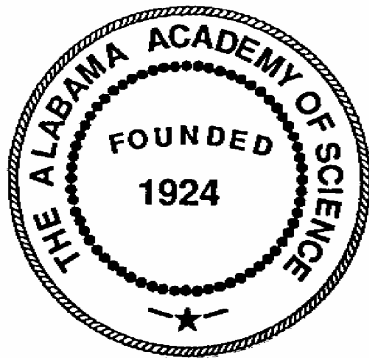


**PROGRAM**  
**EIGHTIETH ANNUAL MEETING**  
**of the**  
**ALABAMA ACADEMY OF SCIENCE, INC.**



**JOINT MEETING**  
**with the**  
**ALABAMA JUNIOR ACADEMY OF SCIENCE**  
**GORGAS SCHOLARSHIP AWARDS**

**March 19 – March 22, 2003**  
**Jacksonville State University**  
**Jacksonville, Alabama 36265**

**local:**

**[www.jsu.edu/depart/biology/body\\_aasmeetinghome.html](http://www.jsu.edu/depart/biology/body_aasmeetinghome.html)**

**[www.alabamaacademyofscience.org](http://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 on 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.
- \*For on-campus fire or police emergencies dial 911
- \*On-campus police or fire service:  
JSU police number 782-5050  
JSU Police emergencies 782-6000.
- \*Off-campus police or fire: Jacksonville Police 435-6448; Jacksonville Fire Dept. 435-2310.

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JACKSONVILLE STATE UNIVERSITY  
 700 PELHAM ROAD NORTH  
 JACKSONVILLE, ALABAMA 36265-1602

OFFICE OF THE  
 PRESIDENT

TELEPHONE: (256) 782-5801

January 31, 2003

Dear Academy Participant:

On behalf of Jacksonville State University's faculty, staff and students it is my pleasure to welcome you to the annual meeting of the Alabama Academy of Sciences, the Alabama Junior Academy of Sciences, and the Gorgas Scholarship Program. This year, the annual symposium of the Jacksonville State University's College of Arts and Sciences will be held concurrently with academy's sessions. I encourage you to utilize this opportunity to attend academy sessions, activities and presentations offered by our academic departments.

Jacksonville State University has a rich history of providing quality education in diverse fields. Our heritage as a teachers college now spans across three centuries. Although our faculty and staff offer undergraduate and graduate programs in business, nursing, computer science, and many other academic disciplines, we still credential more teachers in the State of Alabama than any college or university.

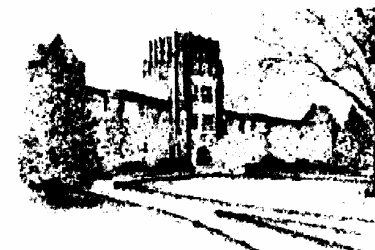
Our faculty and staff of the College of the Arts and Sciences have continued a trend of excellence and have prepared a meeting that will demonstrate their dedication to higher education in Alabama. Recently we have completed a new laboratory science facility and renovated our science building in a \$23 million project. An additional \$8 million project is planned for our psychology, math, computer science, and technology facility at Ayers Hall.

I appreciate your attendance today as we are honored by your presence. I wish for each of you an enjoyable and productive academy session. Please know that you are always welcome at Jacksonville State University.

Sincerely,

*William A. Meehan*  
 William A. Meehan  
 President  
 Jacksonville State University

WAM/II



AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER

## LOCAL ARRANGEMENTS COMMITTEE

The officers and members of the Academy express their appreciation to Jacksonville State University and to the Local Arrangements Committee for their efforts in planning and hosting this 80<sup>th</sup> Annual Meeting.

Dear Academy Members,

Eighty years ago scientists in Alabama organized and developed a venue for the exchange of scientific knowledge in order to promote science and science education in the State of Alabama. Eighty years later we continue this tradition at Jacksonville State University. In a rapidly changing world, science and science education are more important than ever, and we would like to welcome those participants traveling from across the state to share both their science interests and friendships. Members of the Executive Committee greatly appreciate the time and efforts of the community of scholars at Jacksonville State University in hosting the 80<sup>th</sup> Annual Meeting of the Alabama Academy of Science, the Alabama Junior Academy of Science, and the Gorgas Scholarship Foundation. Welcome!



Stephen A. Watts, Ph.D.  
President, Alabama Academy of Science

### Local Chairpersons

Dr. Mark Meade, 256-782-5638  
[mmeade@jsucc.jsu.edu](mailto:mmeade@jsucc.jsu.edu)

Dr. Frank Raomano, 256-0782-5038  
[fromano@jsucc.jsu.edu](mailto:fromano@jsucc.jsu.edu)

### Registration

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### AJAS Program Coordinator

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### Poster Coordinator

Dr. George Cline  
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### Gorgas Scholarship Competition

Dr. Benjie Blair  
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[bblair@jsucc.jsu.edu](mailto:bblair@jsucc.jsu.edu)

**GENERAL INFORMATION**

- Please bring your copy of this program to the meeting. You may not be able to get another copy.
- Registration badges will be required for admission to all scientific paper sessions, the Thursday evening social, and the banquet.
- Applications for membership and payments of annual dues will be accepted by the Secretary in the registration area.
- Tickets for the Joint AJAS/AAS banquet may be purchased at the registration desk until 9:30 Friday morning.
- Presenters using computer presentations are responsible for their own computer.

**POSTERS & VENDORS**

Posters should be available for viewing on the permanent poster boards in the first floor hallway of Martin Hall from 1:00 to 4:00 P.M. Thursday and Friday. Authors should be present from 1:00 P.M. to 2:00 P.M. for discussions with viewers. Posters must be removed by 5:00 P.M. of the respective day. Vendors display in the lobby of Martin Hall.

**PROGRAM  
of the  
ALABAMA ACADEMY OF SCIENCE  
March 19 - March 22, 2003**

**Wednesday**

5:00 - 7:00 PM	Registration.....Martin Hall Lobby
6:30 - 10:00 PM	Executive Committee Dinner and Meeting ..... .....JSU President’s Dining Hall

**Thursday Morning**

7:00 - Noon	Registration.....Martin Hall Lobby Breakfast and Lunch Snacks ..... .....Martin/McGee Science Center 2 <sup>nd</sup> floor lounge
8AM - 4:00 PM	Vendor Exhibits.....Martin Hall Lobby
8:30	Alabama Academy of Science Program Sessions..... .....Martin Hall

Program Sessions:

8:15	Biological Sciences I (Section I).....130 Martin Hall
8:30	Health Sciences I (Section IX).....234 Martin Hall
9:00	Industry and Economics I (Section VI).....332 Martin Hall
9:30	Engineering and Computer Sciences I (Section X) ..... .....250 Martin Hall
	Slide Preview Room..... TBA Martin Hall

**Thursday Afternoon**

12:00 - 4:00 PM	Vendor exhibits .....Martin Hall Lobby
1:00 - 4:00 PM	Registration.....Martin Hall Lobby Lunch Snacks.....Martin/McGee Science Center 2 <sup>nd</sup> floor lounge
1:00 - 4:00 PM	Poster Viewing.....

.....1<sup>st</sup> floor hall Martin Hall, authors present 1:00 - 2:00 PM  
 Biological Sciences I, Engineering and Computer  
 Sciences, Health Sciences Posters

1:00 PM Alabama Academy of Science Section Program  
 Sessions.....Martin Hall

**Program Sessions:**

1:00 Biological Sciences II (Section I) .....130 Martin Hall

1:00 Industry and Economics II (Section VI).....332 Martin Hall

1:00 Geography, Forestry, Conservation, & Planning I (Section IV) 105  
 Martin Hall

1:00 Physics and Mathematics (Section V) .....319 Martin Hall

1:00 Health Sciences II (Section IX) .....234 Martin Hall

1:30 Engineering and Computer Sciences II (Section X) .....250 Martin Hall

**Thursday Evening**

5:00 PM Section Officer's Meeting.....130 Martin Hall

6:00 PM Social for All Registrants .....  
 .....Anniston Museum of Natural History

**Friday Morning**

7:00 AM Dutch Breakfast (Past and present officers, Gardner  
 Awardees,  
 and Gorgas participants) ..... TBA

7:00 - Noon Registration.....Martin Hall Lobby  
 Breakfast and Lunch Snacks .....  
 .....Martin/McGee Science Center 2<sup>nd</sup> floor lounge

8 AM - 4:00 PM Vendor exhibits .....Martin Hall Lobby

8:00 - Noon Symposium – “Homeland Security and Domestic  
 Preparedness”.....122 Martin Hall

8:00 AM Alabama Academy of Science Section Program  
 Sessions.....Martin Hall

**Program Sessions:**

9:00 Geography, Forestry, Conservation, and Planning II  
 (Section IV) .....250 Martin Hall

9:00 Behavioral and Social Sciences I (Section VIII)...338 Martin Hall

9:00 Anthropology I (Section XI) .....111 Martin Hall

12:00 Noon Group Picture .....Martin Hall Entrance

Slide Preview Room..... TBA Martin Hall

**Friday Afternoon**

12:00 - 4:00 PM Vendor exhibition area.....  
 .....Martin/McGee Science Center 2<sup>nd</sup> floor lounge

1:00 - 2:00 PM Registration.....Martin Hall Lobby

1:00 - 4:00 PM Poster Viewing.....  
 1<sup>st</sup> floor hall Martin Hall, authors present 1:00 - 2:00  
 Biological Sciences II, Chemistry, Physics and Math,  
 and Science Education Posters

1:00 PM Alabama Academy of Science Section Program  
 Sessions.....Martin Hall

**Program Sessions:**

1:00 Chemistry (Section II).....334 Martin Hall

1:00 Biological Sciences III (Section I).....130 Martin Hall

1:00 Science Education (Section VII).....336 Martin Hall

1:00 Behavioral and Social Sciences II (Section VIII)  
 .....338 Martin Hall

1:00 Anthropology II (Section XI) .....111 Martin Hall

1:15 Health Sciences III (Section IX).....234 Martin Hall

1:20 Geography, Forestry, Conservation, and  
Planning III (Section IV) .....105 Martin Hall

Slide Preview Room.....TBA Martin Hall

**Friday Evening**

6:00 AJAS/AAS Annual Business Meeting .....130 Martin Hall

7:00 Joint AJAS/AAS Banquet ..... JSU Leon Cole Auditorium

Stephen A. Watts, Presiding  
Mr. Bruce Baughman, Director of the Office of National  
Preparedness  
Washington, DC

Presentation of the AJAS and Gorgas Awards  
Ellen Buckner

**PROGRAM of the  
ALABAMA JUNIOR ACADEMY OF SCIENCE  
B.J. Bateman, State Counselor  
March 19 - March 22, 2003**

**Thursday**

3:00 - 6:00 PM Early Arrival Registration.....JSU University Inn  
..... Phone 256-435-3300

6:00 PM . Social for all Registrants..Anniston Museum of Natural History

**Friday**

7:00 AM Breakfast..... JSU Theron Montgomery Building

7:30 AM Registration .....11<sup>th</sup> Floor, JSU's Houston Cole Library

7:30 AM Paper Reading  
Orientation.....JSU Theron Montgomery Auditorium  
Judges Orientation,

8:00 AM Paper Competition .....11<sup>th</sup> Floor, JSU's Houston Cole Library

Biology	Room 1101A
Engineering	Room 1101B
Humanities	Room 1101C
Mathematics	Room 1102
Physical Science	Room 1103A

10:00 AM Intermission Break,

11:45 AM Caucus .....JSU Theron Montgomery Auditorium

12:00 Noon Lunch .....JSU Jack Hopper Cafeteria

1:30 PM JSU Science Activity:  
"Meet Linnaeus on the Ladiga" – Dr. Robert Carter

5:00 PM Meeting with officers and candidates for office  
to explain responsibilities ..... TBA

6:00 PM Joint AJAS/AAS Business Meeting.....130 Martin Hall

7:00 PM Joint AJAS/AAS Banquet and  
Presentation of Awards..... JSU Gamecock Center

9:30 PM AJAS Social.....JSU Theron Montgomery Auditorium

**Saturday**

7:00 AM Breakfast.....JSU Theron Montgomery Auditorium

8:00 AM Paper Competition Finals .....  
.....JSU Theron Montgomery Auditorium

10:30 AM Elections, Awards, Group Photograph and  
Business Meeting .....Theron Montgomery Auditorium

**GORGAS SCHOLARSHIP PROGRAM**  
**Friday, March 22, 2003**  
**McGee Hall**

Ellen Buckner, Chair, Judges

1:00 Set Up Science Exhibits ..... 110 McGee Hall

2:00 Demonstrations for Judges ..... 110 McGee Hall

3:15 Individual and Private Judging ..... TBA

5:00 Public Showing of Exhibits ..... 110 McGee Hall

7:00 Joint AJAS/AAS Annual  
Business Meeting ..... JSU Leon Cole Auditorium  
Announcement of Winners  
Ellen Buckner

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

**SECTION I: BIOLOGICAL SCIENCES**

**Session I**

**Thursday Morning**

**130 Martin Hall**

**Donald W. Salter, Presiding**

1. 8:15 Plant stress identification by remote sensing. *Safaa Al-Hamdani*, Jacksonville State University.
2. 8:30 Bottlenose dolphins use of Perdido Bay. *Claire M. Pabody*, Spring Hill College.
3. 8:45 Molecular analyses of plant defense factors (PDF) of *Arabidopsis thaliana* in response to simulated insect feeding. *Pamela A. Swaim* and *Mijitaba Hamissou*, Jacksonville State University.
4. 9:00 Induction of callose biosynthesis in *Arabidopsis thaliana*. *Mijitaba Hamissou*, Jacksonville State University.
5. 9:15 Are mitochondrial dehydrogenases involved in aluminum tolerance? *Mijitaba Hamissou*, Jacksonville State University.
6. 9:30 Biostability of wheat straw as a sulfide-enhanced biofilter. *Lisa Ann Blankinship*, *Sandra Nunezs*, *Robert Peters*, and *Joseph J. Gauthier*, University of Alabama at Birmingham.
7. 9:45 Vertebrate road-kill survey of the Mobile Bay causeway. *David H. Nelson* and *Cynthia Scardamalia-Nelson*, University of South Alabama.
- 10:00 INTERMISSION
8. 10:15 A bottlenose dolphin in fresh water. *Gerald T. Regan*, Marterra Foundation Inc.
9. 10:30 Changes in ichthyofaunal assemblages correlated with sedimentation in the upper Cahaba River and its tributaries. *Jaideep V. Honavar*, *K. R. Marion*, and *R. A. Angus*.

10. 10:45 Discovery of a new population of the endangered watercress darter, *Etheostoma nuchale* (Pisces: Percidae). *W. Mike Howell*, and *L. J. Davenport*, Samford University.
11. 11:00 What is the next step in the biological monitoring of streams and rivers? *Janna Owens*, *Ken Marion*, *Robert Angus*, *Melinda Lalor*, *Eric Meyer*, and *Steve McKinney*, University of Alabama at Birmingham.
12. 11:15 Preliminary evaluation of incubation temperatures and sex ratios of green turtles in Hawaii. *Jennifer Estes*, *T. Wibbels*, and *G. Balazs*, University of Alabama at Birmingham.
13. 11:30 Evaluation of in situ incubation temperatures within Kemp's ridley nests at the primary nesting beach. *Alyssa A. Geis*, *T. Wibbels*, *M. Garduno-D*, *R. Marquez-M*, *J. Pena-V*, *P. Burchfield*, and *B. Schroeder*, University of Alabama at Birmingham.
14. 11:45 Expression patterns for aromatase and SF-1 in the developing gonads of the red-eared pond slider turtle. *Chris A. Murdock* and *Thane Wibbels*, University of Alabama at Birmingham.
- 12:00 LUNCH

**SECTION I – BIOLOGICAL SCIENCES**

**Session II**

**Thursday Afternoon**

**130 Martin Hall**

**Mark Meade, Presiding**

15. 1:00 Egg discrimination in female red-backed salamanders. *Meredith Humber*, Allison Hargett, and Megan Peterson, Birmingham-Southern College.
16. 1:15 Population dynamics for a population of *Ambystoma maculatum* in Alabama. *Eric Blackwell*, George C. Cline and Ken R. Marion, University of Alabama at Birmingham.
17. 1:30 Proposed relationships between the surfactant properties and the developmental toxicity induced in frog embryos of humic acid. *James Rayburn* and David Steffy, Jacksonville State University.
18. 1:45 Anuran calling communities in northeastern Alabama. *George Cline*, Jacksonville State University.
19. 2:00 Activity of cytochrome-P-450 in early *Xenopus laevis* embryos as determined by modified enzyme assay. *Gregg Gibson* and James Rayburn, Jacksonville State University.
20. 2:15 Effect of probiotics on *Macrobrachium rosenbergii* larvae. *Norrenna Porter*, Benjie Blair, Mark Meade, Daniel McLaren, Kenneth McCollough, and Jennifer Wagnon, Jacksonville State University.
- 2:30 INTERMISSION
21. 2:45 Microscopic examination of larval shrimp, *Macrobrachium rosenbergii*. *Daniel McLaren*, Benjie Blair, and Mark Meade, Jacksonville State University.
22. 3:00 Evaluation of the Alabama water watch citizen level macroinvertebrate protocol for Alabama coastal plains streams. *Christa Collins*, Holly Bennett, Michael Mullen, and Michael Stewart, Troy State University.

23. 3:15 The annual reproductive cycle of the sea urchin *Lytechinus variegatus* from the Florida panhandle. *Adele Cunningham* and Stephen A. Watts, University of Alabama at Birmingham.
24. 3:30 Cryopreservation of *Tetrahymena pyroformis*. *Jason Hill*, Jason Glenn, Christa Collins, Mark Meade and C. P. Olander, Jacksonville State University.
25. 3:45 A comparison of the effects of phloxine b and eosin yellow under various light conditions on population growth of *Tetrahymena pyroformis*. *Jason Glenn*, Jason Hill, Christa Collins, Mark Meade and C. P. Olander, Jacksonville State University.
26. 4:00 Temporal and spatial patterns in fecal coliform sources. *Brian S. Burnes* and Jessica Worthington, Judson College.
27. 4:15 High levels of androsteneione and progesterone in the sediment of a river receiving paper mill effluent. *Ronald L. Jenkins*, Elizabeth Wilson, and W. Mike Howell, Samford University, Robert Angus and marione Kirk, University of Alabama at Birmingham.
28. 4:30 New Records of Alabama Fishes. *L. J. Davenport*, W. Mike Howell, and Ronald L. Jenkins, Samford University.
- 4:45 BUSINESS MEETING

**SECTION I – BIOLOGICAL SCIENCES**

**Session III**

**Friday Afternoon**

**130 Martin Hall**

**Mark Meade and Donald W. Salter, Presiding**

29. 1:00 A survey of the mammals of the E.V. Smith Wetland Research Wetland Research Area, Macon Co., AL. *Emily Hudson* and W. Folkerts, Auburn University.

30. 1:15 Jubilees and hypoxic events in Mobile Bay. *Tina Miller-Way*, University of Mobile.
31. 1:30 The status of the flattened musk turtle (*Sternotherus depressus*) in selected areas of the Bankhead National Forest and Smith Lake: preliminary results. *Sherry Holmes* and Ken R. Marion, University of Alabama at Birmingham.
32. 1:45 Exposure temperature affects ovarian development in the regular sea urchin *Lytechinus variegates*. *Victoria K. Gibbs* and Stephen A. Watts, University of Alabama at Birmingham.
33. 2:00 Verongid sponge phylogenetics and specificity of associated cyanobacteria. *Patrick M. Erwin* and Robert W. Thacker, University of Alabama at Birmingham.
34. 2:15 Effects of low dose ionizing radiation on *Giardia lamblia* trophozoites. *Scott Lenaghan*, Auburn University.
- 2:30 INTERMISSION
35. 2:45 Freshwater cyanobacterial resistance to herbivory by a generalist grazer: structural versus chemical defense. *Frank A. Camacho* and Robert W. Thacker, University of Alabama at Birmingham.
36. 3:00 Competition between the cyanobacterium *Lyngbya wollei* and green algae: effects of secondary metabolites and herbivory. *Kevin P. Bevis* and Robert W. Thacker, University of Alabama-Birmingham.
37. 3:15 Detection of *Vibrio vulnificus* in Gulf water and shellfish using molecular methods. *Gitika Panicker* and Asim K. Bej, University of Alabama at Birmingham.
38. 3:30 Rapid detection of *Vibrio parahaemolyticus* in Gulf water using real-time PCR. *Amy V. Rizvi* and A. K. Bej, University of Alabama at Birmingham.
39. 3:45 Effect of 4-ethyl-4-aza-5alpha-cholestane (nd-497) on the carbohydrate metabolism of *Staphylococcus aureus*. *Norman*

*J. Doorenbos*, Samia A. El Dardiry and Lyman Magee, Auburn University.

40. 4:00 Histochemical localization of dehydrogenases in plant cells. *Mijitaba Hamissou*, Jacksonville State University.

## SECTION I – BIOLOGICAL SCIENCES

### Poster Session I

Thursday Afternoon

1<sup>st</sup> Floor, Martin Hall

41. Effects of chronic exposure to nitrite on the respiratory physiology of post-larval prawn, *Macrobrachium rosenbergii*. *Dustin Morin* and Mark Meade, Jacksonville State University.
42. hTERT promoter methylation in primary human urethral epithelial cells. *Joel Berletch*, William K. Woodfin, and Mitchell S. Pate, University of Alabama at Birmingham.
43. hTERT inhibition by retinoic acid derivatives in MCF-7 and T47D human breast cancer cells. *Rebecca C. Wylie*, Nathaniel J. Hansen, Jonathan D. Matlock, James Jerkins, Mitchell S. Pate, Lucy G. Andrews, and Trygve O. Tollefsbol, University of Alabama at Birmingham.
44. Retinoic acid inhibition of DNMT expression and activity in HL-60 cells. *William K. Woodfin*, Joel Berletch, and Mitchell S. Pate, University of Alabama at Birmingham.
45. Epigenetic mechanisms of htert regulation in aging human cells. *Nathaniel J Hansen*, Liang Liu, Rebecca C. Wylie, Jessica Green, James Jerkins, Jonathan D. Matlock, Lucy G. Andrews, and Trygve O. Tollefsbol, University of Alabama at Birmingham.
46. Effects of water and sediment extracts from watersheds near the Monsanto plant (Anniston, AL) on early embryonic development of the frog *Xenopus laevis*. *Mary Millwood*, Elizabeth Gilbert, Joseph Sikes, Robin Hardy, Roger Sauterer, and James Rayburn, Jacksonville State University.

47. The effects of acute exposure to nitrate and nitrite on the metabolic physiology of Nile tilapia, *Oreochromis nilotica*. Chenein Segalas, Cherie Maxwell, Mark Meade, Jacksonville State University.
48. Effect of diet quality on metabolic physiology in red tilapia fry. *Allison Odom* and Mark Meade, Jacksonville State University.

## **SECTION I – BIOLOGICAL SCIENCES**

### **Poster Session II**

#### **Friday Afternoon**

#### **1<sup>st</sup> Floor, Martin Hall**

49. Torus lignification in hardwoods. *Roland Dute*, Michael Miller, Christina Coleman, and Brian Prather, Auburn University.
50. A paleocene plant fossil from the sentinel butte formation. *Roland Dute*, Michael Miller, and Ronald Lewis, Auburn University.
51. Habitat variables affecting woodpecker distribution in Sumter County, Alabama. *M. Gressett*, M. and J. McCall, University of West Alabama.
52. In vitro studies examining the effects of cholinergic compounds on the developing chick pancreas. *Rakesha Davis*, J. U. Johnson, and A. D. Johnson, Sr., University of Alabama at Huntsville.
53. Biochemical analysis and non-invasive techniques used to examine infertility in rabbits. *Willie E. Harper, Jr.*, J. U. Johnson, R. Davis, K. Johnson, I. Alexander, and A. D. Johnson, Sr., University of Alabama in Huntsville.
54. The toxicity effects of rose bengal on *Tetrahymena pyriformis*. *Mark Haygood*, *Kevin Jenne*, Benjie Blair, Tiffany Bohlmann, Mark Meade, and Charles Olander, Jacksonville State University.
55. An undescribed *Cyclotella* species (Bacillariophyceae) from Clarke County, AL. *Lisa A. Muellner* and Roland R. Dute, Auburn University.
56. Evaluation of a PCR method for identifying sources of fecal pollution in environmental waters. *Donald W. Salter* and Grant W. Goldenstar III, University of West Alabama.

**SECTION II - CHEMISTRY**  
**Friday Afternoon**  
**334 Martin Hall**  
**Steven E. Arnold, Presiding**

1. 1:00 Chemical synthesis of amorphous silicon. *P. Ward* and *J. Gryco*, Jacksonville State University.
2. 1:20 Determination of precious metals in automobile catalytic converters. *Ch. Loveless*, *M. Parker* and *J. Gryco*, Jacksonville State University.
3. 1:40 Synthesis of silicon and germanium clathrates. *M. Bandy* and *J. Gryco*, Jacksonville State University.
4. 2:00 Thermoelectric properties of cesium filled germanium clathrate. *N. Ellison* and *J. Gryco*, Jacksonville State University.
- 2:20 INTERMISSION
5. 2:40 Synthesis of some 4-alkyl and 3,4-dialkyl-4-azacholestanes and 4-alkyl and 3,4-dialkyl-4-azapregnanes. *Norman J. Doorenbos* and *Vithal C. Patel*, Auburn University School of Pharmacy.
6. 3:00 The effect of solvent on the absorption spectroscopy of p-N,N-dimethylaminocinnamionitrile. *Adam S. Olia* and *Steven E. Arnold*, Auburn University Montgomery.
7. 3:20 Effect of pH on growth kinetics and hardness of TGS:LAP and KDP:LAP crystals. *Jason Stephens*, *A. K. Batra*, *M. D. Aggarwal* and *R. B. Lal*, Alabama A&M University.
8. 3:40 Characteristics of pure and doped lithium niobate crystals. *Tesfaye Gebre*, *M. D. Aggarwal*, *A. K. Batra* and *R. B. Lal*, Alabama A&M University.
- 4:00 BUSINESS MEETING

**SECTION II - CHEMISTRY**  
**Poster Session**  
**Friday Afternoon**  
**1<sup>st</sup> Floor Hallway, Martin Hall**

9. The relationship of electron charge distribution on derivatives of 5,7-dichlorokynurenic acid and biological activity. *James L. Morton* and *Alfred C. Nichols*, Jacksonville State University.
10. A versatile solution crystal growth system for studying growth kinetics. *Jason Stephens*, *A. K. Batra*, *M. D. Aggarwal* and *R. B. Lal*, Alabama A&M University.

**SECTION IV - GEOGRAPHY, FORESTRY, CONSERVATION,  
AND PLANNING**

**Session I  
Thursday Afternoon  
105 Martin Hall  
Priscilla Holland, Presiding**

1. 1:00 Forests of Calhoun County in the 21<sup>st</sup> Century. *Wilbur B. De Vall*, Proxy Services LTD., Auburn, AL.
2. 1:20 Implementation of GIS in Syria. *Thomas Baucom*, Jacksonville State University.
3. 1:40 Soil morphology used as evidence in a PCB-contamination lawsuit. *Kelly D. Gregg*, Jacksonville State University
- 2:00 INTERMISSION
4. 2:20 Hurricane Isidore impacts at Gulf Shores and Dauphin Island, AL. *Philip L. Chaney*, Auburn University.
5. 2:40 The Victorian Front Porch Christmas tour. *Tom L. Martinson*, Auburn University.
6. 3:00 Factors resulting in the declining population in Calhoun County, AL. *Alison Prater*, Jacksonville State University.
7. 3:20 Factors in restaurant choice in Jacksonville, AL. *Clarence Blalock*, Jacksonville State University.
8. 3:40 1990-2000 residential growth in Madison County, Alabama and the effects it has on minor and major collectors. *Thomas Nunez*, Alabama A&M University.

**SECTION IV - GEOGRAPHY, FORESTRY, CONSERVATION,  
AND PLANNING**

**Session II  
Friday Morning  
105 Martin Hall  
William K. McAllister, Presiding**

9. 8:00 Environmental initiatives of community-based development organization: The case of the Federation of Southern Co-operatives of Alabama. *Edmund C. Merem*, Jackson State University, Jackson, Mississippi and Yaw A. Twumasi, Alabama A&M University.
10. 8:20 An analysis of changes in commute time between the workplace and home from 1980 to 1990: Selected metropolitan statistical areas in Alabaman. *Patrice Ruffin*, Alabama A&M University.
11. 8:40 Older Huntsville Alabama neighborhoods in transition: Profile data from the 2000 Census. *Constance J. Wilson*, Alabama A&M University.
12. 9:00 The effects of urbanization on rare species in Muscogee, Harris, and Meriwether Counties in Georgia. *Amanda Kruvand* and Selima Sultana, Auburn University.
13. 9:20 Effect of scale issue on measuring job-house imbalance: A methodological debate by using GIS. *Selima Sultana*, Auburn University.
- 9:40 INTERMISSION
14. 10:20 Monitoring urban growth in the Accra Metropolitan Area, Ghana using satellite Imagery. *Yaw A. Twumasi*, Tommy L. Coleman, A&M University and Andrew Manu, Iowa State University, Iowa.
15. 10:40 A geographic analysis and application of the property and trails map project at Camp Winnataska, Birmingham. *Jake White*, University of Alabama.
16. 11:00 Impact of El-Nino on peanut production in Alabama. *Rob Owen*,

Jacksonville State University.

17. 11:20 The impact of storm origins on snowfall events in the south.  
*Brad Gordon*, Jacksonville State University

12:00 LUNCH

**SECTION IV - GEOGRAPHY, FORESTRY, CONSERVATION,  
AND PLANNING**

**Session III**

**Friday Afternoon**

**105 Martin Hall**

**Priscilla Holland, Presiding**

18. 1:20 Reconstructing the history of railroading in Tuscumbia and Sheffield, Alabama, through relicts on the landscape. *Frank N. Himmler*, University of North Alabama.

19. 1:40 Democratic stronghold in Alabama: The Black Belt region.  
*Emory Wheatley*, Jacksonville State University.

20. 2:00 The new land based classification system applied to an urban mixed use village. *William K. McAllister*, James Benderson and Tarrence Houston, Alabama A&M University.

2:20 INTERMISSION

21. 2:40 Use of Water Supplying Vegetation Index (WSVI) as an indication of drought in the Southeast. *Arvind A. Bhuta*, L.J. Marzen and J.M. Wersinger, Auburn University.

22. 3:00 Evaluation of Calhoun County's outdoor warning system. *Laura Gosnold*, Jacksonville State University.

3:20 BUSINESS MEETING

**SECTION V – PHYSICS AND MATHEMATICS**

**Thursday Afternoon**

**319 Martin Hall**

**Sergey V. Belyi, Presiding**

1. 1:00 Cumulative Distribution of River Lengths and the Number of Rivers. *Arjun Tan*, W. Sheng, Alabama A&M University.

2. 1:20 Samford University New Telescope and the Internet. *Henry W. Glotfelty*, Samford University.

3. 1:40 Non-dense Operators in Relativistic Quantum Zeno Dynamics. *Govind Menon*, S. Belyi, Troy State University.

4. 2:00 On realization of inverse Stieltjes functions. *Sergey Belyi*, Troy State University.

5. 2:20 Lambda-fold Multidesigns for graphs-pairs on 4 and 5 vertices. *Kenneth Roblee*, A. Abueida, M. Daven, Troy State University.

2:40 BUSINESS MEETING

**SECTION V – PHYSICS AND MATHEMATICS**

**Poster Session**

**Friday Afternoon**

**1st floor Martin Hall**

6. Phonon Quantization. *Mark Stafford*, M. Weatherspoon, L. L. Burge, Jr., P. C. Sharma, Tuskegee University.

7. Thermal Management in Electronic Devices Fabricated By miconducting Materials. *McArthur Weatherspoon*, Mark Stafford, L. L. Burge, Jr., P. C. Sharma, Tuskegee University.

**SECTION VI – INDUSTRY AND ECONOMICS**

**Session I**  
**332 Martin Hall**  
**Thursday morning**  
**Eric Rahimian, Presiding**

1. 9:00 North Alabama regional analysis: social and economic characteristics. *Carlos Finkley*, Teshome Gabre, and Constance Wilson, Alabama A&M University.
2. 9:20 The prospect of common market for eastern and southern Africa. *Aggrey Bigala* and Eric Rahimian, Alabama A&M University.
3. 9:40 The characteristic of Korean venture capital. *SeYoung Kwack*, Chungju University, and Eric Rahimian, Alabama A&M University.
4. 10:00 A regression model of new housing units' construction in the United States. *Yarah Abdallah* and Eric Rahimian, Alabama A&M University.
- 10:20 INTERMISSION
5. 10:40 Government intervention in a market economy. *Aggrey Bigala*, Alabama A&M University.
6. 11:00 Women and money in the 21<sup>st</sup> century. *Kathy Lewis-Adler*, University of North Alabama.
7. 11:20 Population and economic growth in developing nations. *Fesseha Gebremikael* and Eric Rahimian, Alabama A&M University.
- 11:40 BUSINESS MEETING

**SECTION VI – INDUSTRY AND ECONOMICS**

**Session II**  
**332 Martin Hall**  
**Thursday Afternoon**  
**Linda Carr, Presiding**

8. 1:00 Colleges in business: trend in graduate school education. *Maria E. Winter* and Keith Absher, University of North Alabama.
9. 1:20 International student programs: the cash cow of the western world. *Cagri Bagcioglu* and Keith Absher, University of North Alabama.
10. 1:40 Generation y: a literature. *Mellisa Clark* and Keith Absher, University of North Alabama.
11. 2:00 The relationship of crime and poverty. *Fesseha Gebremikael* and Eric Rahimian, Alabama A&M University.
12. 2:20 The emotional intelligence profile of an honors-leadership class. *Kerry P. Gatlin*, and Keith Absher, University of North Alabama.
- 2:40 INTERMISSION
13. 3:00 A regression model of causes of poverty. *Eric Rahimian*, Alabama A&M University.
14. 3:20 Attitudes toward corporations. *Marsha D. Griffin*, and James G. Alexander, Alabama A&M University.
15. 3:40 The direction of direction. *James G. Alexander*, Department of Economics, Finance and Office Systems Management, and *Marsha D. Griffin*, Department of Management and Marketing, Alabama A&M University.
16. 4:00 Stabilization and growth. *Linda A. Carr*, University of West Alabama, and James G. Alexander, Alabama A&M University.

## SECTION VII – SCIENCE EDUCATION

Friday Afternoon  
336 Martin Hall  
Perry A. Tompkins, Presiding

1. 1:00 Real-time experimentation over the internet at Samford University. *Perry A. Tompkins*, Samford University.
2. 1:20 The New Millennium Project: transforming science education. *Lee Allen Aggison, Jr.*, and Ruth A. Washington , Stillman College.
3. 1:40 Teaching evolution in a hostile environment. *William R. Bowen*, Jacksonville State University (retired).
4. 2:10 Building connections between university and high school physics. *Laura M. Weinkauff* and Nouredine Zettili , Jacksonville State University.
5. 2:30 Teaching concepts of meiosis and mitosis using cooperative learning. *Benjie G. Blair*, William R. Bowen and Frank A. Romano III, Jacksonville State University.
- 2:50 INTERMISSION
6. 3:10 Using Project Learning Tree to make environmental education fun for high school and college students. *Robert Carter*, Jacksonville State University.
7. 3:30 Chemistry in Motion. *Joy Johnston*, Janet Youngblood and Cindy Willingham, University of Alabama at Birmingham.
8. 3:50 Technology in the chemistry curriculum. *Cindy Willingham*, University of Alabama at Birmingham.
9. 4:10 Using scholarly journals and statistical reasoning in basic science classes. *Jan Case*, Jacksonville State University.
- 4:30 BUSINESS MEETING

## SECTION VII – SCIENCE EDUCATION

Poster Session  
Friday Afternoon  
1st Floor Hallway, Martin Hall

10. Nutritional supplement therapies, a health problem disease state focus on the learning/assessment of natural medicines. *Norman J. Doorenbos*, Auburn University.
11. Tools for DNA analysis and physiological measurements used for undergraduate instructional teaching laboratory exercises. *Kataren Johnson* and J. U. Johnson, University of Alabama in Huntsville.

**SECTION VIII -BEHAVIORAL & SOCIAL SCIENCES**

**Session I**  
**338 Martin Hall**  
**Friday Morning**  
**Janice Clifford Wittekind, Presiding**

1. 9:00 Older adults with arthritis: Exercise perceptions. *Nadine T. James* and Kenneth Saag, University of Alabama at Birmingham.
2. 9:15 Newspaper reading behavior and attitudes on race relations. *Larry Powell*, University of Alabama at Birmingham.
3. 9:30 Predictors of health behaviors in college students. *Diane Von Ah* and Duck-Hee Kang, University of Alabama at Birmingham.
4. 9:50 Using Internet based questionnaires for data collection. *Richard A. Hudiburg*, University of North Alabama.
- 10:10 INTERMISSION
5. 10:25 An evaluation of drug courts in the United States. *Jimmy Williams*, University of Alabama.
6. 10:40 Prayer and personality dimensions: A preliminary investigation, *Larry W. Bates*, Molly J. Mathis and Allison S. Fisher. University of North Alabama.
7. 11:00 What your generation X employees want from your organization: a survey activity. *Kathy Lewis-Adler* and Robert Preziosi, University of North Alabama.
8. 11:15 Stressful life event experiences of homeless adults: A comparison of single men, single women, and women with children. *Carole Zugazaga*, Auburn University.
- 11:30 BUSINESS MEETING

**SECTION VIII -BEHAVIORAL & SOCIAL SCIENCES**

**Session II**  
**338 Martin Hall**  
**Friday Afternoon**  
**Arthur S. Wilke, Presiding**

9. 1:15 Disproportionate confinement and processing of minority youth in Alabama: A quantitative and qualitative analysis. *William Osterhoff*, Anne Permalof and Carl Grafton, Auburn University Montgomery.
10. 1:35 Getting your foot in the door: A survey of hiring factors in the paralegal field. *Cheryl Bullard*, Auburn University Montgomery.
11. 1:50 Domestic violence among college students. *Gladys J. Lyles*, Alabama State University.
12. 2:05 Recidivism in Alabama's department of corrections. *Jerald Burns*, Alabama State University.
- 2:20 INTERMISSION
13. 2:35 Factors in child abuse court processing. *Betsy Witt*, Columbus State University.
14. 2:50 Waiver procedures and criminal jurisdictions of juvenile offenders. *Dorinda Dowis*, Columbus State University.
15. 3:10 Victims of assault and their injuries. *Gerald P. Fisher*, Columbus State University.
16. 3:25 Protocols for dealing with threatened, attempted, and completed suicides. *Terry D. Norris*, Columbus State University.
17. 3:45 What makes a difference in well-being? Assessing the impact of perceived personal and social conditions. *Janice Clifford Wittekind* and Arthur S. Wilke, Auburn University.

**SECTION IX- HEALTH SCIENCES**

**Session I**

**Martin Hall, Room 234**

**Thursday Morning**

**M. Peggy Hays, Presiding**

1. 8:30 Knowledge, resilience and effectiveness of education in a young teen asthma camp. *Ellen B. Buckner*, A. Hawkins, L. Stover, J. Brakefield, S. Simmons, C. Foster, S. Payne, J. Newsome and G. Dubois, University of Alabama at Birmingham.
2. 8:45 Smoking behaviors and readiness to quit during pregnancy. *Jodelle R. Martin*, University of Alabama at Birmingham.
3. 9:00 Insights into ischemia reperfusion injury. *Ruth A. Washington*, Natasha Cox, Eric James and Brian Gibbs, Stillman College.
4. 9:15 The involvement, coping, and relationship of parents with a child in newborn follow-up clinic. *Lindsay C. McCoy*, University of Alabama at Birmingham.
5. 9:30 Characteristics of a positive experience for women who have unmedicated childbirth. *Amanda Marie Hardin*, University of Alabama at Birmingham.
6. 9:45 An academic/community-based AIDS service organization partnership: program evaluation of services to multicultural population. *Joe Burrage*, University of Alabama at Birmingham.
- 10:00 INTERMISSION - Martin/McGee Science Center 2<sup>nd</sup> floor lounge
7. 10:15 Relationships among social support, intendedness of pregnancy, and maternal-fetal attachment. *Laura A. Frizzell*, University of Alabama at Birmingham.
8. 10:30 Pico Della Mirandola and 21st Century bioethics: can Renaissance thought guide our use of biotechnology? *Jim Bradley*, Auburn University.

9. 10:45 Predictors of health behaviors in college students. *Diane Von Ah* and Duck-Hee Kang, University of Alabama at Birmingham.
10. 11:00 The invisible Americans: primary caregivers in the home setting. *Kathy Lewis Adler*, University of North Alabama.
11. 11:15 Steroid induced pathological fracture: A case study. *Melinda Redmon*, University of Alabama in Huntsville.
12. 11:30 Self-perception of adolescents with diabetes: a comparison of those who have attended camp and those who have not. *Andi Rigsby*, University of Alabama at Birmingham.
- 11:45 LUNCH AT JSU CAFETERIA

**SECTION IX- HEALTH SCIENCES**

**Session II**

**Martin Hall, Room 234**

**Thursday Afternoon**

**M. Peggy Hays and Tom Denton, Presiding**

13. 1:00 Hypocholesterolemic 3Beta-Benzyl-4-Methyl-4-Aza-5Alpha-Cholestane Methiodide. *Norman J. Doorenbos* and Masako Nakagawa, Auburn University.
14. 1:15 Comparison of the knowledge and practices of Zimbabwe's trained and untrained traditional midwives. *Keratiloe Gwebu*, Oakwood College.
15. 1:30 Neonates, naps, and noise: an observational study. *Brooke A. Perry*, University of Alabama at Birmingham.
16. 1:45 Generational diversity in the workforce. *Paige Watwood*, St. Vincent's Hospital, Birmingham, AL.
17. 2:00 Parental views of the social environment of an outpatient bone marrow transplant clinic. *Jennifer Pritchett*, University of Alabama at Birmingham.

- 2:15 INTERMISSION - - Martin/McGee Science Center 2<sup>nd</sup> floor lounge
18. 2:30 Anticipation and acceptance: perceptions of pet therapy by hospitalized children and their parents. *Alicia Weddington*, University of Alabama at Birmingham.
19. 2:45 Biological properties of some 3-Alkyl-4-Azacholestanes. *Norman J. Doorenbos* and Kenneth Kerridge, Vithal Patel, Donald Shay and Rodney Smith, Auburn University.
20. 3:00 Supportive and self-reliant coping in mothers and fathers who experienced a loss. *Amy Williams*, University of Alabama at Birmingham.
21. 3:15 Emergent behaviors at shift report: the protagonists as theme carriers. *M. Peggy Hays*, University of Alabama in Huntsville.
22. 3:30 The role of first physical contact and parent neonatal perception in the establishment of parent-infant attachment. *Amy V. Wright*, University of Alabama at Birmingham.

4:00 BUSINESS MEETING

**SECTION IX- HEALTH SCIENCES**

**Poster Session**

**Thursday Afternoon**

**Martin Hall, 2nd Floor Hallway**

24. Effect of aged garlic extract on human recombinant Caspase-3 activity. *Robert Jackson*, B. McNeil, C. Taylor, G. Holl, D. Ruff and Ephraim T. Gwebu, Oakwood College.
25. Effect of S-Adenosyl-Methionine on human recombinant Caspase-3. *Jeremy Drummond*, Courtney Brown and Ephraim T. Gwebu, Oakwood College.
26. Effect of aged garlic extract on the cytotoxicity of nitric oxide donors in PC12 cells. *Donny Elliot*, Robert Jackson and Ephraim T. Gwebu, Oakwood College.

27. The effect of aged garlic extract on Caspase-3 activity in PC12 Cells. *Courtney Brown* and Ephraim T. Gwebu, Oakwood College. 2:30 Birmingham.
28. Aged garlic extract protects serum-deprived PC12 Cells from apoptosis. *Grace Mbyirukira* and Ephraim T. Gwebu, Oakwood College. 2:45 INTERMISSION - Martin/McGee Science Center 2<sup>nd</sup> floor lounge
29. Effect of a Zimbabwean Ndebele plant extract on apoptotic Caspase-3 activity. *Sheila Cooper*, Courtney Brown, Samson Sibanda and Ephraim T. Gwebu, Oakwood College. 3:00 37. 2:45 Let's pretend hospital. *Marilyn S. Hargrave*, University of Alabama in Huntsville.
30. Effect of aged garlic extract on cell death induced by S-Adenosyl-Methionine. *Maisha T. Baker*, Grace Mbyirukira and Ephraim T. Gwebu, Oakwood College. 3:15 38. 3:00 Streptococcus sanguis adherence to damaged endothelial cells. *Alphonso Morton*, Qshequilla Parham and Ruth A. Washington, Stillman College.
31. Effect of Zimbabwe's traditional medicinal plant products on cytotoxicity of Alzheimer Beta-Amyloid Peptide in PC12 cells. *Kaarina Lokko*, Grace Mbyirukira and Ephraim T. Gwebu, Oakwood College. 3:30 39. 3:15 Streptococcus pneumoniae: differences and similarities of Serogroup 6 strains, persistence of strains over time. *Dorothy B. Payne*, D.E. Briles and S. K. Hollingshead, University of Alabama at Birmingham.
40. 3:30 Analysis of transfusion-associated immunosuppression by measuring ATP production in CD4 cells. *Virginia C. Hughes* and Harvey J. Alter, Auburn University at Montgomery.

## SECTION IX- HEALTH SCIENCES

### Session III

**Martin Hall, Room 234**

**Friday afternoon**

**Tom Denton, Presiding**

32. 1:15 Idiopathic scoliosis in Alabama. *Tom Denton*, Auburn University at Montgomery. 41. 3:45 Characterization of the cardiovascular pericytes: cytokines. *Erica Johnson* and Ruth A. Washington, Stillman College.
33. 1:30 The Turner decision-making model: a four-perspective framework. *Shelly E. Turner*, University of Alabama in Huntsville. 42. 4:00 Grammaticality effects in acquired dyslexic patients. *Nicole Sanders* and Helen Southwood. University of Alabama at Birmingham.
34. 1:45 Characterization of the cardiovascular pericytes: free radicals. *Marcy Floyd* and Ruth A. Washington, Stillman College. 43. 4:15 Exercise induced analgesia. *Steven Ruble*, Jill Sampson, and Amberly Crowe, Samford University.
35. 2:00 Leadership styles of nursing administrators in long-term care. *Dorothy Gargis Foote*, University of Alabama in Huntsville.
36. 2:15 Older adults with arthritis: exercise perceptions. *Nadine T. James* and Kenneth Saag, University of Alabama at

**SECTION X -- ENGINEERING AND COMPUTER SCIENCE**

**Session I  
Thursday Morning  
250 Martin Hall  
Robert Pitt, Presiding**

1. 9:30 Fuzzy web planning models with genetic algorithm solutions. *Xidong Zheng*, Kevin Reilly, and James Buckley, University of Alabama at Birmingham.
2. 9:45 Source quantification of inappropriate discharges to storm drainage systems. *Veerabhadra Rao Karri*, University of Alabama.
3. 10:00 Characterization of sources of bacteria in stormwater. *Sumandeep Singh Shergill*, University of Alabama.
4. 10:15 Quantum computation. *Nikhil Garge*, University of Alabama at Birmingham.
- 10:30 INTERMISSION
5. 10:45 Identifying probable exons and introns. *Derwei Venable*, University of Alabama at Birmingham.
6. 11:00 Heavy metal associations with stormwater particulates. *Renee Morquecho*, University of Alabama.
7. 11:15 Effects of synthetic detergents and surfactants and ways to identify these pollutants in nature. *Sanju Kurian Jacob*, University of Alabama.
8. 11:30 A comparative analysis of meta-programming and aspect-orientation. *Suman Roychoudhury*, University of Alabama at Birmingham.
9. 11:45 Model-based specification and synthesis of CORBA component models (CCM). *Jing Zhang*, University of Alabama at Birmingham.
- 12:00 BUSINESS MEETING

**SECTION X -- ENGINEERING AND COMPUTER SCIENCE**

**Session II  
Thursday Afternoon  
250 Martin Hall  
Marietta Cameron, Presiding**

10. 1:30 Gamma shapes. *Ying Sun*, K.R. Sloan, and Marietta E. Cameron, University of Alabama at Birmingham.
11. 1:45 Meta-model search: using XPath as a tool for searching domain-specific models. *Rajesh Sudarsan*, University of Alabama at Birmingham.
12. 2:00 Reconstruction of unorganized point sets using planar slices. Matt Emerson, Birmingham-Southern College.
13. 2:15 A language-independent approach to refactoring through program transformation engines. *Hui Wu*, University of Alabama at Birmingham.
14. 2:30 Using piecewise algebraic curves in a Bernstein environment. *Xiao Hu* and John K. Johnstone, University of Alabama at Birmingham.
- 2:45 INTERMISSION
15. 3:00 Catching flies with honey: an introduction to honeypots. *Lora M. Vaughn*, Birmingham-Southern College.
16. 3:15 Aspect-oriented weaving of domain models. *Yuehua (Jane) Lin*, University of Alabama at Birmingham.
17. 3:30 Interactive silhouette of triangular meshes. *Chuanxi Xu* and John K. Johnstone, University of Alabama at Birmingham.
18. 3:45 Text mining. *Ying Liu* and Alan Sprague, University of Alabama at Birmingham.
19. 4:00 Formal disambiguation of unrestricted requirement specifications. *Beum-Seuk Lee*, University of Alabama at Birmingham.

**SECTION X -- ENGINEERING AND COMPUTER SCIENCE**  
**Poster Session**  
**Thursday Afternoon**

20. Closed-Loop Control of Optical MEMS switches. *Tiana Phillips*, Tuskegee University.

**SECTION XI ANTHROPOLOGY**  
**Session I**  
**Friday Morning**  
**111 Martin Hall**  
**Harry O. Holstein, Presiding**

1. 9:00 Two Decades of Investigations at the Davis Farm Archaeological Complex in Calhoun County, Alabama. *Harry O. Holstein*, Jacksonville State University.
2. 9:20 An Environmental History of the Ten Islands of the Coosa River. *Robert E. Perry*, Mactec Engineering, Inc., Birmingham, AL.
3. 9:40 The Battle of Tallaseehatchee Site, 1Ca162, Reanalysis and a 21th Century Perspective. *Hunter Johnson*, Jacksonville State University.
- 10:00 INTERMISSION
4. 10:20 Will's Town, A 19th Century Cherokee Settlement in DeKalb County, Alabama. *Larry J. Smith*, Jacksonville State University.
5. 11:00 An Archaeological Investigation of 1Dk49, a Rockshelter in DeSoto State Park, DeKalb County, Alabama. *Amy Eberhart*, Jacksonville State University.
6. 11:20 A Manifestation of a Woodland Period Archaeological Culture in the Upper Cahaba River Drainage. *Steven Merdith*, Mactec Engineering, Inc., Birmingham, AL
7. 11:40 Sorting newspaper articles: a method for using newspapers as a source for Ethnographic information. Tom Lewis, Panamerican Consultants, Inc. Tuscaloosa, AL.

## SECTION XI – ANTHROPOLOGY

### Session II

Friday Afternoon

111 Martin Hall

Harry Holstein, Presiding

8. 1:00 Archaeological Research and GIS: Geoarchaeology at JSU. *Miriam Hill* and Mike Rice, Jacksonville State University.
9. 1:20 Popular Imagery, Public Policy, and Indigenous Survival in the Americas: the View from Costa Rica. *James Sewastynowicz*, Jacksonville State University.
10. 1:40 Provenance of the Moundville Greenstone Artifacts along Hatchet Creek in Northeast Alabama. *Kevin Harrelson*, Jacksonville State University.
- 2:00 INTERMISSION
11. 2:20 Fort Alabama in the Second Seminole War. *Phillip Koerper*, Jacksonville State University.
12. 2:40 Bioarchaeological studies of individuals from the King Site, Floyd County, Ga. *Casandra Hill*, Jacksonville State University.
13. 3:00 An Initial Lithic Study from the Hammonds Site, 1Dk71, Dekalb County, Alabama. *Daniel Brooks*, Jacksonville State University.
14. 3:20 Complicated stamped pottery from the Quartermaster Site: published type descriptions and numerical taxonomy. Virgil Roy Beasley, Panamerican Consultants, Inc.
- 3:40 BUSINESS MEETING

## 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.

## 2003 REGIONAL SCIENCE FAIRS

North Alabama	March 10-13	Calhoun Community College, George Williams 256.306.2838, Sue Mitchell 256.306.2655
West Alabama	March 14-15	University of West Alabama, Richard D. Holland, 205.652.3414
South	March 21-23	University of South Alabama, Satya Mishra, PH: 251.461.1642, Fax: 251.460.7969, e-mail: <a href="mailto:mishra@jaguar1.usouthal.edu">mishra@jaguar1.usouthal.edu</a>
Central	Feb. 28 -March 1	University of Alabama at Birmingham, James C. Martin, Physics, 205.934.8090
Northeast	Feb. 27-28	Talladega College, Leonard S. Cole, 256.761.6308
East Alabama	March 6-7	Chattahoochee Valley Community College, Phenix City, Susan Marie McCollum, 334.291.4953, Fax: 334.291.4980, Mobile: 706.332.3109, Home: 334.749.8101, e-mail: <a href="mailto:susan.mccollum@cvcc.cc.al.us">susan.mccollum@cvcc.cc.al.us</a>
State Fair	April 4-6	University of Alabama at Huntsville, Jim Miller, 256.824.2846

THE ALABAMA STATE SCIENCE AND ENGINEERING FAIR will be held April 4-6 at The University of Alabama in Huntsville, Coordinator, Jim Miller, Physics, 256.824.2846 and Graeme Duthie, 256.824.6605.

The International Science and Engineering Fair is an activity of Intel Science Service, 1719 N Street, NW, Washington, DC 20036, 202.785.2255, e-mail: [sciedu@sciserv.org](mailto:sciedu@sciserv.org) FAX 202.785.1243. internet: [www.sciserv.org](http://www.sciserv.org) . The 54<sup>nd</sup> Annual ISEF will be May 10-17, 2003, Cleaveland, OH with 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.

## ALABAMA SCIENCE OLYMPIAD 2002-2003

## Elementary Science Olympiad Tournaments

**Jacksonville High School**, Saturday, February 22. David Peters, 1000 George Douthit Drive SW, Jacksonville, AL 36265, 256.435.4177, [ESOatJHS@hotmail.com](mailto:ESOatJHS@hotmail.com)

**Auburn University**, Saturday, April 26. Greg Harris, Department of Mathematics, 218 Parker Hall, Auburn, AL 36830 [harriga@mail.auburn.edu](mailto:harriga@mail.auburn.edu)

## Secondary Regional Science Olympiad Tournaments

**University of Alabama**, Tuscaloosa, Saturday, February 22. Dr. Kevin W. Whitaker, Associate Dean for Academic Programs, College of Engineering, Box 870200, University of Alabama, Tuscaloosa, AL 35487, [kwhitaker@coe.eng.ua.edu](mailto:kwhitaker@coe.eng.ua.edu) 205.348.1598, Fax: 205.348.0591

**Auburn University**, Auburn, Saturday, February 22. Dr. Steve Stuckwisch, Department of Geology, 108 Tichenor Hall, Auburn University, AL 36830, 334.844.6575, [sstuckwisch@charter.net](mailto:sstuckwisch@charter.net)

**University of Alabama at Huntsville**, Saturday, February 22. Mrs. Vanessa Colebaugh, 1315 Pratt Avenue, Huntsville, AL 35801, 256.922.5747, [nessacita@comcast.net](mailto:nessacita@comcast.net)

**University of South Alabama**, Saturday, February 1. Dr. Steve Itaya, Dept. of Biomed Science, UCOM 6000, Univ. of South Alabama, Mobile, AL 36608, 334.380.2710, [sitaya@jaguar1.usouthal.edu](mailto:sitaya@jaguar1.usouthal.edu)

**Jacksonville State University**, Saturday, February 22. Dr. David Steffy, Department of Physical and Earth Sciences, Jacksonville State University, 700 N Pelham Rd, Jacksonville, AL 36265, 256.782.5966, [dsteffy@jsucc.jsu.edu](mailto:dsteffy@jsucc.jsu.edu)

## Secondary State Science Olympiad Tournaments

**Huntingdon College**, Montgomery. Saturday, April 5. Dr. Sidney Stubbs, 1500 E Fairview Ave, Montgomery, AL 36106, 334.833.4430, [sstubbs@huntingdon.edu](mailto:sstubbs@huntingdon.edu)

**Samford University**, Birmingham. Saturday, April 5. Dr. Perry

Tompkins, 800 Lakeshore Drive, Birmingham, AL 35229-2245, 205.726.2329, [patompki@samford.edu](mailto:patompki@samford.edu)

**National Science Olympiad, Ohio State University (Columbus), May 9-10, 2003**

State Director: Jane Nall, 31110 Wakefield Drive, Spanish Fort, AL 36527, 251.621.2911, Fax: 251.625.7032, email [drnall@hotmail.com](mailto:drnall@hotmail.com)  
Alabama Science Olympiad web page: [aso.jsu.edu](http://aso.jsu.edu)

**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. Betsy Dobbins, Biology Department, Samford University, Birmingham, AL 35229, Treasurer, AAS. Gifts are tax deductible. Dr. Michael B. Moeller is Chair of the Mason Science Teacher Fellowship Committee, UNA, Bx 5049, 256.765.4479, [mbmoeller@una.edu](mailto:mbmoeller@una.edu). Downloadable applications and further information can be found on the Academy web site, [www.alabamaacademyofscience.org](http://www.alabamaacademyofscience.org).

Fellowships have been awarded to the following:

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, UAT.
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

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1985	Nolan E. Richards, Research Scientist, Reynolds Metals Company, Sheffield
1986	S. T. Wu, Mechanical Engineering and Aeronautic Research, University of Alabama at 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

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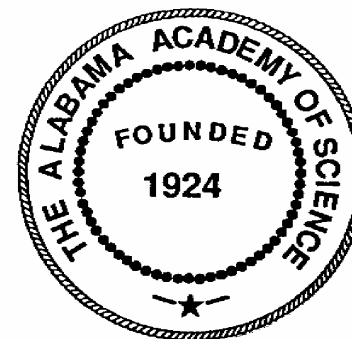
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