:00-2:30

Engineering Building Room 121

Harry Holstein Presiding

7. 1:00 Holy Huaquero! Pot hunting as a past time in Latin America. *James Sewastynowicz*, Jacksonville State University.
8. 1:20 The Dietary variations of the sexes and how they attribute to dental caries from Newton Plantation. *Brittany Cooper, Kenyetta Bryant, and Kristina Schuler*, Auburn University.
9. 1:35 An archaeological investigation of a nineteenth-century charcoal-production site, 1CA567, in Calhoun County, Alabama. *Valerie Glesner*. Jacksonville State University.

10. 1:55 A case of cranial deformation from the Liddell Site, 1WX1, Wilcox County, Alabama. *Kelly Ervin*. Auburn University.
11. 2:10 The Tallise Phase: the deconstruction of the late historic creeks. *John Cottier*, Auburn University.

*Denotes presentation is entered in competition

SECTION XII – BIOETHICS & HISTORY & PHILOSOPHY OF SCIENCE

Thursday Afternoon, 1:00 – 5:00 PM

Engineering Building Room 101

Gerard Elfstrom, Presiding

1. 1:00 Genethics: a course on 21st century biotechnologies and ethics. *James T Bradley*, Auburn University.
- *2. 1:30 Ethics in an age of genetic engineering. *Jennifer A. Trobaugh*, Auburn University.
3. 2:00 Chimps in research: An historical perspective and evolving ethic. *Lewis Barker*, Auburn University.
- 2:45 INTERMISSION
4. 3:00 Bird flu, swine flu, next? *Kenneth E. Nusbaum*. College of Veterinary Medicine, Auburn University.
5. 3:30 The human odyssey at Auburn University-an interdisciplinary curriculum in the sciences and humanities. *Mary T Mendonca*, *Lewis Barker*, *Martha Escobar*, and *Roy Knight*, Auburn University.
6. 4:00 Science 2.0: Blogs and the future of science publishing. *Michelle Sidler*, Auburn University.
7. 4:30 The end of science. *Gerard Elfstrom*, Auburn University.
- 5:00 BUSINESS MEETING [Elect a Vice Chair for 2010-2011 term]

*Denotes presentation is entered in competition

GORGAS SCHOLARSHIP COMPETITION
Poster Session
Thursday Afternoon
Authors Present, 1:00-2:00 PM
Engineering Building Dining Room (2nd floor)
Ellen Buckner, Presiding

- 1.** Do You 'ear Wha' I 'ear?: Lowering voice frequencies in REAL TIME to revolutionize hearing assistance technology, *Nicholas Christensen*, Wetumpka High School [Virginia Vilardi], Wetumpka, AL
2. A three year study on phytoremediation, *Rebecca Lauren Daniels*, Brooks High School [Vicki Farina], Killen, AL.
3. The germicidal effects of ultraviolet-C light on pond water, *Emily Duke*, Jefferson County International Baccalaureate School [Catherine Shields], Birmingham, AL
4. Fighting fire with fire, *Hanah Faulkner*, Brooks High School [Vicki Farina], Killen, AL
5. Comparison of charcoal produced from the invasive pueraria montana var. lobata (kudzu), oak, hickory, and a commercially available charcoal, *James Edward Whitfield LeCroy*, Jefferson County International Baccalaureate School [Catherine Shields], Birmingham, AL.
6. Bacterial presence on the mobile phones of health professionals and a comparison of cleaning methods, *Michael Longmire*, Alabama School of Math and Science [Barry McPhail], Mobile, AL.
- 7.* The effect of honey hydrogen peroxide concentration on small hive beetle (*Aethina Tumida*) survival, *Lydia L. McCormick*, Jefferson County International Baccalaureate School [Catherine Shields], Birmingham, AL.
8. The potential allelopathic suppression of kudzu (*Pueraria montana*), *Mason McFarland*, Jefferson County International Baccalaureate School [Catherine Shields], Birmingham, AL.
9. A study of the effects of clove oil of methicillin staphylococcus aureus, *Kate L. McLaughlin*, Wetumpka High School [Virginia Vilardi], Wetumpka, AL.
- 10.* Small heat shock proteins as a novel therapeutic for experimental autoimmune encephalomyelitis: a potential treatment for multiple sclerosis, *Dave Praharaj*, Grissom High School [Lady Emrich], Huntsville, AL
11. Recognition of low-level troponin elevations as clinically important cardiac events in the reasons for geographic and racial differences in stroke study, *Harsh Shah*, Alabama School of Fine Arts [Ruth Borden], Birmingham, AL
12. The effects of hypoxia on PPARy in newborn mouse lungs, *Georgia Whitt*, Ramsay High School [Dasi Mosley], Birmingham, AL

**Intel National Science Talent Search, Finalist

*Intel National Science Talent Search, Semi-Finalist

OBJECTIVES OF THE ALABAMA ACADEMY OF SCIENCE

The objectives of the Academy are to:

- Promote the development of interest in scientific matters in the state,
- Provide means for publication of papers and abstracts,
- Provide opportunity for increased cooperation and fellowship among its members,
- Cooperate with other organizations having similar aims,
- Render public service in scientific matters,
- Promote the interest in and study of science by the youth of Alabama,
- Provide for and award scholarships to deserving youth of Alabama.

In fulfilling these objectives, the Academy is devoted to nearly all aspects of science and science education.

EDUCATIONAL ACTIVITIES OF THE ACADEMY

The Academy sponsors

- Alabama Junior Academy of Science, a statewide organization of high school science clubs
- Junior Science and Humanities Symposium, an activity supported by the United States Army, U.S. Navy, U.S. Air Force, and the U.S. Coast Guard
- Seven Regional Science Fairs at which high school students exhibit the results of their research or study projects. Regional Finalists compete in the Alabama State Science & Engineering Fair. Winners go to the International Science and Engineering Fair (ISEF)
- Science Olympiads in which regional winners compete at the state level. Alabama winners go to the National Competition.
- Visiting Scientist Network in which volunteer members, upon invitation by a teacher, go to high schools to present talks, demonstrations, or workshops
- Travel grants to enable students to attend the annual meetings where they can present their research results in the Student Research Award Competition
- Research grants to enable students to carry out mentored research
- Annual Science Teacher Fellowships (\$1,000) to individuals in the fifth year program leading to Class A certification.

2010 REGIONAL SCIENCE FAIRS

N Alabama	March 3-5	University of Alabama in Huntsville, contact: Ms. Annie Harris, Univ. of Alabama in Huntsville, College of Engineering, 301 Sparkman Drive, EB 102, Huntsville, AL 35899 web site: http://.narsef.uah.edu
W Alabama	March 12-13	The University of West Alabama, John McCall, Dept. of Biological and Environmental Science, Station 7, The Univ. of West Alabama, Livingston, AL 35470, http://sciencefair.uwa.edu .
Central	March 6	University of Alabama at Birmingham, J. Michael Wyss, UAB-CORD, web site: www.uab.edu/CRSEF/
Mobile	March 26-27	University of South Alabama, James J. Connors, (251) 460-7575, jconnors@usouthal.edu ; web site: http://www.southalabama.edu/mrsef/
Greater East	March 10	Auburn University, Ms. Emma Seiler, ees001@auburn.edu , 131 Sciences Center Classroom Bldg., Auburn Univ., Auburn, 36849, http://www.auburn.edu/academic/science_math/cosam/outreach/

2010 ALABAMA STATE SCIENCE AND ENGINEERING FAIR

April 1 – 3, The University of Alabama in Huntsville; Coordinator, John D Fix, College of Science, University of Alabama in Huntsville, 301 Sparkman Dr., Huntsville, 35899

Alabama Science and Engineering Fair web site: <http://www.uah.edu/ASEF/asef.htm>

2010 INTERNATIONAL SCIENCE AND ENGINEERING FAIR

An activity of Intel Science Service, 1719 N Street, NW, Washington, DC 20036, (202) 785-2255, FAX (202) 785-1243. Internet: <http://www.sciserv.org/isef/>. The Intel 2010 ISEF will be held in San Jose, CA, from May 9-14 Virginia Vilardi, State Coordinator, 1251 Coosa River Parkway, Wetumpka H. S., 36092, (334) 567-5158, Cell, (334) 799-0104, FAX (334) 567-1178, (H) (334) 514-1770, Virginia.vilardi@elmore.k12.al.us.

ALABAMA SCIENCE OLYMPIAD 2009-2010

Division A2 Grades 3-6 Olympiad Tournaments

University of West Alabama, October 20, 2009. Grades 3-6, Jeffery Merida, Department of Biology, The Univ. of West Alabama, Station 7, Livingston, AL 35470. (205) 652-3732, jmerida@uwa.edu; <http://eso.uwa.edu/>

Jacksonville High School, February 27, 2010. Grades 3-6, David Peters, 1000 George Douthit Drive SW, Jacksonville, AL 36265 (256) 435-4177, www.esoatjhs.org

Auburn University, March 27, 2010. Grades 3-6, Greg Harris, Department of Mathematics, 218 Parker Hall, Auburn, AL 36830 harriga@auburn.edu; <http://www.auburn.edu/%7Eharriga/olympiad/>

Division B Grades 6-9 Olympiad Tournaments

University of Alabama, February 27, 2010. Luoheng Han, Coordinator, Assoc. Dean, lhhan@as.ua.edu, (205) 348-7007; Kevin Whitaker, Co-Coordinator, kwhitaker@eng.ua.edu (205) 348-1598. http://www.as.ua.edu/home/public/deans_office/ward/science_olympiad/

Auburn University, February 27, 2010, Dr. Steve Stuckwisch, Department of Geology, 108 Tichenor Hall, Auburn University, AL 36830. (251) 844-6575 sstuckwisch@charter.net; <http://www.auburn.edu/~stuckse/ScienceOlympiad/>

University of Alabama at Huntsville, February 20, 2010, nessacita@com.cast.net, <http://www.uah.edu/sciolympiad/>

Spring Hill College, February 6, 2010, Dr. Charles Chester, Spring Hill College, Mobile, AL 36608 (251) 380-2710 cchester@shc.edu,, <http://adminblogs.shc.edu/scienceolympiad>

Division C Grades 9-12 Olympiad Tournaments

University of Alabama, February 27, 2010. Kevin Whitaker, Coordinator, kwhitaker@eng.ua.edu (205) 348-1598. Dr. Milt Ward, Co-Coordinator, mward@as.ua.edu (205) 348-7007; http://www.as.ua.edu/public/deans_office/ward/science_olympiad/

University of Alabama at Huntsville, February 20, 2010., nessacita@comcast.net, <http://www.uah.edu/sciolympiad/index.php>

Spring Hill College, February 6, 2010, Dr. Charles Chester, Spring Hill College, Mobile, AL 36608 (251) 380-2710 cchester@shc.edu,, <http://adminblogs.shc.edu/scienceolympiad>

State Science Olympiad Tournaments

Huntingdon College, March 13, 2010. Division B, Dr. Sidney Stubbs, 1500 E Fairview Ave, Montgomery, AL 36106 (334) 833-4430. sstubbs@huntingdon.edu
http://216.186.205.33/scienceolympiad/default_frame.html

Jacksonville State University, April 10, 2010. Division C, Dr. Robert Carter, Jacksonville State University, 700 N Pelham Rd, Jacksonville, AL 36265. (256) 782-5144, rcarter@jsu.edu.

National Science Olympiad Tournament

University of Illinois, May 20-22, 2010. Champaign-Urbana, IL
<http://www.sont.illinois.edu/>

State Director: Jane Nall, 31110 Wakefield Drive, Spanish Fort, AL 36527 (251) 621-2911, email drnall@hotmail.com

Alabama Science Olympiad web page: <http://aso.jsu.edu/>

National Science Olympiad web page: <http://soinc.org/about>

WILLIAM H. MASON SCIENCE TEACHER FELLOWSHIPS

The William H. Mason Science Teacher Fellowship Fund honors the late Dr. Mason's dedication and leadership in the Academy. Contributions to support this fund may be sent to Dr. Taba Hamissou, Dept. of Biology, Jacksonville State University, Jacksonville, Alabama 36265, Treasurer, AAS. Gifts are tax deductible. Dr. Michael B. Moeller serves as Chair of the Mason Science Teacher Fellowship Committee, UNA, Box 5049, (256) 765-4479, mbmoeller@una.edu.

Downloadable applications and further information can be found on the Academy web site, www.alabamaacademyofscience.org.

Fellowships have been awarded to the following individuals:

- 1990 - 1991 Mrs. Amy Livengood Sumner, UAB
- 1991 - 1992 Mrs. Leella Holt, UNA.
- 1992 - 1993 Mrs. Joni Justice Shanklee, Samford University.
- 1993 - 1994 Jeffrey Baumbach, Auburn University.
- 1994 - 1995 Not Awarded.
- 1995 - 1996 Laura West Cochran, University of Montevallo.
- 1996 - 1997 Tina Anne Beams, UA.
- 1997 - 1998 Carole Collins Crabbe Clegg, UAB
- 1998 - 1999 Cynthia Ann Phillips, UNA
- 1999 - 2000 Ruth Borden, UAB
- 2000 - 2001 Amy K. Murphy, UAB, Karen L. Celestine, AL A&M
- 2001 - 2002 Jeannine Ott, Eubanks, Auburn University
- 2002 - 2003 Not Awarded
- 2003 - 2004 Kanessa Miller, Auburn University
- 2004 - 2005 Not Awarded
- 2005 - 2006 Mary Busbee, UAB, and Bethany Knox, UAB
- 2006 - 2007 Kelly Harbin, UAB
- 2007 - 2008 Michael Hallman, UA
- 2008 - 2009 Sherri Sanders Grosso, UNA
- 2009 - 2010 Not Awarded
- 2010 - 2011 Danielle Brooke Morlan, UWA

WRIGHT A. GARDNER AWARDEES

Recipients Are Selected For Their Outstanding Contributions to Science While in Residence in Alabama

- 1984 Robert P. Bauman, Physics, University of Alabama at Birmingham
- 1985 Nolan E. Richards, Research Scientist, Reynolds Metals Company, Sheffield
- 1986 S. T. Wu, Mechanical Engineering and Aeronautic Research, University of Alabama in Huntsville
- 1987 Herbert H. Winkler, Microbiology, University of South Alabama
- 1988 Richard W. Compans, Microbiology and Senior Scientist, University of Alabama at Birmingham
- 1990 Max Cooper, Medicine and Immunology, University of Alabama at Birmingham

- 1991 Dan Urry, Biochemistry, University of Alabama at Birmingham
- 1992 Gail Cassell, Microbiology, University of Alabama at Birmingham
- 1994 Frank Rose, Electrical Engineering, Space Power Institute, Auburn University
- 1996 Prakash Sharma, Physics, Tuskegee University
- 1997 Robert E. Pieroni, Internal and Family Medicine, University of Alabama, Tuscaloosa
- 1998 Thomas J. Wdowiak, Physics and Space Exploration, University of Alabama at Birmingham
- 1999 Samuel B. Barker, Physiology, and Dean Emeritus, University of Alabama at Birmingham
- 2000 George Crozier, Dauphin Island Sea Lab, Mobile
- 2001 James B. McClintock, University of Alabama at Birmingham
- 2002 Sara C. & Wayne H. Finley, University of Alabama at Birmingham Medical School
- 2003 Leven S. Hazlegrove, Samford University, Executive Director, Alabama Academy of Science
- 2004 William J. Barrett, Southern Research Institute, Retired, Birmingham
- 2005 Eugene Omasta, Professor Emeritus, Troy University.
- 2006 Dan Holliman, Professor Emeritus, Birmingham Southern College
- 2007 No award
- 2008 No award
- 2009 No award

FELLOWS OF THE ALABAMA ACADEMY OF SCIENCE

- 2007 Ellen Buckner (University of Alabama at Birmingham), Leven Hazlegrove (Samford University), Richard Hudiburg (University of North Alabama), Larry Krannich (University of Alabama at Birmingham), Eugene Omasta (Troy University), Prakash Sharma (Tuskegee University).
- 2008 Ram B. Gupta (Auburn University), Harry O. Holstein (Jacksonville State University), Adriane G. Ludwick (Tuskegee University), Ken Marion (University of Alabama at Birmingham), Michael B. Moeller (University of North Alabama)
- 2009 Stephen A. Watts (University of Alabama at Birmingham) and Jane Nall (State Director, Science Olympiad Program)
- 2010 George Cline (Jacksonville State University), David H. Nelson (University of South Alabama), and Virginia Vilaridi (State Coordinator, Science Fairs, Wetumpka High School)

SECTION OFFICERS, 2009-2010

Section I: Biological Sciences

Chair, Megan Gibbons, (2011) Dept. of Biology, Birmingham-Southern College, Birmingham. AL 35254, (205) 226-3078, mgibbons@bsc.edu.

Vice Chair, Ketia, Shumaker, (2011) Dept. of Biology, Univ. of West Alabama, Livingston, AL, 35470, (205) 652-3406, kshumaker@uwa.edu

Section II: Chemistry

Chair, Emanuel Waddell, (2011) Dept. of Chemistry, John Wright Drive, Univ. of Alabama in Huntsville, Huntsville. AL 35899, (256) 824-2695, ewaddell@chemistry.uah.edu.

Vice Chair, (2011) Nixon, Mwebi, Physical and Earth Sciences, Jacksonville State Univ., Jacksonville, AL, 36265, (256) 782-5974, nmwebi@jsu.edu

Section III: Earth Science

Chair, vacant

Vice Chair, vacant

Section IV: Geography, Forestry, Conservation, and Planning

Chair, vacant

Vice Chair, vacant.

Section V: Physics and Mathematics

Chair, Akshaya Kumar, (2010) Dept. of Physics, Tuskegee Univ., Tuskegee. AL 36088, (334) 727-8968, akumar@tuskegee.edu.

Vice Chair, Nirmol Podder, (2010) Dept. of Mathematics & Physics, Troy Univ., Troy. AL 36081, (334) 670-3409, npodder@troy.edu.

Section VI: Industry and Economics

Chair, Marsha Griffin, (2010) Dept. of Management and Marketing, Alabama A&M Univ., Normal. AL 35762, (256) 372-4798, marsha_dawn_griffin@yahoo.com or marsha.griffin@aamu.edu.

Vice Chair, vacant

Section VII: Science Education

Chair, Karen Utz, (2010) Sloss Furnace Nat'l Historic Landmark, 20 32nd Street North, Birmingham. AL 35222, (205) 324-1011, karenutz@slossfurnaces.com.

Vice Chair, Janet Gaston, (2010) Biological and Env. Sciences, 210C McCall Hall, Troy Univ., Troy. AL 36081, (334) 670-5659, jgaston@troy.edu.

Section VIII: Behavioral and Social Sciences

Chair, Richard Hudiburg, (2008) Dept. of Psychology, Univ. of North Alabama, Box 5187, Florence. AL 35632, (256) 765-4572, rahudiburg@una.edu.

Vice Chair, vacant

Section IX: Health Sciences

Chair, Bettina Riley, (2010) School of Nursing, Univ. of Alabama at Birmingham, Birmingham. AL 35294, (205) 908-0005, TRiley7655@aol.com.

Vice Chair, John, Martin, (2010) School of Nursing, Univ. of South Alabama, Mobile, AL, 36688, , jmmartin.cfnp@yahoo.com

Section X: Engineering and Computer Science

David Thornton, Chair, (2011) Dept. of Computer Sci., Jacksonville State Univ., Jacksonville. AL 36265, (256) 782-5359, thornton@jsu.edu.

Vice Chair, vacant

Section XI: Anthropology

Chair, Harry Holstein, Dept. of Geography, Jacksonville State Univ., Jacksonville. AL 36265, (256) 782-5656, holstein@jsu.edu.

Vice Chair, Phillip Koerper, Dept. of History, Jacksonville State Univ., Jacksonville. AL 36265, (256) 782-5604, pkoerper@jsu.edu.

Section XII: Bioethics and History and Philosophy of Science

Chair, Gerry Elfstrom, (2011) Philosophy Department, Auburn Univ., Auburn. AL 36849, (334) 885-3785, elfstga@auburn.edu.

Vice Chair, vacant

ELECTED OFFICERS, 2009-2010

President, (2010) D. Brian Thompson, Dept. of Physics, University of North Alabama, Box 5112, Florence, AL, 35632, (256) 765-4881, dbthompson@una.edu

First Vice-President, (2010) Brian Burnes Dept. of Biology, University of West Alabama, Livingston, AL, 35470, (205) 652-3442, bburnes@uwa.edu

Second Vice-President, (2010) Mickie Powell, Dept. of Biology, Univ. of Alabama at Birmingham, Birmingham, AL, 35294, (205) 934-8313, mpowell@uab.edu

Secretary, (2010) James Rayburn, Dept. of Biology, Jacksonville State University, Jacksonville, AL, 36265, (256) 782-5803, jrayburn@jsu.edu

Treasurer, (2010) Taba Hamissou, Dept. of Biology, Jacksonville State University, Jacksonville, AL, 36265, (256) 782-5040, taba@jsu.edu

Journal Editor, (2010) Safaa Al-Hamdani, Dept. of Biology, Jacksonville State University, Jacksonville, AL, 36265, (256) 782-5801, sah@jsu.edu

State Counselor to the Junior Academy, (2010) Henry L. Barwood, Dept. of Math and Physics, Troy University, Troy, AL, 36082, (334) 670-3574, hbarwood@troy.edu

Associate Counselor to the Junior Academy, (2010) Vacant

Associate Counselor to the Junior Academy, (2010) Wanda Phillips, Brooks High School, 4300 Highway 72, Killen, AL, 35645, (256) 757-2115

Coordinator of State Science Fairs, (2010) Virginia Vilardi, Wetumpka High School, 1251 Coosa River Parkway, Wetumpka, AL, 36092, (334) 799-0104, (334) 514-1770 , virginia.vilardi@elmore.k12.al.us

Coordinator of State Science Olympiad, (2010) Jane D. Nall, , 31110 Wakefield Drive, Spanish Fort, AL, 36527, (251) 621-2911, drnall@hotmail.com

AAAS Representative, (2011) Stephen Watts, Dept. of Biology, University of Alabama at Birmingham, Birmingham, AL, 35294-1170, (205) 934-2045, sawatts@uab.edu

Executive Director, , Larry Krannich, Dept. of Chemistry, University of Alabama at Birmingham, Birmingham, AL, 35294, (205) 934-8017, krannich@uab.edu

TRUSTEES:

- Brian Burnes (2010) Dept. of Biology, University of West Alabama, Livingston, AL, 35470, (205) 652-3442, bburnes@uwa.edu
- Roland Dute (2010) Dept. of Biological Sciences, Auburn University, Auburn, AL, 36849,, duterol@auburn.edu
- Richard Hudiburg (2010) Dept. of Psychology, University of North Alabama Box 5187, Florence, AL, 35632, (256) 765-4572, rahudiburg@una.edu
- Adriane Ludwick (2010) Dept. of Chemistry, Tuskegee University, Tuskegee, AL, 36088, aludwick@tuskegee.edu
- James Bradley (2011) Dept. of Biological Sciences, Auburn University, Auburn, AL,

- 36849, bradljt@auburn.edu
- Ken Marion (2011) Dept. of Biology, University of Alabama at Birmingham, Birmingham, AL, 35294–1170, kmarion@uab.edu
 - David Nelson (2011) Dept. of Biology, University of South Alabama, Mobile, AL, 36688, (252) 460-6331, dnelson@usouthal.edu
 - Prakash Sharma (2011) Dept. of Physics, Tuskegee University, Tuskegee, AL, 36088, (334) 727-8998, pcsharma@tuskegee.edu
 - Ellen B. Buckner (2012), School of Nursing, University of South Alabama, Mobile, AL 36688, (251) 445-9449, ebuckner@usouthal.edu
 - Anne Cusic (2012) Dept. of Biology, University of Alabama at Birmingham, Birmingham, AL, 35294–1170, (205) 934-9686, acusic@uab.edu
 - Brian Toone (2012) Dept. of Computer Sci., Samford Univ., Birmingham, AL, 35229, (205) 726-2960, brtoone@samford.edu
 - Stephen Watts (2012), Dept. of Biology, University of Alabama at Birmingham, Birmingham, AL, 35294–1170, (205) 934–2045, sawatts@uab.edu

APPOINTED COMMITTEES, 2009-2010

Archives

- Chair Troy L. Best, (2010) Dept. of Biological Sciences, 331 Funchess Hall, Auburn Univ., Auburn, AL, 36849-5414, (334) 844-9260, besttro@auburn.edu

Auditing Senior Academy

- Chair Robert Angus Dept. of Biology, Univ. of Alabama at Birmingham, Birmingham, AL, 35294-1170, (205) 934-4799, raangus@uab.edu

Auditing Junior Academy

- Henry Barwood, (2010) Dept. of Mathematics and Physics, Troy Univ., Troy, AL, 36081, (334) 670-3924, hbarwood@troy.edu
- Govind Menon, (2010) Dept. of Mathematics and Physics, Troy Univ., Troy, AL, 36081, (334) 670-3924, gmenon@troy.edu

Budget and Finance

- Chair, Trustee, Ken Marion, (2011) Dept. of Biology, Univ. of Alabama at Birmingham, Birmingham, AL, 35294-1170 kmarion@uab.edu
- Trustee, Ellen Buckner, (2010) School of Nursing, Univ. of South Alabama, Mobile, AL, 36688, (251) 445-9449(w); (205) 910-9877(c), ebuckner@usouthal.edu
- President, Kenneth Roblee, (2010) Dept. of Mathematics, Troy Univ., Troy, AL, 36081, (334) 670-3549, kroblee@troy.edu
- President-elect, D. Brian Thompson, (2010) Dept. of Physics, Univ. of North Alabama, Florence, AL, 35632, (256) 765-4881, dbthompson@una.edu
- Secretary, James Rayburn, (2010) Dept. of Biology, Dept. of Biology, Jacksonville, AL, 36265, (256) 782-5803, jrayburn@jsu.edu
- Treasurer, Mijitaba Hamissou, (2010) Dept. of Biology, Biology Dept., Jacksonville, AL, 36265, (256) 782-5040, taba@jsucc.jsu.edu
- Counselor to the Junior Academy, Henry L. Barwood, (2010) Dept. of Math and Physics, Troy University, Troy, AL, 36082, (334) 670-3574, hbarwood@troy.edu
- Academy Representative, Vacant
- Executive Director, Larry Krannich Dept. of Chemistry, Univ. of Alabama at Birmingham, Birmingham, AL, 35294, (205) 934-8017, krannich@uab.edu

Editorial Board: (staggered 3-yr terms)

- Thane Wibbels, (2009) Dept. of Biology, Univ. of Alabama at Birmingham, Birmingham, AL, 35294, (205) 934-4419, twibbels@uab.edu
- David, Myer, (2010) English Dept., Jacksonville State Univ., Jacksonville, AL, 37276, (256) 782-5464, dmyer@jsu.edu
- Prakash Sharma, (2011) Dept. of Physics, Tuskegee Univ., Tuskegee, AL, 36088 pcsharma@tuskegee.edu

Electronic Media: (3-yr terms)

- Editor. Brian Toone, (2012) Dept. of Computer Science, Samford Univ., Birmingham, AL, 35229, (205) 726-2960, brtoone@samford.edu
- Associate Editor, Richard Hudiburg, (2011) Dept. of Psychology, Univ. of North Alabama, Box 5187, Florence, AL, 35632, (256) 765-4572, rahudiburg@una.edu
- Associate Editor, Marietta Cameron, (2010) Dept. of Computer Science, Birmingham-Southern College, Birmingham, AL, 35254, (205) 226-3040, mcameron@bsc.edu

Emmett B. Carmichael Award: (staggered 2-yr terms)

- Richard Hudiburg, Dept. of Psychology, Univ. of North Alabama, Box 5187, Florence, AL, 35632, (256) 765-4572, rahudiburg@una.edu
- Linda Reed, (2010) School of Nursing, Univ. of Alabama at Birmingham, Birmingham, AL, 35294, (205) 934-6835, reedl@son.uab.edu
- Robert Pitt, (2010) Civil & Environmental Engineering, Univ. of Alabama, PO Box 870205, Tuscaloosa, AL, 35482 rpitt@coe.eng.ua.edu
- Editor (ex officio) Safaa Al-Hamdani Dept. of Biology, Jacksonville State Univ., Jacksonville, AL, 36265, (256) 782-5801, sah@jsu.edu
- James Bradley, (2010) Dept. of Biological Sciences, Auburn Univ., Auburn, AL, 36849, (334) 844-9262, bradljt@auburn.edu

Gorgas Scholarship Program: (staggered 3-yr terms)

- Co-chair, Ellen Buckner School of Nursing, Univ. of South Alabama, Mobile, AL, 36688, (251) 445-9449(w); (205) 910-9877(c), ebuckner@usouthal.edu
- Co-chair, Larry Krannich Dept. of Chemistry, Univ. of Alabama at Birmingham, Birmingham, AL, 35294, (205) 934-8017, krannich@uab.edu
- Elizabeth Dobbins, (2010) Dept. of Biology, Samford Univ., Birmingham, AL, 35229, (205) 726-2937, egdobbins@samford.edu
- David H. Nelson, (2010) Dept. of Biology, Univ. of South Alabama, Mobile, AL, 36688, (256) 460-6331, dnelson@usouthal.edu
- Prakash Sharma, (2011) Dept. of Physics, Tuskegee Univ., Tuskegee, AL, 36088, (334) 727-8998, pcsharma@tuskegee.edu
- Diane Tucker, (2011) Science and Technology Honors Program, Univ. of Alabama at Birmingham, Birmingham, AL, 35294, (205) 934-3850, dtucker@uab.edu
- Ex Officio, Kay Worley, J.D. Alabama Power Foundation, 600 North 18th Street, Birmingham, AL, 35203 kiworley@southernco.com
- Vacant

Junior Academy

- Chair, Henry Barwood Physical Sciences Dept., Troy Univ., Troy, AL, 36082, (334) 670-3924, hbarwood@troy.edu
- Wanda Phillips, (2009) Brooks High School, Rt. 4, Box 428 AL, 35645

Regional Counselors

- North, Melanie Hanson Johnson High School, 6201 Pueblo Dr. NW, Huntsville, AL, 35810, (256) 428-8100 (O) (256) 882-7872 (H),
- North East, Vacant AL
- North West, Linda Kanipe Coffee High School Florence, AL, 35630, (256) 764-7452 (O) (256) 764-2947 (H),
- Central, Paula Beeton Jefferson Country International Baccalaureate School, 6100 Old Leeds Rd., Irondale, AL, 35210, (205) 379-5350,
- Central, Jim Johnson The Altamont School, 4801 Altamont Road, Birmingham, AL, 35222, (205) 879-2006,
- South Central, Vacant
- West, Cynthia Phillips 607 Hwy 80 W Demopolis, AL, 36732, (256) 289-877,
- South East, Donnie, Hatcher P.O. Box 90, 2405 Charles, Tuskegee, AL, 36083, (334) 727-1600 Ext 232 (O) (334) 727-6533 (H),

- South, Vacant
- Acting Counselor, Mobile, Jane , Nall 31110 Wakefield Dr. Spanish Fort, AL, 36527, (251) 621-2911,

Local Arrangements at Alabama A&M University

- Local Chair Yong Wang, (2010) Dept. of Nature Resources and Environmental Science, Alabama A&M University, PO Box 1927 Normal, AL, 35762, 256-372-4229 , wang.aamu@gmail.com; yong.wang@aamu.edu
- Co-chairs: Phil Bording, (2010) Dept. of Computer Science, phil.bording@aamu.edu ; Florence Okafor, Biology; Mezemir Wagaw, Natural Resource & Environmental Science, Alabama A&M University, Normal, AL, 35762,
- See page 4 of 2010 AAS Annual Meeting Program Booklet for entire committee listing

Long Range Planning: (staggered 4-yr terms, committee elects chair)

- Chair Adriane Ludwick, (2012) Dept. of Chemistry, Tuskegee Univ., Tuskegee, AL, 36088 aludwick@tuskegee.edu
- Anne Cusic, (2010) Dept. of Biology, Univ. of Alabama at Birmingham, Birmingham, AL, 35294-1170, (205) 934-9686, acusic@uab.edu
- Ken,Marion, (2010) Dept. of Biology, Univ. of Alabama at Birmingham, Birmingham, AL, 35294-1170 kmarion@uab.edu
- Eugene Omasta, (2011) 113 Dendron Troy, AL, 36081 eomasta@troycable.net

Mason Scholarship (staggered 3-yr terms)

- Chair, Michael Moeller Dept. of Chemistry, Univ. of North Alabama, Box 5049, Florence, AL, 35632, (256) 765-4479, mbmoeller@una.edu
- Charles Eick, (2012) Dept. of Curriculum and Teaching, 5058 Haley Center, Auburn Univ., Auburn, AL, 36849, (334) 844-6887, eickcha@auburn.edu
- Lori Cormier, (2010) Dept. of Anthropology, Univ. of Alabama at Birmingham, Birmingham, AL, 35294, (205) 975-6529, lcormier@uab.edu
- Jane Roy, (2009) School of Education, Univ. of Alabama at Birmingham, Birmingham, AL, 35294-1250, (205) 934-1757, jroy@uab.edu

Membership

- Chair, Mark Meade, (2010) Dept. of Biology, Jacksonville State Univ., Jacksonville, AL, 36265, (256) 782-5638, mmeade@jsu.edu
- Section Vice-Chairs

Nominating:

- Second Vice-President, Mickie Powell Dept. of Biology, Univ. of Alabama at Birmingham, Birmingham, AL, 35294, (205) 934-8313, mpowell@uab.edu
- Section Chairs

Place and Date of Meeting: (5 members, staggered 5-yr terms)

- Chair, Mark Meade, (2012) Dept. of Biology, Jacksonville State Univ., Jacksonville, AL, 36265, (254)782-5638, mmeade@jsu.edu
- Larry Krannich, (2010) Dept. of Chemistry, Univ. of Alabama at Birmingham, Birmingham, AL, 35294, (205) 934-8017, krannich@uab.edu
- Yong Wang, (2011) Center for Forestry and Ecology, Alabama A&M Univ., Normal, AL, 35762 yong.wang@aamu.edu
- Vacant
- Vacant

Public Relations: (staggered 4-yr terms)

- Roland Dute, (2010) Dept. of Botany, Auburn Univ., Auburn, AL, 36849
duterol@auburn.edu
- Ellen Buckner, (2011) School of Nursing, Univ. of South Alabama, Mobile, AL, 36688, (251) 445-9449(w); (205) 910-9877(c), ebuckner@usouthal.edu
- Larry Davenport, (2012) Dept. of Biology, Samford Univ., Birmingham, AL, 35229, (205) 726-2584, ljdavenp@samford.edu
- Ken Marion, (2010) Dept. of Biology, Univ. of Alabama at Birmingham, Birmingham, AL, 35294, (205) 934-3582, kmarion@uab.edu

Regional Science Fairs:

- Chair Virginia Valardi, (2010) Wetumpka High School, 1251 Coosa River Parkway, Wetumpka, AL, 36092, (334) 799-0104 (O) (334) 514-1770 (H),
virginia.vilardi@elmore.k12.al.us
- Regional coordinators

Research: (5 members with staggered 5-yr terms)

- Chair George Cline, (2011) Dept. of Biology, Jacksonville State Univ., Jacksonville, AL, 36265 gcline@jsu.edu
- Bruce Smith, (2010) Scorr-Ritchey Research Center, Auburn Univ., Auburn, AL, 36849, (334) 844-5587, smithbf@auburn.edu
- Stephen Watts, 2013, Dept. of Biology, Univ. of Alabama at Birmingham, Birmingham, AL, 35294, (205) 934-2045, sawatts@uab.edu
- Alan Sprague, (2010) Dept. of Computer and Information Science, Univ. of Alabama at Birmingham, Birmingham, AL, 35294-1170 sprague@cis.uab.edu
- Robert Thacker, (2010) Dept. of Biology, Univ. of Alabama at Birmingham, Birmingham, AL, 35294 thacker@uab.edu
- Roland Dute, (2012) Dept. of Biology, Auburn Univ., Auburn, AL, 36849, (334) 844-1646, duterol@auburn.edu
- Yong Wang, (2011) Center for Forestry and Ecology, Alabama A&M Univ., Normal, AL, 35762 yong.wang@aamu.edu

Resolutions

- Mark Meade, (2010) Dept. of Biology, Jacksonville State Univ., Jacksonville, AL, 362165, (256) 782-5638, mmeade@jsu.edu

Science and Public Policy:

- Chair, Scott Brande, Dept. of Geology, Univ. of Alabama at Birmingham, Birmingham, AL, 35294, (205) 934-8280, sbrande@uab.edu
- Steven Carey, (2010) Dept. of Natural Sciences, Univ. of Mobile, Mobile, AL, 36616, (334) 442-2346,
- Boakai Robertson, (2010) Dept. of Biology, Alabama State Univ., Montgomery, AL, 36101, (334) 229-4423, [brobertson@alasu.edu](mailto:b Robertson@alasu.edu)
- James Bradley, (2010) Dept. of Biological Sciences, Auburn Univ., Auburn, AL, 36849, (334) 844-9262, bradljt@auburn.edu

Science Olympiad

- Chair, Jane Nall, 2010 31110 Wakefield Dr., Spanish Fort, AL, 36527
drnall@hotmail.com
- Regional coordinators

Steering:

- Chair, President, D. Brian Thompson, (2011) Dept. of Physics and Earth Sciences, Univ. of North Alabama, Florence, AL, 35632, (256)765-4881, dbthompson@una.edu
- Immediate Past President, Kenneth Roblee, (2010) Dept. of Mathematics, Troy Univ., Troy, AL, 36081, (334) 670-3549, kroblee@troy.edu
- First Vice-President, Brian Burnes, (2012) Dept. of Biology, Univ. of West Alabama, Livingston, AL, 35470, (205) 652-3442, bburnes@uwa.edu
- Second Vice-President, Mickie Powell, 2013, Dept. of Biology, Univ. of Alabama at Birmingham, Birmingham, AL, 35294, (205) 934-8313, mpowell@uab.edu
- Treasurer, Taba Hamissou, (2010) Dept. of Biology, Jacksonville State Univ., Jacksonville, AL, 36265, (256) 782-5040, taba@jsu.edu
- Secretary, James Rayburn, (2010) Dept. of Biology, Jacksonville State Univ., Jacksonville, AL, 36265, (256) 782-5803, jrayburn@jsu.edu

Wright A. Gardner Award and Fellows of the Alabama Academy of Science: (4 members with staggered 2-yr terms)

- Chair, Prakash Sharma, Dept. of Physics, Tuskegee Univ., Tuskegee, AL, 36088, (334) 727-8998, pcsharma@tuskegee.edu
- Anne Cusic, (2010) Dept. of Biology, Univ. of Alabama at Birmingham, Birmingham, AL, 35294, (205) 934-9686, acusic@uab.edu
- Barrett Bryant, (2009) Dept. of Computer and Information Science, Univ. of Alabama at Birmingham, Birmingham, AL, 35294, (205) 934-2213, Bryant@cis.uab.edu
- Gene Byrd, (2009) Dept. of Physics, Univ. of Alabama, Tuscaloosa, AL, 35487, (205) 348-3793, byrd@possum.astr.ua.edu

PAST PRESIDENTS

NAME	TERM
Wright A. Gardner (2 terms).....	1924-26
Stewart J. Lloyd	1926-27
John R. Sampey	1927-28
Walter C. Jones	1928-29
Fred Allison	1929-30
Emmett B. Carmichael.....	1930-31
George J. Fertig	1931-32
J.F. Duggar	1932-33
J.L. Brakefield	1933-34
Russell S. Poor	1934-35
A.G. Overton	1935-36
Walter B. Jones	1936-37
Roger W. Allen	1937-38
P.H. Yancey	1938-39
George D. Palmer	1939-40
C.M. Farmer	1940-41
Paul D. Bales	1941-42
W.M. Mobley	1942-43
E.V. Jones	1943-44
J.T. McKenzie	1944-45
J.M. Robinson	1945-46
James L. Kassner	1946-47
John Xan	1947-48
Eugene D. Emigh	1948-49
C.A. Basore	1949-50
Harold E. Wilcox	1950-51
Henry Walker	1951-52
John A. Fincher	1952-53
Joseph F. Volker	1953-54
William T. Wilks	1954-55
Ralph Chermock	1955-56
J. Allen Tower	1956-57
Howard Carr	1957-58
Herbert A. McCullough	1958-59
Samuel B. Barker	1959-60
James R. Goetz	1960-61
Paul C. Bailey	1961-62
Louis J. Eisele	1962-63
E. Carl Sensenig	1963-64
William J. Barrett	1964-65
James F. Sulzby, Jr.	1965-66
David L. DeJarnette	1966-67

H. Ellsworth Steele	1967-68
Ruric E. Wheeler	1968-69
Wilbur B. DeVall	1969-70
W.L. Furman	1970-71
G.O. Spencer	1971-72
Joseph C. Thomas	1972-73
Robert T. Gudauskas	1973-74
Reuben B. Boozer	1974-75
Thomas E. Denton	1975-76
Urban L. Diener	1976-77
James C. Wilkes	1977-78
William F. Arendale	1978-79
Jack H. Moore	1979-80
Geraldine M. Emerson	1980-81
Kenneth Ottis	1981-82
Charles M. Baugh	1982-83
Raymond E. Isbell	1983-84
John F. Pritchett	1984-85
Stanley T. Jones	1985-86
Philip G. Beasley	1986-87
H. Dean Moberly	1987-88
Richard L. Shoemaker	1988-89
Adriane G. Ludwick	1989-90
Michael E. Lisano	1990-91
Ken R. Marion	1991-92
Michael B. Moeller	1992-93
Prakash Sharma	1993-94
Eugene Omasta	1994-95
Dan C. Holliman	1995-96
Thomas S. Jandebour	1996-97
Ellen B. Buckner	1997-98
Moore Asouzu	1998-99
Larry R. Boots	1999-00
Richard Hudiburg	2000-01
Roland Dute	2001-02
Stephen A. Watts	2002-03
Anne M. Cusic	2003-04
Ronald L. Jenkins	2004-05
Larry Davenport	2005-06
David Nelson	2006-07
George Cline	2007-08
Kenneth Roblee	2008-09

Hosts for Future Alabama Academy of Science Meetings

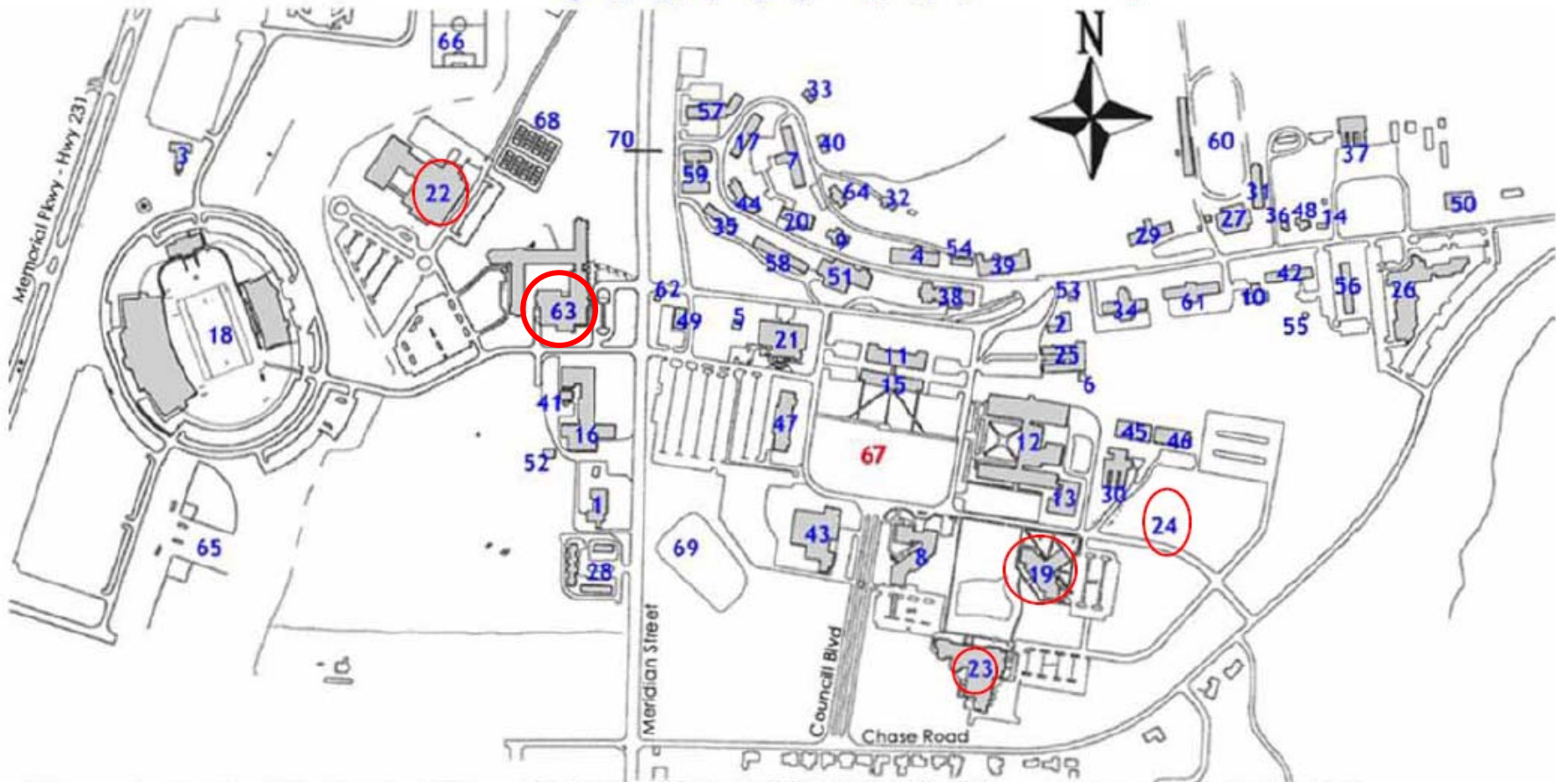
2011 – Jacksonville State University

2012 – Tuskegee University

The Local Arrangements Manual for planning Academy annual meeting can be found on the Academy website: www.alabamaacademyofscience.org

Alabama A&M University

CAMPUS MAP



1 Crump Agricultural Mechanics Bldg
2 Old Band and Drafting Building
3 Old Barn and Silo
4 Bibb Graves Hall
5 Boiler #1
6 Boiler #2
7 Buchanan Hall
8 School of Business
9 Carnegie Library
10 Carpentry Building
11 Carter Science Hall
12 Carver Complex
13 Carver Annex
14 Councill Credit Union
15 Chambers Science Building
16 Councill Training Center
17 W. H. Councill Hall
18 Louis Crews Stadium
19 Dawson Building
20 Drake Dining Hall
21 Learning Resources Center
22 Elmore Gym
23 School of Engineering
**24 Agricultural Research
Center (ARC)**
25 Foster Irradiation Center
26 Foster Living & Learning Center'
27 Frank Lewis Gym
28 Gravitt Apartments
29 Grayson Hall
30 Greenhouses
31 Gym Annex

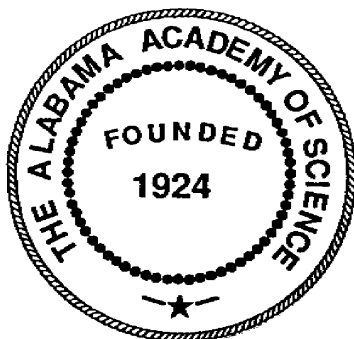
32 Hillcrest (President's Home)
33 Honors Building
34 Hopkins Hall
35 Hurt Hall
36 Infirmary
37 Kendrick Maintenance Facility
38 Ralph H. Lee University Center
39 McCalep Vocational Building
40 McCormick Building
41 Mechanical Engineering Annex
42 Morris Hall
43 Morrison Building
44 Palmer Hall
45 T. R. Parker Building
46 T. R. Parker Annex
47 Patton Hall
48 Polk Cottage
49 Post Office
50 Poultry Science Building
51 Poultry Science Building
52 ROTC Skills Center
53 Campus Police Office
54 Old Security Office
55 Old Silo
56 Stephens Hall
57 Terry Hall
58 Thigpen Hall
59 Thomas Hall
60 Old University Stadium
61 Walker Wood Hall
62 Water Pump House
**63 West Campus Living and
Learning (Knight Center)**

64 State Black Archives
65 Baseball and Softball Fields
66 Soccer Field
67 The Quad
68 Tennis Courts
69 The Duck Pond
70 Covered Footbridge

NOTES

NOTES

EIGHTY-EIGHTH ANNUAL MEETING
of the
ALABAMA ACADEMY OF SCIENCE, INC.



JOINT MEETING
with the
ALABAMA JUNIOR ACADEMY OF SCIENCE
GORGAS COMPETITION AWARDS

March 2011

Jacksonville State University
Jacksonville, AL