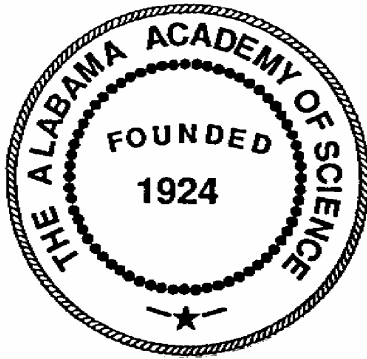


PROGRAM
EIGHTY-FIRST ANNUAL MEETING
of the
ALABAMA ACADEMY OF SCIENCE, INC.



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

March 17 – March 20, 2004
University of Montevallo
Montevallo, Alabama 35115

local:

<http://www.montevallo.edu/cas/AAS/>

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.
- *On-campus police, fire, medical service:**
University of Montevallo police number: 665-6500
Emergencies (Police, Fire, Medical): 9-911
- *Off-campus police: Montevallo Police 665-2552**
- *Off-campus emergencies (Police, Fire, Medical): 911**

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THE UNIVERSITY OF
MONTEVALLO

Office of
the President
Station 6001

March 17, 2004

Dear Academy Participants,

On behalf of the University of Montevallo's faculty, staff and students, it is my pleasure to welcome you to the annual meeting of the Alabama Academy of Science, the Alabama Junior Academy of Science and the Gorgas Scholarship Program. This is Montevallo's first time to host this prestigious event and we are honored to do so. I encourage you to attend Academy sessions, activities and presentations while enjoying the hospitality of our historic campus.

The University of Montevallo was founded in 1896 and, as Alabama's only public liberal arts university, remains committed to the vision and high standards established by its founders. The University's mission, codified in State law, is unique in Alabama higher education. Famous for its red brick streets and paths, the University is most proud of its excellent, nationally renowned faculty.

We are honored by your presence and wish for each of you a productive and enjoyable time while attending the Academy sessions. You are always welcome at Montevallo, so return soon and often.

Cordially yours,


Robert M. McChesney

RMM:sj

Montevallo, Alabama 35115-6000 Fax: 205/665-6003 Telephone: 205/665-6001

The University of Montevallo is an affirmative action-equal opportunity institution.

LOCAL ARRANGEMENTS COMMITTEE

Dear Academy Members,

Welcome to the 81st meeting of the Alabama Academy of Science. We are honored to have been invited by The University of Montevallo to hold our annual meeting on this beautiful campus. The Executive Committee of the Academy wishes to thank Dr. Houston Byrd and the members of the Local Arrangements committee for their hard work in planning this meeting.

The trustees, officers, and section chairs are looking forward to an outstanding meeting. Many informative papers will be presented in the various sections. For those members who have attended the meetings before, we appreciate your continued support. For those of you who are attending your first meeting, we welcome you and hope you find informative presentations and make friends with your colleagues from other institutions. For those students presenting your first paper, we share with you your excitement and wish you good luck. For those members of the Junior Academy, we hope that this meeting inspires you to continue your interest in science.

I want to personally thank the trustees, officers, committee members, and section chairs for their help in making this meeting possible. I want to also thank them for the assistance they have given me over the past year. I especially want to thank Dr. Larry Krannich, the Executive Director, for his help and hard work.

Once again, I welcome you and hope that you enjoy the meeting and that you return to your institutions and spread the word about the Alabama Academy of Science.



Anne M. Cusic, Ph.D.
President, Alabama Academy of Science

The officers and members of the Academy express their appreciation to the University of Montevallo and to the Local Arrangements Committee for their efforts in planning and hosting this 80th Annual Meeting.

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GENERAL INFORMATION

- 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. 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 Friday morning.
- Computers will be provided where needed for presentations. If presenters bring their own, they are responsible for their computer.

POSTERS & VENDORS

Posters are to be available for viewing on the permanent poster boards (3' x 4') located on the 1st floor of Harman Hall. Authors for the Health Sciences session posters should be present from 11:30 AM – 12:30 PM on Thursday for discussions with viewers. Authors for the Biological Sciences session posters should be present from 4:00 PM to 5:00 PM and all other poster sessions from 1:00 P.M. to 2:00 P.M. for discussions with viewers on Thursday and Friday. The schedule by section is as follows:

Thursday: Biological Sciences (Section I) and Health Sciences (Section IX)

Friday: Biological Sciences (Section I), Chemistry (Section II), and Geography, Forestry, Conservation, & Planning (Section IV)

Posters must be removed by 5:30 P.M. of the respective day.

Vendors display from 8:00 AM – 4:00 PM on the 1st floor of Harman Hall both Thursday and Friday.

PROGRAM of the ALABAMA ACADEMY OF SCIENCE March 17 - March 20, 2004

Wednesday

4:00 - 6:00 PM	Registration.....	Harman Hall Lobby
6:30 - 10:00 PM	Executive Committee Dinner and Meeting	Anna Irvin Dining Hall

Thursday Morning

7:00 - Noon	Registration.....	Harman Hall Lobby
	Continental Breakfast.....	Harman Hall Atrium and Room 229
Noon – 1:00 PM	Lunch.....	Anna Irvin Dining Hall
Noon – Lunch	(Trustees, Elected Officers, Exec. Dir.)	Anna Irvin Dining Hall
8AM - 4:00 PM	Vendor Exhibits.....	Harman Hall First Floor
11:30 - 5:00 PM	Poster Viewing.....	1 st Floor Harman Hall
	Authors present from 11:30 – 12:00 PM to discuss <i>Health Sciences</i> ' posters	
8:30 AM	Alabama Academy of Science Program Sessions.....	Harman Hall

Program Sessions:

8:30	<i>Biological Sciences I (Section I)</i>	103 Harman Hall
10:00	<i>Geography, Forestry, Conservation, & Planning I (Section IV)</i>	120 Harman Hall
10:30	<i>Industry and Economics I (Section VI)</i>	226 Harman Hall
8:30	<i>Behavioral and Social Sciences (Section VIII)</i>	220 Harman Hall
8:30	<i>Health Sciences I (Section IX)</i>	201 Harman Hall

Authors present 1:00 - 2:00 PM to discuss *Chemistry*, and *Geography*, *Forestry*, *Conservation and Planning* posters and from 4:00 – 5:00 PM to discuss *Biological Sciences*’ posters

12:30 PM Alabama Academy of Science Section Program
Sessions..... Harman Hall

Program Sessions:

1:00 *Biological Sciences III (Section I)* 119 Harman Hall

1:00 *Biological Sciences IV (Section I)* 120 Harman Hall

1:00 *Chemistry (Section II)*..... 218 Harman Hall

1:00 *Geography, Forestry, Conservation, and Planning III (Section IV)* 201 Harman Hall

1:00 *Science Education (Section VII)* 226 Harman Hall

12:30 *Anthropology (Section XI)* 103 Harman Hall

1:00 *Bioethics and History & Philosophy of Science (Section XII)* 225 Harman Hall

Slide Preview Room..... 221 Harman Hall

Friday Evening

6:00 AJAS/AAS Annual Business Meeting..... 103 Harman Hall

7:00 Joint AJAS/AAS Banquet..... Anna Irvin Dining Hall

Anne Cusic, Presiding
Dr. Michael Hardig, Assistant Professor of Biology
The University of Montevallo

Presentation of the AJAS and Gorgas Awards
Ellen Buckner

**PROGRAM of the
ALABAMA JUNIOR ACADEMY OF SCIENCE
B.J. Bateman, State Counselor
March 18 - March 20, 2004**

Thursday

3:00 - 6:00 PM Early Arrival Registration Best Western, Calera
..... Phone 205-668-0222

6:00 PM Social for all Registrants American Village

Friday

7:00 AM Continental Breakfast Best Western, Calera

7:45 AM Registration 201 Harman Hall

7:45 AM Paper Reading
Orientation..... 201 Harman Hall
Judges Orientation..... 232 Harman Hall

8:15 AM Paper Competition..... Harman Hall
Biology 201 Harman Hall
Engineering 226 Harman Hall
Humanities 225 Harman Hall
Mathematics 220 Harman Hall
Physical Science 218 Harman Hall

11:45 AM Caucus..... 201 Harman Hall

12:00 Noon Lunch..... Anna Irvin Dining Hall

1:30 PM JSU Science Activity:

5:00 PM Meeting with officers and candidates for office
to explain responsibilities 201 Harman Hall

6:00 PM Joint AJAS/AAS Business Meeting 103 Harman Hall

7:00 PM Joint AJAS/AAS Banquet and
Presentation of Awards..... Anna Irvin Dining Hall

9:30 PM AJAS Social Anna Irvin Dining Hall

Saturday

7:00 AM Continental Breakfast Best Western, Calera

8:00 AM Paper Competition Finals 201 Harman Hall

10:30 AM Elections, Awards, Group Photograph and
Business Meeting 201 Harman Hall

GORGAS SCHOLARSHIP PROGRAM
Friday, March 19, 2004
211 Harman Hall

Ellen Buckner, Chair, Judges

1:00 Set Up Science Exhibits 211/204 Harman Hall

1:45 Demonstrations for Judges 211/204 Harman Hall

3:00 Individual and Private Judging TBA (offices)

5:00 Public Showing of Exhibits 211/204 Harman Hall

7:00 Joint AJAS/AAS Banquet Anna Irvin Dining Hall
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

103 Harman Hall

Mark E. Meade, Presiding

1. 8:30 Florida manatee finger bones under the fingernails. *Gerald T. Regan*, Marterra Foundation Inc.
2. 8:45 Cannabinoid variations during the growing season of a turkish variant of *Cannabis sativa*, L. *Norman J. Doorenbos*, Oswaldo Guerrero, and Maynard W. Quimby, Auburn University.
3. 9:00 Fungal metabolism studies of dehydroabietic acid. *Norman J. Doorenbos*, James Flor, and Larry Robertson, Auburn University.
4. 9:15 Inflorescence anatomy of *Commelina erecta* L. *Roland R. Dute* and Floyd Woods, Auburn University.
5. 9:30 An update on fungal infections associated with Ambrosia beetle infestations. *Roland Dute*, Kathy S. McLean, Brian L. Prather, and Matthew J. Valente, Auburn University.
- 9:45 INTERMISSION
6. 10:15 Sea urchin embryos: A classical model redefined. *Mickie L. Powell* and Stephen A. Watts, University of Alabama at Birmingham.
7. 10:30 The use of dual-energy X-ray absorptiometry to determine body composition in fish. *Randy J. Watts*, Stephen A. Watts, Hugh S. Hammer, Maria S. Johnson, and Tim R. Nagy, University of Alabama at Birmingham.
8. 10:45 The status of the populations of the flattened musk turtle (*Sternotherus depressus*) in Bankhead National Forest and Smith Lake, Alabama, with emphasis on sex ratios and the distribution of size classes within populations. *Sherry Holmes* and Ken Marion, University of Alabama at Birmingham.
9. 11:00 Growth of a vacuoleless mutant of *Tetrahymena thermophila* in phytate. *Samantha Webb* and Harriet-Smith Summerville,

Stillman College.

10. 11:15 Postfeeding increase in intestinal performance, a function of microvilli elongation. *Catameron Bobino* and Stephen Secor, Stillman College.

11:30 LUNCH BREAK

SECTION I: BIOLOGICAL SCIENCES

Session II

Thursday Afternoon

103 Harman Hall

Mark E. Meade, Presiding

11. 1:00 The effect of invasive plant species on the ecosystem of Shades Creek. *Jeremy H. White*, Reed B. Hogan III, and L.J. Davenport, Samford University.
12. 1:15 A proposed index of biological integrity for aquatic macroinvertebrates. *L.J. Davenport* and W. Mike Howell, Samford University.
13. 1:30 An examination of morphological and biological traits of dominant macroalgal species that regulate patterns of distribution and abundance of amphipods in Antarctica. *Yusheng Huang*, Margaret O. Amsler, James B. McClintock, Charles D. Amsler, and Bill J. Baker, University of Alabama at Birmingham.
14. 1:45 Use of anaerobic bacteria as probiotics in aquaculture. *Mark E. Meade* and Benjie G. Blair, Jacksonville State University.
15. 2:00 Notes on the biology of the freshwater jellyfish (*Craspedacusta sowerbii*) in Northeastern Alabama. *George R. Cline*, James R. Rayburn, Mijataba Hamissou, and Frank Romano, Jacksonville State University.
- 2:15 INTERMISSION
16. 2:45 Consortium for teacher education in environmental studies at Camp Winnataska: A proposed new center. *Ellen B. Buckner*, Ronald Jenkins, and Wren Garmon, Samford University.

17. 3:00 Acoustic cavitation and advanced chemical oxidants as mechanisms to eradicate marine bacteria and macroinvertebrates from ballast water. *Meghana Gavand*, Ananthakrishnan Ananthanarayanan, James McClintock, Charles Amsler, Robert Peters, and Shirley Clark, University of Alabama at Birmingham.
18. 3:15 An overview of the ecology of Antarctic sponges. *James B. McClintock*, Charles Amsler, Bill Baker, and Rob Van Soest, University of Alabama at Birmingham.
19. 3:30 Preliminary herpetological inventory of the upper Mobile delta. *Joel A. Borden*, David H. Nelson, and Gabriel J. Langford, University of South Alabama.
20. 3:45 Nesting activity of the Alabama red-bellied turtle (*Pseudemys alabamensis*) at Meaher State Park. *Gabriel J. Langford*, David H. Nelson, and Joel A. Borden, University of South Alabama.
21. 4:00 Vertebrate road-kill survey of the Mobile Bay causeway. *David H. Nelson* and Cynthia Scardamalia-Nelson, University of South Alabama.
- 4:30 BUSINESS MEETING

SECTION I – BIOLOGICAL SCIENCES
Poster Session I
Thursday Afternoon
Authors present from 4:00 to 5:00 PM
1st Floor Harman Hall

22. Telomerase inhibition by UAB-30 retinoic acid as a potential treatment for human breast cancer. *Rebecca C. Wylie*, Joel Berletch, Sharla Phipps, Lucy Andrews, and Trygve Tollefsbol, University of Alabama at Birmingham.
23. Telomerase inhibition in estrogen receptor negative breast cancer cells by epigallocatechin-3-gallate. *Joel B. Berletch*, University of Alabama at Birmingham.
24. The effects of *Ficus carica* extracts upon the growth of epidermoid cancer cells in culture. *Celeste Sharplin* and Betsy Dobbins, Samford

University.

25. Sedimentation in Ross Creek as a result of construction. *Andrew Housholder*, Samford University.
26. Carapace shape among multiple turtle species. *David A. Delecki Jr.*, Anissa Delecki, and George Cline, Jacksonville State University.
27. Evaluation of developmental toxicity of interaction between caffeine and pseudoephedrine using from embryo teratogenesis assay-*Xenopus* (FETAX). *Bernice Moser*, James Rayburn, and Angelette Daigle, Jacksonville State University.

SECTION I – BIOLOGICAL SCIENCES
Session III
Friday Afternoon
119 Harman Hall
Mark Meade, Presiding

28. 1:00 The pathogenesis of SARS coronavirus infection in cell culture and animal based models of infection. *Thomas G. Voss*, J. Hogan, T. Rowe, B. Taggart, G. Triggs, A. King, L. Frye, and C. Gagliano, Southern Research Institute.
29. 1:15 Marine sponges from the Alabama coast: oil rigs as artificial reefs. *Patrick M. Erwin* and Robert W. Thacker, University of Alabama at Birmingham.
30. 1:30 Distribution and establishment of the Formosan subterranean termite (Isoptera: Rhinotermitidae) in Alabama. *Xing Ping Hu*, Faith Oi, and Fang Zhu, Auburn University.
31. 1:45 Detection of *Vibrio parahaemolyticus* O3:K6 using real time PCR with Taqman fluorescent probes in Gulf of Mexico water and shellfish. *Amy Rizvi* and Asim K. Bej, University of Alabama at Birmingham.
32. 2:00 Detection of total and pathogenic *Vibrio spp.* using multiplex PCR and DNA microarrays. *Gitika Panicker* and Asim K. Bej, University of Alabama at Birmingham.
- 2:15 INTERMISSION

33. 2:45 Temperature affects vitellogenesis in estrogen-treated male mosquitofish, *Gambusia affinis*. *Paul D. Melvin III*, Douglas Watson, and Robert A. Angus, University of Alabama at Birmingham.
34. 3:00 Effect of cyclic AMP on protein metabolism in crustacean (*Callinectes sapidus*) Y organs. *Deug Woo Han* and Douglas Watson, University of Alabama at Birmingham
35. 3:15 Fishing for mercury at the local grocery. *Dustin W. Morin*, Karla E. Hinds, and Alfred C. Nichols, Jacksonville State University.
36. 3:30 Isozyme variation among Gulf of Mexico goatfish. *Chenein N. Segalas* and Mark Meade, Jacksonville State University.
37. 3:45 Phloxine b is a potential prophylactic treatment against channel catfish pre-infected with *Ichthyophthirius multifiliis*. *Mark Haygood*, Benjie Blair, Mark Meade, Charles Olander, and Ashley Ward, Jacksonville State University.
38. 4:00 A study of salt stress response of three taxonomically different plant species. *Mijitaba Hamissou* and Amora W. Hicks, Jacksonville State University.
- SECTION I – BIOLOGICAL SCIENCES**
Session IV
Friday Afternoon
120 Harman Hall
Brian Burnes, Presiding
39. 1:00 Stability of antibiotic resistance profiles of fecal coliforms. *Rebecca Givens* and Brian S. Burnes, Judson College.
- 40.* 1:15 Incubation temperatures in green turtle nests at French Frigate Shoals, Hawaii. *Jennifer M. Estes*, Thane Wibbels, and George Balazs, University of Alabama at Birmingham.
41. 1:30 Origin of loggerhead sea turtles in Alabama: mtDNA analysis. *Alyssa Geis*, T. Wibbels, D. Fletcher, W. Gates, and R. Swilling, University of Alabama at Birmingham.
42. 1:45 Sex ratios of hawksbill sea turtle hatchlings from nests laid in Seychelles from 1999-2002. *Amber Park*, T. Wibbels, J.A. Mortimer, S. Roberts, and A. Rulie, University of Alabama at Birmingham.
43. 2:00 Evaluation of aromatase mRNA levels in brain tissue during temperature-dependent sex determination in the red-eared slider turtle. *Keela Dodd*, Chris Murdock, and Thane Wibbels, University of Alabama at Birmingham.
- 2:15 INTERMISSION
- 44.* 2:45 Using macroinvertebrate assemblages to evaluate the ecological health of urban impacted streams in the Southeastern Plains ecoregion, Alabama. *Christa Collins*, Michael W. Mullen, and Paul M. Stewart, Troy State University.
- 45.* 3:00 The affect of urbanization on the diversity of fish assemblages and the biological integrity of impacted streams in the Southeastern Plains ecoregion, Alabama. *Bonnie Hamiter*, Christa Collins, Kristy Pisani, Megan Pilarczyk, and Jonathan Miller, Troy State University.
46. 3:15 Hybridization and introgression of walleye and sauger from Pool 13 of the Mississippi River. *Jennifer Lynch*, Neil Billington, and John Pitlo, Troy State University.
47. 3:30 Enzyme histochemistry of the fish gill. *Glenn M. Cohen* and Chen Jiang, Troy State University.
48. 3:45 Conservation genetics of Montana sauger. *Rachael N. Koigi*, N. Billington, and W. Gardner, Troy State University.
49. 4:00 Does environmental stress increase fluctuating asymmetry in the eastern mosquitofish? *Eleanor J. Estes*, University of Alabama at Birmingham.

SECTION I – BIOLOGICAL SCIENCES
Poster Session II
Friday Afternoon
Authors present from 4:00 to 5:00 PM
1st Floor Harman Hall

- 50.* Urbanization factors that affect aquatic biological communities. *Janna Owens*, Robert Angus, Melinda Lalor, Jaideep Honovar, Steve McKinney, and Ken Marion, University of Alabama at Birmingham.
51. Inhibition of hTERT in human breast cancer cells using RNA interference. *Amanda Cunningham*, Liang Liu, Rebecca Wylie, Sharla Phipps, Lucy Andrews, and Trygve Tollefsbol, University of Alabama at Birmingham.
52. Preliminary study of the bioaccumulation of polychlorinated biphenyls in Logan Martin Lake. *Shawn Bailey* and James Rayburn, Jacksonville State University.

*Denotes presentation is entered in competition

SECTION II -- CHEMISTRY
Friday Afternoon
218 Harman Hall
Jan Gryko, Presiding

- 1:00 POSTER SESSION
1. 2:00 Synthesis and evaluation of some 4 aza-20alpha-aminopregnanes as antimicrobial agents. *N. Doorenbos* and F. Jawad, Auburn University School of Pharmacy.
2. 2:20 Chemical analysis of pigments of Native American ceramics.. *P. Ward*, Jacksonville State University.
3. 2:40 Building a low cost differential scanning calorimeter for the undergraduate laboratory. *J. Lang* , Jacksonville State University.
4. 3:00 Quantitative analysis of oil absorption by grafter bagasse in simulated ocean environment. *M. Brown, V. Blackman*, and A. Ludwick, Tuskegee University.
5. 3:20 Galvanic plating of zinc onto copper *M. Moeller*, A. Keenum, and C. South, University of North Alabama.
6. 3:40 Raman spectroscopy studies of amorphous silicon and germanium. *J. Pritchett*, Jacksonville State University.
7. 4:00 Reactions of zintl phases with ammonia and amines. *M. Millwood*, Jacksonville State University.
- 4:20 BUSINESS MEETING

SECTION II -- CHEMISTRY

Poster Session
Friday Afternoon
1st Floor Harman Hall

8. Synthesis and characterization of 5, 10, 15, 20-tetra [3-(3-trifluoromethyl)-phenoxy] porphyrin and the zinc, copper, cobalt, and manganese complexes. *F. Rudeseal, Jr.^a, C. Simmer,^a L. Fondren,^{a,b} L. Folmar,^a C. Tidwell,^a K. Belmore,^b and P. Bharara,^a University of Montevallo^a and The University of Alabama.^b*
9. Laser flash photolysis studies of zinc 5, 10, 15, 20 tetra(9-ethyl-e-carbazoyl) porphyrin. *L. Fondren,^{a,b} M. Bakker,^b and C. Tidwell^a.* University of Montevallo^a and The University of Alabama.^b
10. Design and implementation of an inexpensive, portable capillary electrophoresis (CE) instrument. *G. Anderson* and J. Thompson, Troy State University.
11. Evaluation of light scattering particles as a means to increase path length for molecular absorption. *I. Cho, Y. Cho,* and J. Thompson, Troy State University.
12. The effects of salts on the thermodynamics of RNase A/2'CMP binding. *L. Rupert* and C. Jones, University of South Alabama.

SECTION IV – GEOGRAPHY, FORESTRY, CONSERVATION, AND PLANNING

Session I
Thursday Morning
120 Harman Hall
William K. McAllister, Presiding

1. 10:00 Longitudinal survey of antibiotic resistance of microorganisms of the Cahaba River watershed. *Carrie Helton,* Judson College.
2. 10:20 An evaluation of the redevelopment of Pinhook Creek in Huntsville, Alabama. *Penny Koger-Thomas,* Alabama A & M University.
3. 10:40 Politics in planning: A case study in office land use in downtown Huntsville, Alabama. *Octavia Hall,* Alabama A & M University.
4. 11:00 Redistricting in the blackbelt counties of Alabama. *Elton J. Thomas,* Alabama A & M University.
5. 11:20 What can happen in the absence of zoning: A Madison County highway segment. *William K. McAllister,* Alabama A & M University.
- 12:00 LUNCH

SECTION IV – GEOGRAPHY, FORESTRY, CONSERVATION, AND PLANNING

Session II
Thursday Afternoon
120 Harman Hall
William K. McAllister, Presiding

- 1:00 BUSINESS MEETING
6. 1:20 Leapfrog analysis of land development at the urban fringe, *Brent Cunningham* and William K. McAllister. Alabama A & M University.

7. 1:40 Rural transit performance measurement: A pilot study to test a performance model for rural transit systems in Alabama, *Shundreka R. Givan*, Alabama A & M University.
- 8.* 2:00 Creating viable plans for property development: Development schemes for the Burton property, *Patrice S. Ruffin*, Alabama A & M University.
9. 2:20 A case study in the use of eminent domain powers by the city of Alabaster, Alabama. *Nicholas Nene*, Alabama A & M University
10. 2:40 Monitoring urban expansion of Bamako, Mali using principal component analysis of multi-temporal Landsat data. *Yaw A. Twumasi*, Andrew Manu, and Tommy Coleman, Alabama A & M University.

SECTION IV – GEOGRAPHY, FORESTRY, CONSERVATION, AND PLANNING
Session III
Friday Afternoon
120 Harman Hall
William K. McAllister, Presiding

11. 1:20 Landscape scale forest classification in the Pine Mountain Range, Georgia. *Robert Carter* and Andy Londo, Jacksonville State University.
12. 1:40 Analysis of forested land areas: The case of Mississippi. *Edmund C. Merem* and Yaw A. Twumasi, Jackson State University and Alabama A & M University.

SECTION IV – GEOGRAPHY, FORESTRY, CONSERVATION, AND PLANNING
Poster Session
Friday Afternoon
1st Floor Harman Hall

13. Distribution of mercury in sediment of the snow creek watershed, Calhoun County, Alabama. *David Steffy*, Jeremy Franklin, Joshua Lang, Rachael McCoy, Charles Stinson, and Alfred Nichols, Jacksonville State University.

*Denotes presentation is entered in competition

SECTION V – PHYSICS AND MATHEMATICS

**Thursday Afternoon
232 Harman Hall
John T. Tarvin, Presiding**

1. 1:00 Some extremal families of edge-regular graphs. *Kenneth Roblee* and Tom Smotzer, Troy State University.
 2. 1:20 Optical tweezers: construction of a single beam optical trap. *D. Brian Thompson*, Trevor Steinke and Anthony P. Blose, University of North Alabama.
 3. 1:45 The solar observation program at Samford University. *Henry W. Glotfelty*, Samford University.
 4. 2:00 The Samford Electron Accelerator Light Source, SEALS. *Perry A. Tompkins*, Samford University.
 5. 2:25 Estimating the eccentricity of the earth's orbit from the dates of the equinoxes, solstices and apsides. *A. Tan*, Alabama A & M University.
- 2:45 BUSINESS MEETING

SECTION VI – INDUSTRY AND ECONOMICS

**Session I
Thursday Morning
226 Harman Hall
Marsha D. Griffin, Presiding**

1. 10:30 The AGSC program: Who's doing what to whom. *Dana Harris* and Marsha D. Griffin, Alabama A&M University
 2. 10:50 Enrollment determinants. *Marsha D. Griffin* and James G. Alexander, Alabama A&M University
 3. 11:10 Effects of offshore outsourcing of IT jobs. *Andy Hailey*, University of North Alabama
 4. 11:30 The current status of wireless regulation. *Paulette S. Alexander*, University of North Alabama
- 11:50 LUNCH

SECTION VI – INDUSTRY AND ECONOMICS

**Session II
Thursday Afternoon
226 Harman Hall
James G. Alexander, Presiding**

5. 1:20 Human development – past, present, and future in Sub-Saharan Africa: A case study for selected countries. *Fesseha Gabremikael*, Alabama A&M University
6. 1:40 Determinants of dividend payout policy in India. *Jayesh Kumar*, Indira Gandhi Institute of Development Research

7. 2:00 A comparison of travel websites. *Linda A. A. Carr*, University of West Alabama, Marsha D. Griffin and James G. Alexander, Alabama A&M University
8. 2:00 Ten factors influencing marketing to Generation Y. *Keith Absher*, University of North Alabama and Darin White and Jenny Cowell, Union University
- 2:40 INTERMISSION
9. 3:00 Doing business post Enron. *Keith Absher*, University of North Alabama and Walton Padelford and Thomas Proctor, Union University
10. 3:20 The growing federal budget deficit: How far can we go? *Eric Rahimian*, Alabama A&M University
11. 3:40 Dude, where's my surplus? *James G. Alexander*, Alabama A&M University
12. 4:00 BUSINESS MEETING

SECTION VII – SCIENCE EDUCATION

Session I, Symposium

Friday Morning

Comer Auditorium

Ellen B. Buckner, Presiding

“Honors Education in Alabama--The Why's, the Where-fore's and the How's”

- 8:30 Registration in Harman Hall & coffee, juice and cinnamon rolls
- 9:00 University Honors Programs in Alabama-A Wide Diversity Individual presentations followed by a Panel Question and Answer Session
- Dr. Robert W. Halli*, Dean of the Honors College and Director of the University Honors Program, The University of Alabama
Dr. Ada Long and *Dr. Dail Mullins*, Directors, UAB Honors Program
Dr. Jack Rogers, Director, Honors College, Auburn University
Dr. John Mebane, Director, Honors Program at UAH
Dr. Judy Stout, Director, Honors Program, University of South Alabama.
- 10:15 BREAK
- 10:30 Special Topics in Honors: Honors Curricula, Honors Activities; Departmental Honors, Honors Thesis or Project, Presentations and Publications Individual presentations followed by a Panel Question and Answer Session
- Dr. Chinita Heard*, Director, Harte Honors College, Stillman College
Dr. Cynthia Smith, Alabama A&M University
Dr. Doug Rigney, Engineering, UAB
Dr. William Collins, Political Science, Samford University
Dr. Ellen Buckner, Nursing, UAB

11:45 Closing: *Dr. Perry Tompkins*, Samford University, Chair, Science Education Sectionj and *Dr. Lee Aggison*, Stillman College, Vice Chair Science Education Section

SECTION VII - SCIENCE EDUCATION

Friday Afternoon

226 Harman Hall

Perry A. Tompkins, Presiding

1. 1:00 A pilot project in social and behavioral science honors education at the University of Alabama at Birmingham. *Chris Kyle* and *Loretta Cormier*, University of Alabama at Birmingham.
2. 1:20 New approaches to nutritional supplement therapies. *Norman J. Doorenbos*, Auburn University.
3. 1:40 Recruit with robotics: Using a high school robotics program to recruit science/engineering students at your institution. *Mary Lou Howard* and *George Blanks*, Auburn University.
4. 2:10 A UAB anthropology enrichment program at Arrington Middle School, *Rosie O'Bierne* and *Lori Cormier*, University of Alabama at Birmingham
5. 2:30 Strengthening the minority pipeline in the biomedical sciences. *Velma B. Richardson* and *Helen H. Benford*, Tuskegee University.
6. 2:50 Future faculty experiencing the realities of teaching in general chemistry. *Joe L. March* and *Larry K. Krannich*, University of Alabama at Birmingham.
7. 3:10 Using a virtual lab to model probability distributions. *Jan Case*, Jacksonville State University.
8. 3:30 Engaging the science community in K-12 science reform, *Lee Meadows* and *Joe Burns*, University of Alabama at Birmingham.
9. 3:50 Whatchamacallits, gizmos, and thingamabobs; figuring out physics for elementary education, *Marcie D. Fairchild* and *Perry A. Tompkins*, Samford University.

10. 4:10 Science education outreach in Birmingham metropolitan area impacted by the NSF GK-12 program, *Larry K. Krannich* and *David Radford*, University of Alabama at Birmingham

11. 4:30 Dynamic partnership of West Alabama for middle school mathematics, science and technology reform, *Ruth A. Washington*, *Barbara Rountree*, *Martha Hocutt*, *Estelle Calevilli*, *Marylin Staffo*, and *Lee Aggison*, Stillman College.

4:50 BUSINESS MEETING

SECTION VIII -- BEHAVIORAL & SOCIAL SCIENCES

Session I

Thursday Morning

220 Harman Hall

Betsy A. Witt, Presiding

1. 8:30 Road rage behind the wheel: a correlative study of personality and driving characteristics. *Emily C. Burnett and Krystal T. Eiland*, Irene Staik, Kristen Gilbert, University of Montevallo.
2. 8:50 Assessing the need for a campus conflict resolution or mediation service: an analysis of survey results from Auburn University. *Cheryl Bullard* and Gloria McPherson, Auburn University-Montgomery.
3. 9:10 Conflict management on the university campus: an inventory of conflict styles. *Gloria McPherson*, Auburn University-Montgomery.
4. 9:30 Evaluation of Alabama's multijurisdictional violent crime and drug task forces: methodological issues. *William E. Osterhoff*, Anne Permaloff, Carl Grafton, and Robert A. Kirchner, Auburn University-Montgomery.
5. 10:00 INTERMISSION
6. 10:20 Sin sickness: guilt, shame and the American psyche. *Rhonda Grissom*, Walden University.
7. 10:50 Evaluating interactive physical engagement groups (ipags) for older adults with dementia. *Diane Carol Holliman*, Valdosta State University.
8. 11:20 History of terrorism: A social science perspective, *James A. Johnson*, Jerry Ledlow, and Mark Cweik, Selma, Alabama.
- 11:35 BUSINESS MEETING
9. 11:50 LUNCH

SECTION VIII -- BEHAVIORAL AND SOCIAL SCIENCES

Poster Session

Thursday Morning

220 Harman Hall

10. Intensity of exercise and functional disability among older adults with arthritis. *Nadine T. James*, University of Alabama-Birmingham.

SECTION VIII -- BEHAVIORAL AND SOCIAL SCIENCES

Session II

Thursday Afternoon

220 Harman Hall

Florence Wakoko, presiding

- 11.* 1:30 A comparison of the academic performance of traditional university students and students with children. *Leslie Bice* and Patricia Rodriguez, Jacksonville State University.
12. 1:50 Revising the computer hassles scale using an internet based questionnaire. *Richard A. Hudiburg*, University of North Alabama.
- 13.* 2:10 The relationship between poverty and achievement in Alabama public school students. *Donna Hendrix*, Jacksonville State University.
14. 2:30 The purpose of prisons: how victimization rates impact public opinion. *Dawn Gonzalez*, Columbus State University.
15. 2:50 The use of collegiality in performance reviews and tenure considerations. *Terry Norris*, Columbus State University.
16. 3:10 Determinants of empowerment among users of microfinance in Uganda: the case of rural women farmers. *Florence Wakoko*, Columbus State University.
17. 3:30 Applying private sector customer service concepts to a public sector agency. *Jerry Fisher*, Georgia College and State University.

18. 3:50 Are race and gender irrelevant factors in court processing of child abusers? *Betsy Witt*, Columbus State University.

*Denotes presentation is entered in competition

SECTION IX -- HEALTH SCIENCES

Session I

Thursday Morning

201 Harman Hall

M. Peggy Hays and R. E. Pieroni, Presiding

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|-----|-------|--|
| 1. | 8:30 | The effect of acculturation on the knowledge of and adherence to breast self-examination (BSE) technique in Hispanic women. <i>Andrea Lucas</i> , Susan M. Carroll and Ellen Buckner, University of Alabama at Birmingham. |
| 2.* | 8:45 | Mothers' descriptions of experiences about touching their preterm babies in the neonatal intensive care unit. <i>Stephanie Rose Austell</i> and Marion Broome, University of Alabama at Birmingham. |
| 3.* | 9:00 | Assessing social support and the risk for postpartum depression. <i>Rebecca L. Adams</i> and Ellen Buckner, University of Alabama at Birmingham. |
| 4.* | 9:15 | Prevalence of sarcopenia and effects of exercise on muscle wasting in HIV+ individuals taking HAART: a secondary analysis. <i>Adam B. Lansdon</i> and Barbara Smith, University of Alabama at Birmingham. |
| 5. | 9:30 | Further insights into the evolution of penicillin resistance in <i>Streptococcus pneumoniae</i> . <i>Dorothy B. Payne</i> , D. E. Briles and S. K. Hollingshead, University of Alabama at Birmingham. |
| 6. | 9:45 | Chemotaxonomic studies of <i>papaver bracteatum</i> Lindley. <i>Norman J. Doorenbos</i> and Evamaria Elsa Neumaier, Auburn University. |
| | 10:00 | INTERMISSION |
| 7.* | 10:15 | Personal hardiness and burnout in intensive care nurses. <i>Beth Carmichael</i> , University of Alabama at Birmingham. |
| 8.* | 10:30 | Occupational stress and quality of care: nurses' perceptions in the neurological intensive care and step-down units. <i>Sarah Elizabeth Mosley</i> , University of Alabama at Birmingham. |

- 9.* 10:45 Components and costs of a multidisciplinary cardiopulmonary rehabilitation clinic: effects of nursing leadership. *Mary Maloney* and Ellen Buckner, University of Alabama at Birmingham.
10. 11:00 The results of a fourteen-year scoliosis screening project in Alabama. *Tom Denton*, Auburn University at Montgomery.
11. 11:15 Diabetes or not? *Melinda Lawson*, University of Alabama in Huntsville.
- 11:30 Poster Session
- 12:15 LUNCH

SECTION IX – HEALTH SCIENCES

Session II

Thursday Afternoon

201 Harman Hall

R. Washington, Presiding

12. 1:15 Success or failure—where student choices lead. *Ina Warboys*, University of Alabama in Huntsville.
13. 1:30 Getting off to a good start: an asthma education intervention for school age children. *Stephanie Brooke Rhodes*, University of Alabama at Birmingham.
- 14.* 1:45 Parental knowledge of otitis media: a survey of parents in a rural Alabama community. *Jennie H. Stryker*, University of Alabama at Birmingham.
15. 2:00 Evaluation of bias and precision in a PT method. *Li Qian*, Virginia Hughes, Erin Caldwell, Adam Grooms, Latoya Jackson, Lisa Lucas, Erin Sanders, Crystal Webb and Jennifer Butrica, Auburn University at Montgomery.
- 16.* 2:15 The expression of CD44 in lymphangioliomyomatosis (LAM): an immunohistochemistry study. *Brian Gibbs*, Gustava Pacheco, Joel Moss, Michael Spencer and Zu-Xi Yu, Skillman College.
- 2:30 BUSINESS MEETING and INTERMISSION

17. 3:00 Characterization of the cardiovascular pericytes. *Eric James* and Ruth A. Washington, Stillman College.
18. 3:15 “Ouch! Can you hear me?” Nurses experience with postoperative neonatal pain. *Jennifer Hill*, University of Alabama at Birmingham.
19. 3:30 Elders’ impressions of ethicolegal issues in healthcare: a qualitative study. *Gabriella H. Cooper* and Ellen Buckner, University of Alabama at Birmingham.
20. 3:45 Pharmacodynamic and phytochemical investigations of polypodium polypodioides. *Norman J. Doorenbos* and Raghunandan Kumar Sharma, Auburn University.
21. 4:00 Writing to learn: in search of self. *M. Peggy Hays*, University of Alabama in Huntsville.
- 22.* 4:15 Application of the correlation coefficient in a method comparison study research. *Brent B. Barnes*, Auburn University.
23. 4:30 Community preparedness model for bioterrorism. *James A. Johnson* and Jerry Ledlow, Selma, AL.

SECTION IX – HEALTH SCIENCES

Poster Session

Thursday Afternoon

1st Floor Harman Hall

24. Epidural abscess: case report and literature review. *Robert E. Pieroni* and J. Ty Blackwell, University of Alabama.
25. An interesting case of macroamylasemia. *Robert E. Pieroni* and A. V. Mijumdar, University of Alabama.
26. Evaluation of drug-induced hepatotoxicity. *Robert E. Pieroni* and J. Ty Blackwell, University of Alabama.
27. Asthma resolution after discontinuing hormone replacement therapy. *Robert E. Pieroni* and Dorothy Pieroni, University of Alabama.

28. A new look at irritable bowel syndrome and a proposed treatment plan. *Carol A. Leitner, J. A. Dias and Keith L. Roberts, University of Alabama at Birmingham.*
29. Survey of beta-carotenes in native Zimbabwean fruit. *A. J. Patterson, R. M. Edwards, K. Lokko, R. Y. Stephenson and E. T. Gwebu, Oakwood College.*
30. Molecular chaperones involved in the cellular trafficking of rennin human kidney. *Marvin Jackson, Ruth Washington and Lee A. Aggison, Jr., Stillman College.*
31. Social self-efficacy and developmental outcomes of a young teen asthma camp. *Laura A. Frizzell, Ellen Buckner, Sharon Simmons, Ashley K. Hawkins, Jennifer A. Brakefield, Melissa Bibb and Chrissy Feeley, University of Alabama at Birmingham.*

*Denotes presentation is entered in competition

SECTION X -- ENGINEERING AND COMPUTER SCIENCE

Session I

Thursday Morning

225 Harman Hall

Robert Pitt, Presiding

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| 1.* | 9:15 | A process engineering agent framework using entropy management. <i>Rajani S Sadasivam, University of Alabama at Birmingham.</i> |
| 2. | 9:30 | Adaptive web based resource broker for the grid. <i>Enis Afgan, University of Alabama at Birmingham.</i> |
| 3. | 9:45 | MATBAC- Matrix Based Clustering Algorithm. <i>Yonghui Chen and Alan Sprague, University of Alabama at Birmingham.</i> |
| 4.* | 10:00 | A multi-dimension multi-process dynamic sequence alignment algorithm. <i>Garret Cox, University of Alabama at Birmingham.</i> |
| 5. | 10:15 | The feasibility of Fourier transforms in three-dimensional object recognition. <i>Isaac Dooley, Birmingham-Southern College.</i> |
| | 10:30 | INTERMISSION |
| 6.* | 10:45 | WebRun: a unified platform supporting grid computing environments. <i>Zhijie Guan, University of Alabama at Birmingham.</i> |
| 7.* | 11:00 | GenParse: an evolutionary approach to context-free grammar induction. <i>Faizan Javed, University of Alabama at Birmingham.</i> |
| 8. | 11:15 | Validating distributed real-time and embedded systems in UniFrame. <i>Shih-Hsi Liu, University of Alabama at Birmingham.</i> |
| 9. | 11:30 | Applying genetic programming techniques to context-free grammar inference. <i>Jun Shi, University of Alabama at Birmingham.</i> |
| 10. | 11:45 | Surface reconstruction using gamma shapes. <i>Ying Sun,</i> |

Maritta E. Cameron, and Kenneth R. Sloan, University of Alabama at Birmingham.

filters. *Uday Khambhammettu*, The University of Alabama.

SECTION X -- ENGINEERING AND COMPUTER SCIENCE

Session II

Thursday Afternoon

225 Harman Hall

Robert Pitt, Presiding

- 11.* 1:00 Overlapping of computation, communication, and I/O for high performance parallel computing. *Vijay Velusamy*, University of Alabama at Birmingham.
- 12.* 1:15 QoS prediction in component-based distributed systems. *Changlin Sun*, University of Alabama at Birmingham.
- 13.* 1:30 Scalable linear algebra library and benchmark. *Yin Liu*, University of Alabama at Birmingham.
- 14. 1:45 Disintegrating clusters. *Ying Liu* and Alan P. Sprague, University of Alabama at Birmingham.
- 15.* 2:00 Fuzzy optimization and normal simulation for solving fuzzy web queuing system problems. *Xidong Zheng*, Kevin Reilly, and James J. Buckley, University of Alabama at Birmingham.
- 16. 2:15 Source verification of inappropriate discharges to storm drainage systems. *Soumya Chaturvedula* and Yukio Nara, The University of Alabama.
- 17. 2:30 Distribution analysis for stormwater constituents. *Alexander Maestre*, The University of Alabama.
- 2:45 INTERMISSION
- 18. 3:00 The nature of imperviousness in urban watersheds. *Celina Micu*, The University of Alabama.
- 19. 3:15 Tracking stormwater heavy metal speciation changes from source areas to receiving waters. *Renee E. Morquecho*, The University of Alabama.
- 20. 3:30 Stormwater treatment at critical source areas using upflow

- 21. 3:45 Source quantification of inappropriate discharges to storm drainage systems. *Veerabhadra Rao Karri*, The University of Alabama.

- 22. 4:00 Sediment transport in grass swales. *Yukio Nara*, The University of Alabama.

4:15 BUSINESS MEETING

*Denotes presentation is entered in competition

SECTION XI -- ANTHROPOLOGY

Friday Afternoon

103 Harman Hall

Harry O. Holstein, Presiding

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| 1. | 12:30 | Twenty-five years of archaeological investigations at the Davis farm archaeological complex, Calhoun County, Alabama. <i>Harry Holstein</i> and Daniel Brooks, Jacksonville State University. | 10. | 3:50 | The directional significance of culturally utilized natural shelters in Alabama. <i>Kevin Harrelson</i> and Jeannine Windham, Jacksonville State University. |
| 2. | 12:50 | Kelly Springs (1Ta654), an Ellis Phase (850-1100AD) Site, Talladega County, Alabama. <i>Amy Eberhart and Hunter Johnson</i> , Jacksonville State University. | 11. | 4:10 | Late prehistoric politics in Northwestern Georgia. <i>Ramie A. Gougeon</i> , Panamerican Consultants, Inc. |
| 3.* | 1:10 | An analysis of Moundville Mound V Daub: Its role as an architectural indicator. <i>Jeffrey L. Sherard</i> , University of Alabama, Tuscaloosa. | 12. | 4:30 | A comparative chemical analysis of paint pigments on American Indian ceramics from Kasita (9Cel) and Pride Place (1Tu1). <i>Priscilla B. Ward</i> and Hunter Johnson, Jacksonville State University. |
| 4. | 1:30 | Alexander cultural ceramics of the Cahaba and Coosa River drainages in Alabama. <i>Steven Meredith</i> , University of Alabama, Tuscaloosa. | | 4:50 | BUSINESS MEETING |
| 5. | 1:50 | A preliminary comparative analysis of carbonized plant materials from the Hammonds site, Fort Payne, Alabama. <i>Heathe McCoy</i> , Mijitaba Hamissou, Harry Holstein, Hunter Johnson and Keith Little, Jacksonville State University. | | | |
| 6. | 2:10 | A reconsideration of sixteenth-century glass-bead chronology in the southeastern North America from a Holland perspective. <i>Tiffany Ward</i> and Keith Little, Jacksonville State University. | | | |
| | 2:30 | INTERMISSION | | | |
| 7. | 2:50 | Creating positive relations through communication, getting to know the Mowa Choctaw. <i>Rebecca Turley Ridley</i> , Jacksonville State University. | | | |
| 8. | 3:10 | The Maya of Guatemala: an ancient people in the modern world. <i>James Sewastynowicz</i> , Jacksonville State University. | | | |
| 9. | 3:30 | Analysis of human remains associated with a Byzantine church at Hacimusular, Turkey. <i>Andrea Boohaker</i> , Blanchie Asberry, Scotty Jones, Linnea Larson and Sarah Romines, Birmingham-Southern College. | | | |

**SECTION XII -- BIOETHICS AND HISTORY & PHILOSOPHY OF
SCIENCE**

**Friday Afternoon
225 Harman Hall
James Bradley, Presiding**

1. 1:00 Section XII Inaugural Address:
On the ethics of ethically restraining science. *Peter Harzem*,
Auburn University.
 2. 1:40 Euthanasia jurisprudence and physician-assisted suicide: what
have we learned? *Stephen W. White*, Auburn University.
 3. 2:00 Dude, only grown-ups die: communicating the health care
system to college students. *Kenneth E. Nusbaum*, Auburn
University.
 4. 2:15 English studies and biotechnology: applications of language
theory to genetic research. *Michelle Sidler*, Elizabeth Cater
Childs, and *Jessica Lueders*, Auburn University.
 5. 2:45 Identifying with nuclear power: examining the success of the
anti-nuclear movement, *Keith Gibson*, Auburn University.
 6. 3:05 History of the American Chemical Society's division of
fertilizer and soil chemistry (1909-2000). *Richard C. Sheridan*,
Tennessee Valley Authority.
 7. 3:25 The fate of the sciences. *Gerard A. Elfstrom*, Auburn
University.
 8. 3:45 Human nature and value creation. *Leonard W. Ortmann*,
National Center for Bioethics in Research and Health,
Tuskegee University.
 9. 4:05 Consent: bioethical and legal considerations that shape the
exercise of self-determination. *Jill A. Ross*, University of
Alabama at Birmingham.
 10. 4:25 Are embryos persons? *James T. Bradley*, Auburn University.
- 4:45 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.

2004 REGIONAL SCIENCE FAIRS

North Alabama	March 8-11	Calhoun Community College, George Williams 256.306.2838, Sue Mitchell 256.306.2655
West Alabama	March 12-13	University of West Alabama, Richard D. Holland, 205.652.3414
South	March 26-27	University of South Alabama, Satya Mishra, PH: 251.460.1642, Fax: 251.460.7969, e-mail: mishra@jaguar1.usouthal.edu
Central	March 26-27	University of Alabama at Birmingham, James C. Martin, Physics, 205.934.8090
Northeast	Feb. 26-27	Talladega College, Mrs. Gladys Mayers Swain 256.761.6308 x6308 FAX: (256) 362-1090 E-MAIL: gswain@talladega.edu
East Alabama	March 4-5	Chattahoochee Valley Community College, Phoenix City, Susan Marie McCollum, 334.291.4953, Fax: 334.291.4980, Mobile: 706.332.3109, Home: 334.749.8101, e-mail: susan.mccollum@cvcc.cc.al.us
State Fair	April 2-3	University of Alabama at Huntsville, Jim Miller, 256.824.2846

THE ALABAMA STATE SCIENCE AND ENGINEERING FAIR will be held April 2-3 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 FAX 202.785.1243. Internet: www.sciserv.org. The 54th Annual ISEF will be May 9-15, 2004 in Portland, Oregon. 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 2003-2004

Elementary Science Olympiad Tournaments

Geneva High School, November 8. Mr. Robert Chambless, lchambless@alaweb.com

University of West Alabama, Saturday, February 21. Dr. Donald Salter, Department of Biology, dsalter@uwa.edu, Livingston, AL Saturday, February ESO@UWA.edu

Jacksonville High School, May 8 or 15, David Peters, 1000 George Douthit Drive SW, Jacksonville, AL 36265 (256) 435-4177, ESOatJHS@hotmail.com

Auburn University, May 1. Greg Harris, Department of Mathematics, 218 Parker Hall, Auburn, AL 36830 harriga@mail.auburn.edu

Secondary Regional Science Olympiad Tournament

University of Alabama, February 14. Dr. Joe Benson, College of Arts & Sciences. dbenson@as.ua.edu, College of Arts & Sciences, Box 870268, Tuscaloosa, AL 35486 (205) 348-7007.

Auburn University, February 28, Dr. Steve Stuckwisch, Department of Geology, 108 Tichenor Hall, Auburn University, AL 36830. (251) 844-6575 sstuckwisch@charter.net

University of Alabama at Huntsville, February 21, Mrs. Vanessa Colebaugh, 1315 Pratt Ave., Huntsville, AL 35801. (256) 922-5747 nessacita@comcast.net.

University of South Alabama, March 6, Dr. Steve Itaya, Dept. of Biomed Science, UCOM 6000, Univ. of South Alabama, Mobile, AL 36608 (251) 380-2710 sitaya@jaguar1.usouthal.edu.

Jacksonville State University, February 28, Dr. David Steffy, Dept. of Physical/Earth Sciences, Jacksonville State University, 700 N Pelham Rd, Jacksonville, AL 36265 (256) 782-5966 dsteffy@jsucc.jsu.edu.

Secondary State Science Olympiad Tournaments

Huntingdon College, March 13, Dr. Sidney Stubbs, 1500 E Fairview Ave, Montgomery, AL 36106 (334) 833-4430
ssubbs@huntingdon.edu

Samford University, April 10, Dr. Perry Tompkins, 800 Lakeshore Drive, Birmingham, AL 35229-2245, (205) 726- 2329,
patompki@samford.edu

National Science Olympiad, Juniata College, Huntingdon, PA, May 21-22, 2004.

State Director: Jane Nall, 31110 Wakefield Drive, Spanish Fort, AL 36527 (251) 621-2911, Fax (251) 625-7032, email drnall@hotmail.com

Alabama Science Olympiad web page: www.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, 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:

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
2003 - 2004 Kanessa Miller, Auburn University

WRIGHT A. GARDNER AWARD RECIPIENTS FOR 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 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
2004 William J. Barrett, Southern Research Institute, Retired, Birmingham

ALABAMA ACADEMY OF SCIENCE SECTION OFFICERS

Section Officers: 2003 -2004	Chairs	Vice Chairs
I. Biological Sciences Univ.	Mark Meade (2004) Dept. of Biology Jacksonville State Univ. Jacksonville, AL 36265 256.782.5638 mmeade@jsucc.jsu.edu	Brian Burnes (2004) Dept. of Biology 302 Bibb Street Judson College Marion, AL 36756 334.683.5279/683.5100 bburnes@future.judson.edu
II. Chemistry	Vacant Chair position	
III. Earth Science	Inactive in 2003-04	
IV. Geography Forestry Conservation & Planning	William McAllister (2004) 3719 Railway Avenue Huntsville AL 35801 256.534.8354 wmcallister@aamu.edu	Selina Sultana Dept. of Geography Auburn University Auburn University, AL 36849 sultase@auburn.edu
V. Physics and Mathematics	John T. Tarvin (2004) Dept of Physics Samford University Birmingham, AL 35229 205.726.2817 jtтарvin@samford.edu	Henry W. Glotfelty (2004) Dept. of Physics Samford University Birmingham AL 35229 205.726.2450 hwgetfelty@samford.edu
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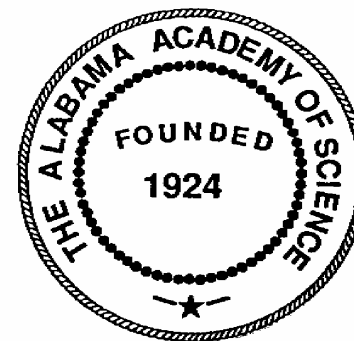
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