

**NINETY-SEVENTH ANNUAL MEETING
of the
ALABAMA ACADEMY OF SCIENCE, INC.**



Meeting Jointly With

**ALABAMA JUNIOR ACADEMY OF SCIENCE GORGAS
SCHOLARSHIP COMPETITION**

PROGRAM BOOK

March 18-20, 2020



Normal, AL

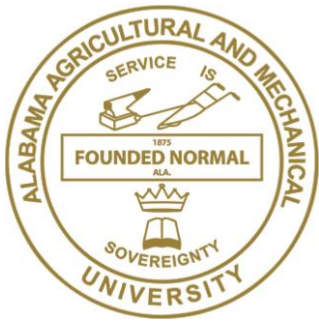
www.alabamaacademyofscience.org

<http://alabamajunioracademyofscience.org>

<http://alabamajunioracademyofscience.org/home/gorgas-scholarship-competition/>

CONTENTS

Welcome Messages.....	1
Local Arrangements Committee	5
General Information.....	6
Local Resources	6
Poster Presentation Information.....	7
Program of the Alabama Academy of Science	8
Program of the Alabama Junior Academy of Science	11
Gorgas Scholarship Program	13
Scientific Sessions.....	15
SECTION I. Biological Sciences	15
SECTION II. Chemistry	19
SECTION III. Physics and Mathematics	20
SECTION IV. Engineering and Computer Science	23
SECTION V. Social Sciences.....	25
SECTION VI. Anthropology	27
SECTION VII. STEM Education.....	28
SECTION VIII. Environmental and Earth Science.....	30
SECTION IX. Health Sciences	31
SECTION X. Bioethics & History & Philosophy of Science	33
AJAS Alabama Junior Academy of Science Paper Reading	35
GORGAS Gorgas Scholarship Competition	35
Objectives of the Alabama Academy of Science	39
Educational Activities of the Academy	39
2020 Regional, State, and International Science & Engineering Fairs	40
2020 Alabama Science Olympiads	42
William H. Mason Science Teacher Fellowship Recipients	44
Wright A. Gardner Award Recipients.....	45
Fellows of the Alabama Academy of Science.....	46
Section Officers of the Academy	47
Elected Officers of the Academy.....	49
Appointed Committees of the Academy.....	51
Past Presidents	55
Hosts for Future Alabama Academy of Science Meetings.....	57
Sponsors, Exhibitors and Acknowledgments	57
98 th Annual Meeting (2021).....	Inside Back Cover
Campus Map	Outside Back Cover



Alabama Agricultural & Mechanical University

OFFICE OF THE PRESIDENT

P. O. BOX 1357, NORMAL, ALABAMA 35762

March 18, 2020

Dear Alabama Academy of Science Members and Guests:

On behalf of our Board of Trustees, faculty, staff, students, and alumni, I am delighted to welcome you to Alabama A&M University on the occasion of the 97th meeting of the Alabama Academy of Science, the annual meeting of the Alabama Junior Academy of Science and the Gorgas Scholarship Competition.

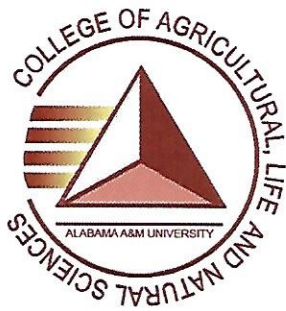
We applaud the Academy for your role in advancing science and recognizing individuals who contribute to the understanding and expansion of the intellectual body of scientific knowledge. We also applaud the tremendous opportunities for development, mentoring, and collaborations that are fostered through the Alabama Junior Academy of Science.

Alabama A&M University is indeed proud of her leading role as an 1890 Land Grant University and as a top producer of minority STEM graduates in the State. We continue to advance and embrace our tri-fold mission of teaching, research, and public service. For example, the university has hosted a Nobel Laureate annually for the past twenty one years (21) through Putcha Venkateswarlu Memorial Lecture Series. The university has a distinguished faculty that is actively engaged in cutting-edge research and education. The faculty has received recognition for their research productivity and research projects aimed at improving STEM education, particularly physics, throughout the state.

Please enjoy your visit here in Huntsville, Alabama, the technology hub of the State of Alabama and home to the second-largest research park in the nation. The area provides much in terms of activities but also many scientific-related venues including Redstone Arsenal, the U.S. Space and Rocket Center and NASA Marshall Space Flight Center. We know that you will have an intellectually enriching experience as you interact, collaborate, and exchange information with your fellow scientists. I thank you for visiting Alabama A&M University and allowing us to host this 97th meeting of the Academy.

Sincerely,

Andrew Hugine, Jr., Ph.D.
President



COLLEGE OF AGRICULTURAL, LIFE AND NATURAL SCIENCES

Alabama Agricultural & Mechanical University

300 Dawson Building, Post Office Box 1087

Normal, Alabama 35762

Office: 256.372.5783 FAX: 256.372.5906

March 18, 2020

On behalf of Alabama Agricultural and Mechanical University and the College of Agricultural, Life and Natural Sciences (CALNS), we extend to you a hearty Welcome to the “Hill”!!

This is a tremendous occasion and opportunity to host the Alabama Academy of Science (AAS) and the Junior Alabama Academy of Science (JAAS) on its 97th joint meeting.

As a viable contributor to the STEM efforts at this University and around the globe, CALNS is focused on introducing the next generation of scientists in the broad areas of biological and environmental sciences, family and consumer sciences, food and animal sciences and community and regional planning.

We are preparing students for a vast future in a changing and diverse world by continually challenging stereotypical conceptions of agriculture and related fields of study. Our mantra of *recruit, retain, educate* and *graduate* has become the foundational tenet on which our programs are built and have allowed us to birth successful professionals from our excellent academic programs.

As is the mission of the AAS, it is also our hope that we will further impact society as a whole through our scholarly works that will carry on through our research faculty, students, and the professionals we train.

Again, we say ‘Welcome’ and we are thrilled to have you to visit with us.

Most Sincerely,

Lloyd T. Walker, PhD

Dean and 1890 Research Director



Alabama A&M UNIVERSITY

COLLEGE OF ENGINEERING, TECHNOLOGY
& PHYSICAL SCIENCES
OFFICE OF THE DEAN
226 ARTHUR J. BOND HALL
NORMAL, ALABAMA 35762
(256) 372-5560 OFFICE

March 19, 2020

Greetings AAS/AJAS Participants!

Welcome to the 97th Annual Alabama Academy of Science Annual Meeting!

On behalf the faculty, staff and students in the College of Engineering, Technology and Physical Sciences (CETPS) at the Alabama A&M University (AAMU), I sincerely welcome you to our campus we affectionately call, "The Hill". We are so excited to host the meeting this year to promote the sciences in the state of Alabama.

The CETPS at the Alabama A&M University stands as a national leader in the education of African-American men and women in Science, Technology, Engineering, and Mathematics (STEM). Our mission is to transform lives through the power of STEM education. We are poised to add our voice to the critical national conversation surrounding the creation of a more diverse workforce in the STEM fields. Moreover, we challenge our students to push the frontiers of innovation and to dream not of today, but of tomorrow so when our students graduate they excel in private industry, government, and graduate school all over the country and the world. As a college we are prepared to grow to meet the educational needs of the 21st century.

Furthermore, I hope you will learn much about the critical role AAMU plays in promoting STEM education and research while you are on our campus. Our local arrangements committee have worked diligently for you to have a wonderful time of learning while you are here at Alabama A&M University!

Sincerely,

Zhengtao Deng, Ph.D.
Interim Dean and Professor





ALABAMA ACADEMY OF SCIENCE, INC

Colleagues,

Welcome to the 97th meeting of the Alabama Academy of Science. It is a privilege to serve as the Academy's President and to preside over this annual meeting.

In 1924, forty charter members gathered in Mobile, AL, to organize the Alabama Academy of Science. Together we will spend this three-day meeting learning about research conducted by scientists from across our state. College undergraduates, graduate students, and faculty will present their noteworthy findings in oral and poster presentations. Exceptional high school students who are involved in scientific research will also present their work in the Alabama Junior Academy of Sciences and the highly respected Gorgas Scholarship Competition.

I encourage you to attend as many presentations as possible, and ensure that some of the presentations you attend are across disciplines so as to experience the breadth of work being accomplished by scientists from Alabama. Much of what happens at this meeting occurs during the breaks between the sessions when we fulfill one of the major objects of the Academy: to increase cooperation and fellowship among its members. I would like to recognize the dedication of the trustees, executive committee members, and section chairs. I am also grateful for the tireless effort of the AAS Executive Director, Dr. Larry Krannich, without whom this meeting would not happen.

Finally, it is also a privilege to extend a welcome from our gracious hosts here at Alabama A&M and the local arrangements committee who have worked diligently to prepare for our arrival. I sincerely hope that you enjoy your time at the meeting and that you join us again next year.

Sincerely,

Drew Hataway, Ph.D.
President, Alabama Academy of Science

PRESIDENT • Drew Hataway
Department of Biological and Environmental Sciences • Samford University
Birmingham, AL 35229 • (205)726-4190
Email: rahatawa@samford.edu

LOCAL ARRANGEMENTS COMMITTEE

The Academy expresses its appreciation to the Alabama A&M University and the Local Arrangements Committee for planning and hosting this 97th Annual Meeting.

Chairperson: Dr. Matthew E. Edwards, Member of Wright Gardner and Fellow Award Committee;
Professor of Physics Alabama A&M University

Co-Chairperson: Dr. Yong Wang, Professor of Biometry and Wildlife, Alabama A&M University

Program Coordinators

Dr. Tyesha Farmer
Dr. Yong Wang (Chairperson)
Dr. Venkata Atluri
Dr. Elica Moss
Dr. Keneshia Johnson
Dr. Matthew Edwards

AJAS/Gorgas Coordinators/Judges

Dr. Yinshu Wu (Chairperson)
Dr. Afef Janen
Dr. Padmaja Guggilla

University Liaison Officers

Dr. Salam Khan (Chairperson)
Dr. Stephen Babalola

Posters

Dr. Gamal Eden Abdelrahim (Chairperson)
Dr. Afef Janen
Dr. Jordan Yin
Dr. Keneshia Johnson

AAS Promotions & Publicity

Dr. Salam Khan (Chairperson)
Dr. Gamal Eden Abdelrahim
Dr. Matthew Edwards

Speaker Coordination and Banquet Program

Dr. Yong Wang
Dr. Aschalew Kassu
Dr. Stephen Babalola (Chairperson)
Dr. Elica Moss
Dr. Matthew Edwards

AAS Registration & Student Support

Dr. Padmaja Guggilla (Chairperson)
Dr. Matthew Edwards
Dr. Afef Janen
Dr. Stephen Babalola
Dr. Armitra Jackson-Davis
Ms. Rhonda Whitman

AAS Food/Hospitality

Dr. Elica Moss (Chairperson)
Dr. Tyesha Farmer
Dr. Keneshia Johnson
Ms. Diane Kirnes

Technical Support/Website

Dr. Venkata Atluri (Chairperson)
Dr. Padmaja Guggilla
Dr. Zhengtao Deng

Signage

Dr. Derick Davis (Chairperson)
Dr. Armitra Davis
Dr. Aschalew Kassu

Parking, Buses, and Facility

Dr. Armitra Davis
Dr. Dedrick Davis
Dr. Jordan Yin (Chairperson)
Dr. Matthew Edwards

Audio Visual and Venue Management

Dr. Dedrick Davis
Dr. Armitra Davis (Chairperson)
Dr. Stephen Babalola

GENERAL INFORMATION

- Registration badges will be required for admission to paper/poster scientific sessions, Thursday evening Sci-Mix, and the banquet.
- Applications for membership and payments of annual dues will **not** be accepted at registration. Payment must be made at <http://www.alabamaacademyofscience.org/join-aas-2/> and is separate from registration payment. At least **one of the authors of a presented paper or poster must be a member** of the Academy.
- The **paper or poster presenter must be registered for the meeting** and wear the registration badge.
- Projectors interfaced to computers will be available in each oral session room.
- Tickets for the Joint AJAS/AAS banquet may be purchased at the registration desk until 9:30 AM Thursday.
- The Section Chairs and presenters are responsible for their computers.
- You will need to pick up a parking pass at the guard station upon entering the campus from the Chase Road entrance (the Visitor Parking Entrance). Parking is available in five designated parking lots near the Arthur J. Bond Engineering Building (#42 on map). You can park in unnumbered parking spaces, but do not park in numbered or reserved spaces. Please display your parking pass on the dashboard of your vehicle.
- A map of the Alabama A&M University campus can be found on the outside back cover of the program booklet.

LOCAL RESOURCES

On-campus police, fire, medical service:

- All Emergencies (Fire, Ambulance, Police):..... 911
- Alabama A&M University Police Department: (256) 372-5555
- Chief of Police, Nadis Carlisle, Alabama A&M University..... (256) 372-5548
- Title IX Coordinator, Dr. Jarrett Walton (256) 372-5835
- Sexual Assault Counselor, Tanisha Smith (256) 372-4499

POSTER INFORMATION

Alabama Academy of Science Poster set-up begins at 8:00 AM Thursday, March 19th in the **Arthur J. Bond Engineering Building – Auditorium**. **AAS Posters are available for viewing on Thursday from 10:30 AM until 5:00 PM according to the Sections’ schedule below**. Each poster is allotted **4' (horizontal) x 3' (vertical) of display space**. Authors for the section posters should be present for discussions with viewers and competition judges as designated by section chairs. **All posters should be removed at conclusion of the session and all must be removed by 5:00 PM.**

Gorgas Scholars and Junior Academy Posters may be set up beginning at **4:30 PM Thursday in the Arthur J. Bond Engineering Building – Auditorium**. Each poster is allotted **4' (horizontal) x 3' (vertical) of display space**. Posters will be available for viewing in the **Sci-Mix from 5:30 – 6:45 PM on Thursday**, prior to the joint banquet.

Poster Viewing Times

Thursday: Arthur J. Bond Engineering Building Auditorium

<i>Biological Sciences, I</i>	3:00 PM – 5:00 PM
<i>Chemistry, II</i>	10:30 AM – 12:00 Noon
<i>Physics and Mathematics III</i>	1:00 PM – 3:00 PM
<i>Engineering & Computer Science, IV</i>	11:30 AM – 1:00 PM
<i>Social Sciences, V</i>	11:00 AM– 1:00 PM
<i>STEM Education, VII</i>	1:00 PM– 2:00 PM
<i>Environmental and Earth Sci., VIII</i>	3:00 PM– 5:00 PM
<i>Health Sciences, IX</i>	11:00 AM – 12:00 Noon
<i>Bioethics and History & Philosophy of Science</i>	3:15 PM– 4:00 PM
<i>Sci-Mix (AJAS and Gorgas)</i>	5:30 PM – 6:45 PM

NOTE: Posters may be set up in the **Engineering Building Auditorium** beginning at 8:00 AM, Thursday, March 19th. Locate posters by cards on poster boards indicating Section and Poster # in program booklet (eg. V-10).

All Senior Academy posters must be removed by 5:00 PM for Sci-Mix program viewing at 5:30 PM.

**Program of the Alabama Academy of Science
 March 18-20, 2020
 Arthur J. Bond Engineering Building (EB)
 Alabama A&M University
 Wednesday, March 18, 2020**

4:00 – 5:30 PM Registration..... 1st Floor EB
 6:00 – 7:00 PM Executive Committee Dinner Bonefish Grill
 7:00 – 9:00 PM Executive Committee Meeting Bonefish Grill
 Bonefish Grill, 4800 Whitesburg Dr. SW, Huntsville, AL 35802

Thursday, March 19, 2020

7:00 AM – 3 PM Registration..... 1st Floor EB

8:00 AM – Noon: Academy of Science Program Paper Sessions [All rooms are in Arthur J. Bond Engineering Building (EB)]

8:30 AM Biological Sciences I (Section I) Room 136
 8:30 AM Physics and Mathematics (Section III) Room 119
 10:00 AM Engineering and Computer Science (Section IV)..... Room 103
 9:00 AM Health Sciences (Section IX) Room 120
 9:00 AM Social Sciences I (Section V) Room 102
 9:00 AM Bioethics, History and Philosophy of Science (Section X) Room 101

10:00 AM Coffee Break..... 1st and 2nd Floors EB

AAS Posters

8:00 -11:30 AM Poster Set-Up (All Sections)..... EB Auditorium

10:00 AM–4:30 PM Poster Viewing (All Sections)..... EB Auditorium
 (All posters must be removed by 5:00 PM)

Authors present:

10:30 AM – Noon..... Chemistry (Section II)
 11:00 AM – Noon..... Health Sciences (Section IX)
 11:00 AM– 1:00 PM..... Social Sciences (Section V)
 11:30 AM – 1:00 PM..... Engineering and Computer Science (Section IV)
 1:00 PM– 2:00 PMSTEM Education (Section VII)
 1:00 PM – 3:00 PM Physics and Mathematics (Section III)
 3:00 PM– 5:00 PMEnvironmental and Earth Science (Section VIII)
 3:00 PM – 5:00 PM Biological Sciences (Section I)
 3:015PM– 4:00 PM Bioethics and History & Philosophy of Science (Section X)

12:00 Noon Group Photograph AASOutside Engineering Building Entrance

Noon – 1:00 PM Lunch Rooms 110 & 118

12:30 – 1:00 PM AAS/AJAS Joint Annual Business Meeting Room 110

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

All Rooms are located in Arthur J. Bond Engineering Building (EB)

1:00 PM	Biological Sciences II (Section I).....	Room 136
1:00 PM	Bioethics & History & Philosophy of Science (Section X)	Room 101
1:00 PM	Social Sciences (Section V).....	Room 102
2:00 PM	STEM Education (Section VII)	Room 103
5:30 – 6:45 PM	Sci-Mix/Viewing of AJAS & Gorgas Scholars' Posters	EB Auditorium
7:00 PM	Joint AJAS/AAS Banquet	Knight Center (#3 on map)

Banquet speaker: Jody Singer, Director of NASA's Marshall Space Flight Center

"Inspiring the Artemis Generation"

Guests of Honor:

Dr. Andrew Hugine, Jr., President
Alabama A&M University

Dr. Zhengtao Deng, Interim Dean, College of Engineering, Technology and Physical Sciences, and
Professor

Dr. Daniel Wims, Provost and Vice President for Academic Affairs and for Research, and
Professor of Agricultural Sciences

Dr. Lloyd Walker, Dean and Research Director, College of Agricultural, Life and Natural
Sciences, and Professor

Presided by: Dr. Drew Hataway, President, AAS
Sejal Srevastava and Viraj Kacker, Co-Presidents, AJAS

**Program of the Alabama Academy of Science
 March 18-20, 2020
 Arthur J. Bond Engineering Building (EB)
 Alabama A&M University**

Friday, March 20, 2020

7:15 – 8:00 AM	AJAS Judges Orientation.....	Room 120
7:15 – 8:00 AM	Gorgas Judges Orientation.....	Room 120
7:30 – 8:00 AM	Paper Reading Orientation.....	Room 136
8:00 AM	Paper Competition	
	Life Sciences	Room 101
	Physical Science	Room 102
	Engineering, Mathematics and Computer Science.....	Room 103
	Environmental Science, Earth Science, and Space Science	Room 119
	Medicine and Health, Behavioral, and Social Sciences	Room 110
9:30 AM	Training on Experimental design, scoring rubrics, AEOP opportunities and college applications (Dr. Mark Jones, State AJAS Director).....	Room 120
9:30 AM	Coffee Break.....	1 st Floor
11:30 AM	Elections and Business Meeting.....	Room 136
12:00 Noon	AJAS-Gorgas Group PhotoOutside EB Entrance
12:00 Noon	Lunch; Box Lunches	Auditorium
Noon-1:00 PM	Luncheon Speaker: Dr. Richard M. Myers	Auditorium
	Science Director and Faculty Investigator, Hudson Alpha Institute for Biotechnology, Huntsville, Alabama <i>The Joys of Scientific Inquiry and Teaching</i>	

ALABAMA JUNIOR ACADEMY OF SCIENCE

March 19-20, 2020

Arthur J. Bond Engineering Building (EB)

Alabama A&M University

Thursday, March 19, 2020

12:30 -1:00 PM	Joint AAS/AJAS Business.....	Room 110
2:00 – 6:00 PM	Registration.....	1 st Floor EB Facing the Lake
4:00 – 5:00 PM	Poster Set-up.....	EB Auditorium
4:00 PM	AJAS Orientation	Room 119
5:30 – 6:45 PM	“Sci-Mix”: Viewing of AJAS and Gorgas Scholars’ Posters.....	Auditorium
7:00 PM	Joint AJAS/AAS Banquet	Knight Center (#3 on map)

Banquet speaker: Jody Singer, Director of NASA’s Marshall Space Flight Center

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ALABAMA JUNIOR ACADEMY OF SCIENCE

March 19-20, 2020

Arthur J. Bond Engineering Building (EB)

Alabama A&M University

Friday, March 20, 2020

Breakfast on your own; hotel and town locations

7:00 AM	Registration	1 st Floor Facing the Lake
7:15 AM	AJAS Judges Orientation	Room 120
7:30 AM	Paper Reading Orientation	Room 136
8:00 AM	Paper Competition	
	Life Sciences	Room 101
	Physical Science	Room 102
	Engineering, Mathematics and Computer Science.....	Room 103
	Environmental Science, Earth Science, and Space Science	Room 119
	Medicine and Health, Behavioral, and Social Sciences	Room 110
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9:30 AM	Coffee Break.....	1 st Floor
11:30 AM	Elections and Business Meeting.....	Room 136
12:00 Noon	AJAS-Gorgas Group Photo	Outside EB Entrance
12:00 Noon	Lunch; Box Lunches	Auditorium
Noon-1:00 PM	Luncheon Speaker: Dr. Richard M. Myers..... Science Director and Faculty Investigator, HudsonAlpha Institute for Biotechnology, Huntsville, Alabama <i>The Joys of Scientific Inquiry and Teaching</i>	Auditorium
1:15 PM	AJAS Paper Competition Finals.....	Room 110
2:45 - 3:30 PM	Afternoon Break	1 st Floor
2:30 – 3:15 PM	AJAS Judges meeting	2 nd Floor Conference Room
3:15 PM	Awards Reception, Joint AJAS/Gorgas	Auditorium

GORGAS SCHOLARSHIP COMPETITION

March 19-20, 2020

Arthur J. Bond Engineering Building (EB)

Alabama A&M University

Thursday, March 20, 2020

4:00 – 5:00 PM	Registration..... 1 st Floor Engineering Building Facing the Lake
4:30 - 5:15 PM	Gorgas Orientation Room 130
4:00 – 5:30 PM	Poster Set-up..... EB Auditorium
5:30 – 6:45 PM	“Sci-Mix”: Viewing of AJAS and Gorgas Scholars’ Posters.. EB Auditorium
7:00 PM	Joint AJAS/AAS Banquet Knight Center (#3 of map)

Banquet speaker: Jody Singer, Director of NASA’s Marshall Space Flight Center

"Inspiring the Artemis Generation"

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Presided by: Dr. Drew Hataway, President, AAS
Sejal Srevastava and Viraj Kacker, Co-Presidents, AJAS

GORGAS SCHOLARSHIP COMPETITION

March 19-20, 2020

Arthur J. Bond Engineering Building (EB)

Alabama A&M University

Friday, March 20, 2020

Breakfast on your own; hotel and town locations

7:00 AM	Registration.....	1 st Floor Facing the Lake
7:15 AM	Gorgas Judges Orientation.....	Room 120
7:00 – 8:45 AM	Set Up Science Exhibits/Display/Poster/Orientation	Auditorium
8:45 – 9:45 AM	Demonstrations for Judges	Auditorium
10:00 AM – Noon	Individual Interviews with Judges will be conducted at the poster presentation sites.....	Auditorium
12:00 Noon	AJAS-Gorgas Group Photo	Outside Engineering Building Entrance
12:00 Noon	Lunch: Box Lunches	Auditorium
Noon – 1:00 PM	Keynote Speaker: Dr. Richard M. Myers	Auditorium
	Science Director and Faculty Investigator, HudsonAlpha Institute for Biotechnology, Huntsville, Alabama , <i>The Joys of Scientific Inquiry and Teaching</i>	
12:00 – 1:00 PM	Gorgas Judges Executive Session.....	2 nd Floor Conference Room
1:15 PM	AJAS Paper Competition Finals.....	Room 110
2:45 - 3:30 PM	Afternoon Break	1 st Floor
2:55 PM	Remove Posters and Displays.....	Auditorium
3:15 PM	Awards Reception, Joint AJAS/Gorgas.....	Auditorium

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

The Gorgas Scholarship Competition website,
<http://alabamajunioracademyofscience.org/home/gorgas-scholarship-competition/>,
contains detailed information on the annual competition and awards available to winners and finalists.

SECTION I – BIOLOGICAL SCIENCES
Paper Session I
Thursday Morning, 8:30 AM – 11:30 AM
Arthur J. Bond Hall Engineering Building – Room 136
Brad Bennett, Presiding

1. 8:30 ****g** Individual and Temporal Variation of Wintering Whooping Cranes at Wheeler National Wildlife Refuge, Alabama. *Andrew Cantrell*, Yong Wang, Alabama A&M University.
2. 8:50 ****g** Determining Mercury Concentrations in Turtles While Identifying Areas of Concern at Wheeler National Wildlife Refuge, Alabama. *Andrew Cantrell*, Yong Wang, Irenus Tazisong, Alabama A&M University.
3. 9:10 ****g** Nociception, Stress, and Temperature Preference in the Zebrafish *Danio rerio*. *Chris Taylor*, Stephen Watts, University of Alabama at Birmingham.
4. 9:30 ****u** Preliminary Measurements Of Estrogen Levels Detected In Northeast Alabama Waterways Using ELISA With Imagej Readplate Plugin Analysis. *Ansley Winter*, James Rayburn, Jacksonville State University.
5. 9:50 Culture Conditions for Production of Trichoderma SG2 Biomass-Hydrolyzing Enzymes for Biomass Saccharification. *Benedict Okeke*, Auburn University in Montgomery; Ananda Nanjundaswamy, Auburn University at Montgomery and Alcorn State University.
- 10:10 COFFEE BREAK**
6. 10:30 Diet, Anxiety and GI Quality of Life: Is There a Link? *Mickie Powell*, Bijal Vashi, Rosianna Gray, Alan Whitehead, Chris Graham, Amandiy Liwo, Stephen Watts, Gregory Kennedy, University of Alabama at Birmingham.
7. 10:50 ****u** Identification and Expression of NAD⁺ Synthesis Salvage Pathway Enzymes in *Lactobacillus*. *Silvia Kinnebrew*, Bryce Pierce, Brad Bennett, Samford University.
8. 11:10 ****g** Implementation of Drone-Based Technology for Surveying Saltmarsh Habitat for the Diamondback Terrapin. *Nicole Conner*, Thane Wibbels, Ken Marion, Catherine Sirgo, University of Alabama at Birmingham.
9. 11:30 ****g** A new eucryptodiran turtle (Testudines, Macrobaenidae) from the Campanian Of Alabama, USA. *Andrew Gentry*, University of Alabama at Birmingham; James Parham, University of California at Fullerton.

12:00 noon LUNCH

****u** or ****g** Denotes presentation entered in student competition as an undergraduate or graduate student, respectively.

SECTION I – BIOLOGICAL SCIENCES
Paper Session II
Thursday Afternoon, 1:00 PM – 3:00 PM
Arthur J. Bond Hall Engineering Building – Room 136
Mary Anne Garner, Presiding

10. 1:00 ****u** The Pursuit Of Little-Known Biodiversity: A Survey Of Bryophilous Fungi In An Alabama Woodlot. Brenn Schmittou, University of North Alabama; *Peter Döbbeler*, Ludwig Maximilian University of Munich; Paul Davison, University of North Alabama.
11. 1:20 ****u** Varied Enrichment for African Lions (*Panthera leo*) and Cheetahs (*Acinonyx jubatus*). *Amanda Beddingfield*, Faulkner University.
12. 1:50 ****g** Immunohistochemical Assessment of the Mechanisms by Which Chemical Dispersant (Corexit 9500A) Affects the Structure and Ion Transport Function of Blue Crab (*Callinectes sapidus*) Gills. *Amanda Weiner*, Joseph W. Palmer, R. Douglas Watson, University of Alabama at Birmingham
13. 2:10 The Rett-Syndrome MECP2 Allele In Mice Does Not Appear To Increase The Nuclear Or Mitochondrial Gene Mutation Rate. *Mary-Catherine Mitchell*, Hannah Olive, Katherine Wilson, Coleman Reeves, David Johnson, Samford University.
14. 2:30 Space Use And Roost-Site Selection By Male Cerulean In Alabama During The Breeding Season. *Yong Wang*, Alabama A&M University; John Carpenter, Alabama A&M University; Callie Schweitzer, Southern Research Station, USDA Forest Service.
15. 2:50 ****g** Abiotic Factors that Influence Cave Use by Salamanders. *Joseph Lamb*, Andrew Cantrell, Yong Wang, Alabama A&M University; Matthew Niemiller, University of Alabama Huntsville.

****u** or ****g** Denotes presentation entered in student competition as an undergraduate or graduate student, respectively.

SECTION I – BIOLOGICAL SCIENCES
SECTION VIII – ENVIRONMENTAL AND EARTH SCIENCES
Concurrent Poster Session
Thursday Afternoon
Arthur J. Bond Hall Engineering Building – Auditorium

Authors Set-up: Begins at 12:00 Noon
Authors Present: 3:00 PM– 5:00 PM Viewing and Judging
Brad Bennett, Presiding (Biological Sciences)
Malia Fincher, Presiding (Environmental and Earth Sciences)

SECTION I – BIOLOGICAL SCIENCES
Posters

16. **g Growth And Productivity Of Loblolly Pine In Response To Bark Beetle Associated Fungi. *John Mensah*, Auburn University; Mary Sword Sayer, USDA Forest Service, Southern Research Station, Pineville, LA.; Ryan Nadel, Auburn University; George Matusick, New York City Department of Environmental Protection, Bureau of Water Supply, Natural Resources Division.; Zhaofei Fan, Auburn University; Lori Eckhardt, Auburn University.
17. **g Comparative Transcriptome And Epigenome Analyses Of Salt-Tolerant And Salt-Susceptible Genotypes Of Soybean. *LaMont Croom*, Zachary Gossett, Govind Sharma, Venkateswara Sripathi, Alabama A&M University.
18. **g Transcriptome Analyses of Four *Gossypium* Species Using RNA Sequencing. *Shalini Priya Etukuri*, Zachary B. Gossett, Manish Jakka, Govind C. Sharma, Venkateswara R. Sripathi, Alabama A&M University.
19. **u The Effects of Salinity Stress on Sensitive and Salt- tolerant Genotypes of Soybean. *Kindrea Gibbons*, LaMont Croom, Govind C. Sharma, Venkateswara R. Sripathi, Alabama A&M University.
20. **u The Lesser of Two Weevils: Weevil Infested White Oak Acorns Have a Higher Microbial Richness. *Hannah Harper*, Abigail Collins, Frank Gonzalez, Dr. Malia Fincher, Samford University.
21. **u The K(3) Herbicide Allidochlor Can Cause Variations In The Biosynthesis Of Alkenones In *Emiliana Huxleyi* Strain 1516. *Frank Gonzalez*, Samford University; Betsy Read, California State University of San Marcos.
22. **g A Comprehensive Identification of Glutathione-Binding Proteins in *Arabidopsis thaliana*. *Anna Moye*, Sangwook Park, Skylar Wilson, Auburn University.
23. **g Glutathione Activates Autonomous Reductant Signaling Cascades Independently From Oxidative Stress Signaling. *Pratima Subedi*, Sang Wook Park, Auburn University.
24. **g Microbial Diversity Associated with the Oral and Fecal Samples of White-Nose Syndrome (WNS) Infected Gray Bats and Tricolored Bats. *Kristina Burns*, Venkateswara Sripathi, William Stone, Jeanette Jones, Leopold Nyochembeng, Govind Sharma, Alabama A&M University.
25. **u The Influence of pH on Bacterial Community Composition of Soils from the Winfred Thomas Agricultural Research Station. *Jayla Pettway*, Elica Moss, Alabama A&M University.

26. **g Uncovering the Dirt on North Birmingham. *Sarah Adkins*, Qutia Roberts, Robert Aksycn, Sam Gregory, Kathryn Aler, and Alex Dawson, University of Alabama at Birmingham; and Brad Bennett, Samford University.
27. **u Environmental Impact Assessment of Property Trends to Stimulate Revitalization in Africatown, Mobile, AL Using Arc GIS. *Sameerah Rice*, Elica Moss, Alabama A&M University.
28. **g Evaluating the role of Innate Immune Gene Expression in Melanocyte Biology. *Alex Dawson*, Melissa Harris, Joseph Palmer, University of Alabama at Birmingham.
29. **u Effects of Nitrotyrosine on Dopaminergic SH-SY5Y Cells: Implications for Parkinson's Disease. *Allie Smith*, Mary Anne Garner, Judson College.
30. **g Establishing the Efficacy, Accuracy, and Reproducibility of a Brain Metabolite Isolation Protocol. *Victoria McConnell*, Bernhard Vogler, Sharifa Love-Rutledge, University of Alabama in Huntsville.
31. **g Trouble with the Tight Junction: The effects of TGF- β in PAH. *Alyssa Pace-Patterson*, Jonathan Brown, Caleb Hamilton, Adam Morrow, Audrey Vasauskas, Rebekah Morrow, Alabama College of Osteopathic Medicine.
32. **u Interface Oriented Behaviors In The Coastal Lobate Ctenophore Mnemiopsis Leidyi. *Angeline Lawson*, Anthony Moss, Auburn University.
33. **g Contrasting Differential Gene Expression to Heat or Fire Ant Envenomation in *Sceloporus undulatus*. *Dasia Simpson*, Auburn University; Rory Telemeco, California State University, Fresno; Tracey Langklide, Penn State University; Tonia Schwartz, Auburn University.
34. **u Creeper Ants Take the Bait. *Olivia Rice*, Jacob Dittel, Paul Davison, University of North Alabama.
35. **g Evaluating The Impact of Predators Against Diamondback Terrapin Nests in Alabama. *Catherine Sirgo*, Thane Wibbels, Nicole Conner, Ken Marion, University of Alabama at Birmingham.

SECTION VIII – ENVIRONMENTAL AND EARTH SCIENCES

Posters

Malia Fincher, Presiding

1. **g Thermoregulatory Gene Variation in the Eastern Fence Lizard (*Sceloporus undulatus*) in Response to Silviculture Treatments in a Southeastern Hardwood Forest. *Thomas Haltigan*, Alabama A&M University; Yong Wang, Alabama A&M University; William Sutton, Tennessee State University; Venkateswara Sripathi, Alabama A&M University.
2. **u Bacterial Community Composition of Biochar Amended Soil. *Autumn Hill*, Elica Moss, Alabama A&M University.

**u or **g Denotes presentation entered in student competition as an undergraduate or graduate student, respectively.

SECTION II – CHEMISTRY
Poster Session
Thursday Morning
Arthur J. Bond Engineering Building, Auditorium
Authors Set-up: Begins at 10:30 AM
Authors Present: 11:00 AM – Noon; Viewing and Judging
Christopher Stopera, Presiding

1. **u A Thermogravimetric Analysis of Tetrachloroethylene-Methyl Methacrylate Copolymers. *Peter Cote*, Loren Cheatwood, Donna Perygin, Jacksonville State University.
2. **u Synthesis and Characterization of Li doped KDP. *Niya Mayo*, Kourtney Steen, Kamala Bhat, Aschalew Kassu, Alabama A&M University.
3. **u Thermal Degradation of Polyethylene and Polypropylene under Plastic Recycling Condition – A Study of Volatile Compound Profile. *Du Luu*, Logan Ledbetter, and Shaoyang Liu, Troy University.
4. **u Synthesis of Triarylsulfonium Ionic Liquids. *Jeanette Pina*, Amanda Coffman, University of North Alabama.

12:00 Noon

BUSINESS MEETING: Elect Section Vice-Chair for 2020-22

**u or **g Denotes presentation entered in student competition as an undergraduate or graduate student, respectively.

SECTION III – PHYSICS AND MATHEMATICS

Paper Session

Thursday Morning, 8:30 AM– 12:00 PM

Arthur J. Bond Engineering Building, Room 119

Wen Yan & Matthew Edwards, Presiding

1. 8:30 Highly Dispersive Optical Soliton Perturbation with Polynomial Nonlinearity by Semi Inverse Variational Principle. *Anjan Biswas*, Alabama A&M University.
2. 8:50 Rapid Particle Acceleration due to Recollimation Shocks and Turbulent Magnetic Fields in Injected Jets with Helical Magnetic Fields. *Kenichi Nishikawa*, Alabama A&M University.
3. 9:10 **u Mapping Sound Waves. *Suraj Thapa Magar*, James Sanders, Nicholas Johnson, Soumitra Ganguly, Caroline Howell, Troy University.
4. 9:20 A Sparse Bayesian Vector Regression Model. *Yijun Yu*, Tuskegee University.
5. 9:40 **u Building an Arduino-Based Sound Sensor for Mapping Sound Waves. *Nicholas Johnson*, James Sanders, Troy University.
- 10:00 Break
6. 10:20 Statistical Approximations of Generalized Negative Binomial Distribution. *Salam Khan*, Alabama A&M University.
7. 10:40 **u Angle Scans of Scattered Light Intensity. *Caroline Howell*, James Sanders, Nick Johnson, Troy University.
8. 11:00 Transforming High School Physics Education Through Teacher Professional Development in the State of Alabama. *Mohan Aggarwal*, Marius Schamschula, Vernessa Edwards, Barbara Cady, Dianne Kirnes, Matthew Edwards, Alabama A&M University.
9. 11:20 Enhancement of the Electroactive β Phase in the Hydrothermally Synthesized Pr₂O₃ Nanoparticle Incorporated PVDF Films. *Arun Kuzhivelil Joseph*, Mohan Aggarwal, Alabama, Ashok Batra, Alabama A&M University; Sree Kerala Varma College, Thrissur, Kerala, India.
10. 11:40 **u A study of laser-excited fluorescence from rubies and sapphires. *Isaiah Clotfelter*, D. Brian Thompson, University of North Alabama.

**u or **g Denotes presentation entered in student competition as an undergraduate or graduate student, respectively.

SECTION III – PHYSICS AND MATHEMATICS

Poster Session

Author Setup Begins: 12:00 noon

Authors Present: 1:00 pm – 3:00 pm Viewing and Judging

Thursday Afternoon, 1:00 pm – 3:00 pm

Arthur J. Bond Engineering Building Auditorium

Wen Yan & Matthew Edwards, Presiding

11. **g Compositional Dependence Of Borate Glasses For White Light Emission Studies. *Ashley Owens*, Alabama A&M University.
12. **u Absorption and Laser Induced Fluorescence Studies of Chlorophyll. *Clay Thompson*, Jayla Brantley, Ariana Black, Archana Sharma, Akshaya Kumar, Tuskegee University.
13. **u Quantized Particles Responsible For Conduction. *Jared Savage*, Daniel Lindo, Taylor Jones, Prakash Sharma, Tuskegee University.
14. **g Investigation Of Phosphate Glasses For White Light Emission. *Mersaydes Goodson*, Rami Bomareddi, Alabama A&M University.
15. **u NLP Analysis and Interactive Visualization of Movie Data. *Sheng Gao*, Mingwei Sun, Samford University.
16. **u A Search for Variable Stars in the Old Open Cluster NGC3680. *Derick Vickery*, Mel Blake, University of North Alabama
17. **u Phonon Scattering In Pure Semiconductors. *Taylor Jones*, Jared Savage, Daniel Lindo, Prakash Sharma, Tuskegee University.
18. **u A Spectroscopic Study of Delta Scorpius. *Harrison Whitaker*, Mel Blake, University of North Alabama.
19. The Indian Anti-Satellite Experiment: Fragments Dispersion Analysis. *Arjun Tan*, Alabama A&M University.
20. **u Energy Generation from Transistors. *Mordecai Israel*, Rebecca Glenn, Zhigang Xiao, Alabama A&M University.
21. A CME-Producing Solar Eruption from the Interior of a Twisted Emerging Bipole. *Mitzi Adams*, Marshall Space Flight Center; Ronald Moore, University of Alabama in Huntsville; Sanjiv Tiwari, Lockheed Martin Solar and Astrophysics Laboratory; Navdeep Panesar, Lockheed Martin Solar and Astrophysics Laboratory; David Falconer, University of Alabama in Huntsville.
22. **u Effects of Doping with MWCNT on Bandgap Energies in Composite Thin Films. *LaMaia Sanders*, Alabama A&M University.
23. **g Improving the Performance of Ferroelectric Polymer Nanocomposites via Perovskite Materials. *Sharvare Palwai*, Padmaja Guggilla, Alabama A&M University.
24. **g Development of Nanocomposite Films for Biomedical Applications. *James Sampson*, Adina Showe, Ashley Lewis, Ashok Batra, Kuzhivelil Arun, Alabama A&M University.

25. The Indian Anti-Satellite Experiment: Puzzles and Answers. *Arjun Tan*, Alabama A&M University.
26. Obtaining Elliptical Sections by Intersecting a Right-Circular Cone with a Plane. *Arjun Tan*, Alabama A&M University.
27. Semi-Empirical/Analytical Formulas for Opening Wicket Partnership in Test Cricket. *Arjun Tan*, Alabama A&M University.

****u** or ****g** Denotes presentation entered in student competition as an undergraduate or graduate student, respectively.

SECTION IV. ENGINEERING AND COMPUTER SCIENCE

Paper Session

Thursday Morning, 10:00 – 11:00 AM

Arthur J. Bond Engineering Building, Room 103

Ravi Gollapalli, Presiding

1. 10:00 ****u** An Introduction to Object-Relational Mappers. *Michael Porter*, Alabama A&M University.
2. 10:20 Surface Engineering of Bio-materials Using Cold Plasma Processing. *Vinoy Thomas*, University of Alabama at Birmingham.
- 11:00 BUSINESS MEETING
 Election of Section Vice-Chair 2020-22

****u or **g** Denotes presentation entered in student competition as an undergraduate or graduate student, respectively.

SECTION IV. ENGINEERING AND COMPUTER SCIENCE

Poster Session

Thursday Morning/Afternoon

Arthur J. Bond Engineering Building, Auditorium

Authors Set-up: Begins at 11:00 AM

Authors Present: 11:30 AM –1:00 PM Viewing and Judging

Ravi Gollapalli, Presiding

3. **u Raman Spectroscopic Study of Building Fire-Barriers. *Tyra Harris*, Aschalew Kassu, Anup Sharma, Alabama A&M University.
4. **u Quality Assurance and Reliability Analysis in Additive Manufacturing. *Adedotun Ayokanmbi*, Alabama A&M University.
5. **u Reliability Analysis Based Approach to Identify Vehicular Crash Potentials of State Highways and County Roads in Missouri using the Equivalent Property Damage Only Crash Indicator. *Fermin Ruiz Crespo*, Sudip Bhattacharjee, Alabama A&M University.
6. **u ANGEL SCAN: A Novel Approach of using Machine Learning to Detect Abnormalities in Medical Imaging. *Georgiana Wright*, Marius Schamschula, Alabama A&M University.
7. **u Spectral Characterization of Sealants used in Construction Industry. *Kwaneitra Powers*, William Petway, Aschalew Kassu, Anup Sharma, Alabama A&M University.
8. **u Analysis of Construction Work Zone Crashes in Alabama. *Hiram Davis*, Virgil Studdard, Aschalew Kassu, Mahbub Hasan, Anup Sharma, Alabama A&M University.
9. **u Prototyping A Spatial Atomic Layer Deposition System For Faster Nanomanufacturing. *John Lucius*, Tingyi Wei, Griffin Tull, Dongqing Pan, University of North Alabama.

**u or **g Denotes presentation entered in student competition as an undergraduate or graduate student, respectively.

SECTION V – SOCIAL SCIENCES
Paper Session I
Thursday Morning 9:00 AM – 11:00 AM
Arthur J. Bond Engineering Building, Room 102
Susan D. Herring, Presiding

1. 9:00 The Causes of Homelessness and the Characteristics Associated With High Risk of Homelessness: A Review of Intercity and Intracity Homelessness Data. *Deden Rukmana*, Alabama A&M University.
2. 9:20 Managing Contracts: DOD Approach. *Charles Roberts*, Bryan Kennedy, Athens State University.
3. 9:40 Contracting in the Presence of Insurance: The Case of Bioenergy Crop Production. *Mohit Anand*, Miles College; *Ruiqing Miao*, Auburn University; *Madhu Khanna*, University of Illinois at Urbana-Champaign.
4. 10:00 An Ethical Dilemma, or Different Perspectives. *Thomas Pieplow*, Bryan Kennedy, Susan D. Herring, Athens State University.
5. 10:20 Climate Induced Risks, Food Security and Resilience in the Deep South. *Berneece Herbert*, Judith Oppong, Jackson State University; *Colmore Christian*, Alabama A&M University.
6. 10:40 ****u** The History of Unionization. *Angela Miller*, Bryan Kennedy, Athens State University.

****u or **g** Denotes presentation entered in student competition as an undergraduate or graduate student, respectively.

SECTION V – SOCIAL SCIENCES
Paper Session II
Thursday Afternoon 1:00 PM –3:30 PM
Arthur J. Bond Engineering Building, Room 102
Susan D. Herring, Presiding

7. 1:00 The Development of a Competitive-Advantage Model for Online Education in a Small State University. *Michael Essary*, Athens State University.
8. 1:20 Educational Strategies for Mastery Learning in Higher Education. *Dana Wilchcombe*, Alabama A&M University.
9. 1:40 Albert Einstein and the Fringe Scholars: Immanuel Velikovsky and Charles H. Hapgood. *Ronald Fritze*, Athens State University.
10. 2:00 The Relationship between Mindfulness and Sleep Quality is Mediated by Emotion Regulation. *John Shelley-Tremblay*, Garret Talley, University of South Alabama.
11. 2:20 Perceptions of Open Educational Resources Among Students and Faculty. *Susan D. Herring*, Athens State University.

12. 2:40 ****u** (Pop) Cultural Geography: “Frozen” and “How To Train Your Dragon.”
Kaitlin Rayburn, Jacksonville State University.

3:00 BUSINESS MEETING Elect Section Vice-Chair 2020-22

****u or **g** Denotes presentation entered in student competition as an undergraduate or graduate student, respectively.

SECTION V – SOCIAL SCIENCES

Poster Session

Thursday Morning/Afternoon

Arthur J. Bond Engineering Building, Auditorium

Authors Set-up: Begins at 10:00 AM

Authors Present: 11:00-1:00 PM; Viewing and Judging

Susan D. Herring, Presiding

13. ****u** Personality Traits for Successful Negotiation. *Jonnie McCarley*, Bryan Kennedy, Athens State University.

14. ****g** Suicide by Firearm in Alabama. *Raven McClellan*, Mattea Parker, Austin Spencer, Imani Irby, John Heath, Tuskegee University.

15. ****g** Workplace Bullying: A Lose-Lose Situation. *Kaliah Robinson*, Sadguna Anasuri, Alabama A&M University.

16. ****g** Damsels in Distress: Healthcare Disparities Against African-American Women. *Melissa Robinson*, Sadguna Anasuri, Alabama A&M University.

****u or **g** Denotes presentation entered in student competition as an undergraduate or graduate student, respectively.

SECTION VI – ANTHROPOLOGY

No 2020 Program

SECTION VII: STEM EDUCATION
Paper Session
Thursday Afternoon 2:00 – 4:40 PM
Arthur J. Bond Engineering Building, Room 103
Sarah Adkins, Presiding

1. 2:00 ****g** Cognition and the 8th Grade Scientist: Strategies That Promote Thinking. *Chris Taylor*, University of Alabama at Birmingham; Tanya Hyatt, Indian Springs School.
2. 2:20 ****g** Why Does Our Work Matter? Connecting Microbiology Laboratory Curricula To North Birmingham Stakeholders. *Sarah Adkins*, University of Alabama at Birmingham; Brad Bennett, Samford University; Rob Akscyn, Jeff Morris, University of Alabama at Birmingham.
3. 2:40 ****u** Building a 3-D Model of the Mars Desert Research Station Using Additive Manufacturing. *Amelia Claire McCain*, Alabama A&M University; J Wayne McCain, Athens State University, Athens Renaissance School (ARS).
4. 3:00 ****u** Standup of a Mission Operations & Communications Center for the Mars Desert Research Station. *Kimberly Graham*, Katherine Brewer, J Wayne McCain, Athens State University.
5. 3:20 Can preschoolers do fractions? Yes, and fine motor skills predict their ability. *John Shelley-Tremblay*, Lindsey Clark, University of South Alabama; Julie Cwikla, University of Southern Mississippi.
6. 3:40 Legacy Simulation of Humans-To-Mars, Project Aries. *J Wayne McCain*, Athens State University; Wallace Price, University of Alabama; Sally McClelland, Auburn University; James E Young, Jacksonville State University; Samuel R Martin, Auburn University; James Garrett, Athens State University.
7. 4:00 Development of a "How To Create a Science Project" Podcast for STEM Enhancement. *J Wayne McCain*, Collin Rogers McCain, Athens State University; Tracy Chastain, Athens City/County Schools.
8. 4:20 Late College Career Interventions: Encouraging Women to Enter Computer Science Through Cross-Discipline Programs (A Case Study). *Sara Cline*, Athens State University.

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SECTION VII: STEM EDUCATION

Poster Session

Thursday

Arthur J. Bond Engineering Building, Auditorium

Authors Set-up: Begins a 12:00 noon

Authors Present. 1:00 – 2:00 PM, Viewing and Judging

Sarah Adkins, Presiding

9. ****g** Assessment of Teamwork Skills in Undergraduate Education. *Elizabeth Huckaby*, Monica Mason, Norman Estes, Samantha Giordano-Mooga, University of Alabama at Birmingham.
10. ****u** Undergraduate Research and Transferable skills: A Scoping Review. *Marissa Brasher*, Cameron Pittenger, Jenna Bae, Samantha Giordano-Mooga, Christine Loyd, University of Alabama at Birmingham.
11. Fermentation Fun: A Straightforward Active Learning Exercise That Blends Food Science, Microbiology, Molecular Biology, and Bioinformatics. *Brad Bennett*, Silvia Kinnebrew, Samford University; Shannon Carden, Magic City Ferments.
12. Career Development Enhances Transfer Student Success. *Betsy Dobbins*, Rita Malia Fincher, Samford University.

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SECTION VIII – ENVIRONMENTAL AND EARTH SCIENCES

Posters

Concurrent Poster Session with Section I – BIOLOGICAL SCIENCES

Thursday Afternoon

Arthur J. Bond Engineering Building – Auditorium

Authors Set-up: Begins at 12:00 Noon

Authors Present: 3:00 PM– 5:00 PM, Viewing and Judging

Brad Bennett, Presiding (Biological Sciences)

Malia Fincher, Presiding (Environmental and Earth Sciences)

1. ****g** Thermoregulatory Gene Variation in the Eastern Fence Lizard (*Sceloporus undulatus*) in Response to Silviculture Treatments in a Southeastern Hardwood Forest. *Thomas Haltigan*, Alabama A&M University; *Yong Wang*, Alabama A&M University; *William Sutton*, Tennessee State University; *Venkateswara Sripathi*, Alabama A&M University.
2. ****u** Bacterial Community Composition of Biochar Amended Soil. *Autumn Hill*, Elica Moss, Alabama A&M University.

****u** or ****g** Denotes presentation entered in student competition as an undergraduate or graduate student, respectively.

SECTION IX: HEALTH SCIENCES
Paper Session
Thursday Morning, 9:00 AM – 10:40 AM
Arthur J. Bond Engineering Building, Room 120
Ronald N. Hunsinger, Presiding

1. 9:00 AM Current Developments in the Use of Animal Models in Health Sciences. *Warren Jones*, Samford University; Rebecca Jones, University of Alabama at Birmingham.
2. 9:20 AM Cadaveric Dissection in the Education of Health Science Clinical Students. *Mark Caulkins*, Nick Washmuth, Brad Cantley, Paul Harrelson, Kathleen Caulkins Samford University.
3. 9:40 AM Virtual Dissection: Alternative to Cadaveric Dissection for a Pregnant Nurse Anesthesia Student. *Ronald N. Hunsinger*, Samford University; Nicholas Washmuth, Terri Cahoon, Katrina Tuggle, College of Health Sciences. Samford University.
4. 10:00 AM Breast Cancer Diagnostic Technologies: Today and Tomorrow. *Donna Cleveland*, University of South Alabama.
5. 10:30 AM BUSINESS MEETING

Elect Section Vice-Chair 2020-22

****u or **g** Denotes presentation entered in student competition as an undergraduate or graduate student, respectively.

SECTION IX: HEALTH SCIENCES

Poster Session

Thursday Morning

Arthur J. Bond Engineering Building, Auditorium

Authors Set-up: Begins at 8:30 AM

Authors Present: 11:00 AM - 12:00 Noon for Viewing and Judging

Ronald N. Hunsinger, Presiding

6. Anatomic Variants in Student Cadaveric Dissection. *Mark Caulkins*, Nick Washmuth, Brad Cantley, Kathleen Caulkins, Samford University.
7. **g Impact of a Nurse-Led Implementation of a Fall Prevention Toolkit for Older Adults in a Mobile IPE Community Clinic: A Pilot Study. *Tiffani Chidume*, Auburn University.
8. **u Unpacking the C3 Logix and SCAT 5 evaluation tools: A look at how contact and non-contact sports affect neural cognition. *Greg Jenkins*, Samantha Giordano-Mooga, University of Alabama at Birmingham.
9. **g In-vitro metabolic evaluations of commercially available cannabidiol oil on the metabolism of commonly prescribed classes of antidepressant medications. *Shelby Holley*, Greg Gorman, Marshall Cates, Samford University.
10. **u Estrogen Receptor Alpha Signaling Prevents an Increased Inflammatory Response by Encouraging Decreased M1 Macrophage Differentiation. *James Boyett*, Shannon Lynch, Samantha Giordano-Mooga, The University of Alabama at Birmingham.

**u or **g Denotes presentation entered in student competition as an undergraduate or graduate student, respectively.

SECTION X. BIOETHICS AND HISTORY & PHILOSOPHY OF SCIENCE

Paper Session I

Thursday Morning, 8:30 AM – 12:00 Noon
Arthur J. Bond Engineering Building, Room 101
Clark Lundell, Presiding

1. 9:00 PET: polyethylene terephthalate – The Ubiquitous 500 ml Water Bottle. *Clark Lundell*, Auburn University
2. 9:15 Living Well with 21st C Transformative Technologies. *Jim Bradley*, Auburn University.
3. 9:30 Ethics of Cross-Disciplinary Studio Critique Technique: Two Assistant Design Professor’s Perspectives. *Benjamin Bush*, Auburn University; *Anna Ruth Gatlin*, Auburn University.
4. 9:45 Seeing the World Through a Clouded Lens- Abstraction and Fuzzy Vision as a Design Tool for Creative Problem Solving. *Brian LaHaie*, University of Georgia; *Clark Lundell*, Auburn University.
5. 10:00 **u Technology Design: The Science of Art. *Evanthi Hettiaratchi*, Auburn University.
6. 10:15 **u Form and Function. *Leah Marcus*, Auburn University.
7. 10:30 **u Holistic Thinking in Artful Objects. *Jamie Clark*, Auburn University.
8. 10:45 **u Coffee Mug Design. *Alyssa Hatcher*, Auburn University.
9. 11:00 **u The Duality of a Mere Pen. *Jordan Mercure*, Auburn University.
10. 11:15 **u The Left Hemisphere and the Lead Holder. *Julia Whitt*, Auburn University.

- 11:30 BUSINESS MEETING: Elect Section Vice-Chair 2020-22

**u or **g Denotes presentation entered in student competition as an undergraduate or graduate student, respectively.

SECTION X. BIOETHICS AND HISTORY & PHILOSOPHY OF SCIENCE

Paper Session II

Thursday Morning, 1:00 AM – 3:00 pm
Arthur J. Bond Engineering Building, Room 101
Clark Lundell, Presiding

11. 1:00 **u Scented Soap Petals: A Floral Bouquet. *Anna Leach*, Auburn University.
12. 1:15 **u Glass Blown Ornament. *Lilly Echeverri*, Auburn University.
13. 1:30 **u Thermometer. *William Rath*, Auburn University.
14. 1:45 **u Otto the Otter. *Elizabeth Lowman*, Clark Lundell, Auburn University.

15. 2:00 ****u** Small Differences Make A Large Impact. *Morgan Slone*, Clark Lundell, Auburn University.
16. 2:15 ****u** Raining Lotus: An Artful Object. *Logan French*, Clark Lundell, Auburn University.
17. 2:30 ****u** Sorority Badge. *Chloe Cory*, Auburn University
18. 2:45 ****u** Left-Brain, Right-Brain... Fellows. *Tanner Harden*, Auburn University

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SECTION X. BIOETHICS AND HISTORY & PHILOSOPHY OF SCIENCE

Poster Session

Thursday Afternoon

Arthur J. Bond Engineering Building, Room 101

Authors Set-up: Begins at 3:00 AM

Authors Present 3:15 – 4:00 pm, viewing and judging

James Bradley, Presiding

19. Bioethical Issues Implicated in Geroscience Research. *Shuntele Burns*, Alabama State University.
20. Typographic Readability Index. *Wei Wang*, Auburn University.

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ALABAMA JUNIOR ACADEMY OF SCIENCE

Mark Jones, State Director

Posters at Sci-Mix Session

Thursday Evening, 5:30 PM– 6:45 PM

Engineering Building, Auditorium

Engineering/Mathematics

1. **Jacob Glidewell*, An Investigation in Fractional Calculus and Its Applications to Economics and Physics, *Alabama School of Fine Arts*, Birmingham
2. *Ashraf Mansour*, Development of an Electric Wheelchair with a Wireless Electroencephalography-Based Control System, *Auburn High School*, Auburn
3. *Brayden Noh*, Fabrication and Empirical Analysis of Graphene Dispersion/Activated Carbon on Conductive Networks in Porous Graphite Felt Supercapacitor for Fast Charging Regenerative Braking in EV, *Auburn High School*, Auburn
4. *Catherine Kung*, Bioinspired Flexible Multisensory Artificial Skin, *Indian Springs School*, Pelham
5. *Hailey Holbert and Hannah Beumer*, Baby Cozy Car Seat, *Wetumpka High School*, Wetumpka
6. *Hayden Pilkinton*, Are Crowds Really Wise? Testing the Wisdom of the Crowds, *Holy Spirit Catholic High School*, Tuscaloosa
7. *Madeline Burbank*, Self-learning CPUs, *Wetumpka High School*, Wetumpka
8. *Viraj Kacker*, Image and Video Content-Based Information Retrieval of Hazardous Areas for New-Born Babies, *Jefferson County International Baccalaureate*, Irondale
9. *Yiyang Yan*, Prosthetic Arm Based on Human Anatomy, *Indian Springs School*, Pelham

Environmental

1. *Alan Estrada and Elijah Warnken*, Fuel the Change, *Wetumpka High School*, Wetumpka
2. *Ashwin Prabhakar*, Multifunctional Biodegradable Polymers for Environmental Applications, *Bob Jones High School*, Madison
3. *Alexandra King*, A Comparison of the Energy Released from Water and Carbon Dioxide in Relation to the Greenhouse Effect, *Jefferson County International Baccalaureate*, Birmingham
4. *Ethan Blecher*, Getting Warmer: Researching the Effects of Global Warming on Marine Life, *Wetumpka High School*, Wetumpka
5. *Joshua P. Wohlford and William Pate*, Green ESC Rapid Efficiency, *Wetumpka High School*, Wetumpka
6. *Julian Vilardi*, Using Kudzu as an Alternative Fuel Source, *Wetumpka High School*, Wetumpka

7. *Shashank Rangari*, Development of 3D Printed Polymer Composites, *Auburn High School*, Auburn
8. *Tori Jones*, The Bees Knees Pesticides: Saving the Bees One Bee Friendly Pesticide at a Time, *Wetumpka High School*, Wetumpka

Life Science

1. **Sophie Dudeck*, Examining the Effect of Genetic Variation in *Drosophila melanogaster* on the Cost of Reproduction, *Alabama School of Fine Arts*, Birmingham
2. *Aayush Rohella*, Heme Scavenging: A Novel Therapeutic Target for Phosgene Toxicity, *Alabama School of Fine Arts*, Birmingham
3. *Alexandra Albea*, Easy Bowls to Reach Your Goals, *Holy Spirit Catholic School*, Tuscaloosa
4. *Isabel Acker*, Temperature and Its Impact on the Yield and Purity of Aspirin, *Fairhope High School*, Fairhope
5. *Nikhita Mudium*, Selection of *E. coli* Mutants for Induction and Expression of tna Operon, *James Clemens High School*, Madison
6. *Pierce Robinson*, The Effects of Spike-It on *Micropterus salmoides*, *Wetumpka High School*, Wetumpka
7. *Sahil Chada*, The Influence of the Cardiomyocyte Circadian Clock on the Mitochondrial Calcium Uniporter, *Alabama School of Fine Arts*, Birmingham
8. *Vanessa Siggers*, Investigating the Bactericidal and Anti-Biofilm Effects of Naringenin on *Enterobacter cloacae*, *Murphy High School*, Mobile
9. *Sajel Srivastava*, Effects of Eggshell Pore Density on Embryonic Survival and Hatchling Morphology in Zebra Finches, *Auburn High School*, Auburn
10. *Xiaoyi Ma*, Human Protein Atlas Image Classification Based on CNN with GAP Layer, *Indian Springs School*, Pelham

Medicine Health and Behavioral Science

1. **Anna Lei Singleton*, Geniuses: Born or Made? *Wetumpka High School*, Wetumpka
2. **Isabel Silwal*, The Role of Conversation and Health Literacy in the Patient-Surgeon Encounter, *Alabama School of Fine Arts*, Birmingham
3. **Rachael George*, Loss of Hippocampal Day-Time Inhibition in Alzheimer's Disease and its Contribution to Cognitive Impairment and Amyloid- β Pathogenesis, *Alabama School of Fine Arts*, Birmingham
4. **Addison Allred*, The Effectiveness of Home Remedies (Apple Cider Vinegar and Natural Yogurt) at Controlling Candidiasis, *Murphy High School*, Mobile
5. *Avery Pyles*, Frequent Phone Calls: A Study of How Radiofrequency Energy Affects Eyesight, *Wetumpka High School*, Wetumpka
6. *Brennan Worrell*, Magic Numbers, *Wetumpka High School*, Wetumpka

7. Hannah Ashraf, The Role of Checkpoint Inhibition in Modulating the Hypoxic Tumor Microenvironment, *The Altamont School*, Birmingham
8. Isaac Stubbs, The Cognition Factor, *Wetumpka High School*, Wetumpka
9. Sommer Carnes, Investigation of Women in STEM Fields and Adult Influence in Adolescence, *Jefferson County International Baccalaureate*, Birmingham
10. Sumaiya Tasnim, Role of STING Agonist in UVB induced DNA Damage, *Alabama School of Fine Arts*, Birmingham
11. Tosin Badewa, Accessing Diversity in Gastroenterology and GI Surgery Using Artificial Intelligence Software, *Alabama School of Fine Arts*, Birmingham

Physical Science Earth and Space Science

1. *Eesha Banerjee, Grain Structure Analysis of ZnSe and Cr:ZnSe Polycrystals for Applications in Random Quasi-Phase-Matching and Lasing in the Mid-IR Spectral Region, *Alabama School of Fine Arts*, Birmingham
2. *Jon Tessier, Can Batteries Beat Out the King of Energy Storage, Hydro Pumping? *Wetumpka High School*, Wetumpka
3. *Nikitha Sridhar, Pharmacokinetic Modeling of Invitro Diffusion Rates for the Antiviral Acyclovir, *Auburn High School*, Auburn
4. Alexander Halbesleben, Is It Random, *Holy Spirit Catholic School*, Tuscaloosa
5. Naeim Mahjouri, Structural and Compositional Tuning of Light-Matter Interactions, *Auburn Junior High School*, Auburn
6. Amin Mantouzi, How Does External Stimuli (Extreme Heat or Cold) Affect the Electrical Conductivity of the Biceps Brachii Muscle: Relevance to Identifying Therapeutic Tactics to Aid in the Repair of Damaged Muscle? *Murphy High School*, Mobile
7. Andre Bordlee, Spinning into Space, *Wetumpka High School*, Wetumpka
8. Aniket Pant, Plasmonic and Dielectric Nanostructures: Distinguishing Size, Material, and Dielectric Environment via Machine Learning, *Jefferson County International Baccalaureate*, Irondale
9. Logan Hammack, Structural Effectiveness to High Wind Velocities, *Wetumpka High School*, Wetumpka
10. Victoria Whitehead, G-force Angles Helping Pilots Go Faster, *Holy Spirit Catholic High School*, Tuscaloosa

* Denotes AJAS student who is also entered in the Gorgas Scholarship Competition

GORGAS SCHOLARSHIP COMPETITION

Sci-Mix Session

Engineering Building, Auditorium

Thursday Evening,

5:30 PM– 6:45

Ellen Buckner, Presiding

1. *Addison Allred*, The Effectiveness of Home Remedies (Apple Cider Vinegar and Natural Yogurt) at Controlling Candidiasis (Fungal Infection), Murphy High School, [Teacher-sponsor: Julie Prerost].
2. *Toris Badewa*, Accessing Diversity in Gastroenterology and GI Surgery Using Artificial Intelligence Software, Alabama School of Fine Arts, [Teacher-sponsor: Rebecca Thrash].
3. *Eesha Banerjee*, Grain Structure Analysis of ZnSe and Cr:ZnSe Polycrystals for Applications in Random Quasi-Phase-Matching and Lasing in the Mid-IR Spectral Region, Alabama School of Fine Arts, [Teacher-sponsor: Rebecca Thrash].
4. *Sophie Dudeck*, Examining the Effect of Genetic Variation in *Drosophila melanogaster* on the Cost of Reproduction, Alabama School of Fine Arts, [Teacher-sponsor: Rebecca Thrash].
5. *Rachael George*, Loss of Hippocampal Day-Time Inhibition in Alzheimer's Disease and its Contribution to Cognitive Impairment and Amyloid- β Pathogenesis, Alabama School of Fine Arts, [Teacher-sponsor: Rebecca Thrash].
6. *Jacob Glidewell*, An Investigation in Fractional Calculus and Its Applications to Economics and Physics, Alabama School of Fine Arts, [Teacher-sponsor: Rebecca Thrash].
7. *Abhinav Gullapalli*, Developing a Decision-Making Model to Analyze Air Pollution Remediation with Trees: Bioremediation of PM_{2.5}, NO₂, CO in Birmingham, Alabama, Hoover High School, [Teacher-sponsor: Janet Ort].
8. *Elizabeth Hill*, The Effect of Nitrogen On *Trifolium Repens*, Fairhope High School, [Teacher-sponsor: Mary Stuart].
9. *Sydney Reeves*, Clear Cut Clear Cutting, Wetumpka High School, [Teacher-sponsor: Virginia Vilardi].
10. *Isabel Silwal*, The Role of Conversation and Health Literacy in the Patient-Surgeon Encounter, Alabama School of Fine Arts, [Teacher-sponsor: Rebecca Thrash].
11. *Anna Lei Singleton*, Geniuses: Born or Made? Wetumpka High School, [Teacher-sponsor: Virginia Vilardi].
12. *Nikitha Sridhar*, Pharmacokinetic Modeling of Invitro Diffusion Rates for the Antiviral Acyclovir, Auburn High School, [Teacher-sponsor: Mark Jones].
13. *Jon Tessier*, Can batteries beat out the king of energy storage, hydro pumping?, Wetumpka High School, [Teacher-sponsor: Virginia Vilardi].

** *Regeneron Science Talent Search Semi-Finalist*

OBJECTIVES OF THE ALABAMA ACADEMY OF SCIENCE

The objectives of the Academy are to:

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

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

EDUCATIONAL ACTIVITIES OF THE ACADEMY

The Academy sponsors

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

2020 REGIONAL SCIENCE FAIRS

1. **Central Alabama Regional Science & Engineering Fair**, [web](#), March 7, 2020
Kevin Jarrett, coordinator
The University of Alabama at Birmingham
Community Outreach, 5th Fl., CHSB 19
933 19th Street South
Birmingham, AL 35294-2041
2. **West Alabama Regional Science Fair**, [web](#), March 6, 2020
Roger Campbell, Ph.D. rcampbell@uwa.edu
Chairperson, Department of Physical Sciences
The University of West Alabama
Station 23
Livingston, AL 35470
(205) 652-3873
3. **North Alabama Regional Science and Engineering Fair**, [web](#) March 17-19, 2020
Jacob Kerstiens, coordinator
jacob.kerstiens@uah.edu
The University of Alabama in Huntsville
College of Engineering
Huntsville, AL 35899
4. **Greater Eastern Alabama Regional Science and Engineering Fair**, [web](#), March 4-5, 2020
Janie Marino
GEARSEF Fair Coordinator
jgm0010@auburn.edu
5. **Mobile Regional Science and Engineering Fair**, [web](#), March 6-7, 2020
Engineering@southalabama.edu
David T. Allison, Ph.D.
dallison@southalabama.edu
Department of Earth Sciences
136 LSCB, 307 N. University Blvd.
University of South Alabama
Mobile, AL 36688
6. **Alabama Science & Engineering Fair**, [web](#), March 26-27, 2020
Vanessa Colebaugh, coordinator
colebav@uah.edu; asef@uah.edu
256.824.4510
The University of Alabama in Huntsville
Earth System Science Center, CRH 3078
Huntsville, AL 35899

2020 INTERNATIONAL SCIENCE AND ENGINEERING FAIR

An activity of Regeneron Science Service, 1719 N Street, NW, Washington, DC 20036, (202) 785- 2255, FAX (202) 785-1243. <https://www.societyforscience.org/isef/>

The Regeneron 2020 ISEF will be held May 10-15, 2020 in Anaheim, CA at the Anaheim Convention Center. For details visit <https://www.societyforscience.org/isef/2020-2/>

Virginia Vilardi, Regeneron/ISEF and State Coordinator, 1251 Coosa River Parkway, Wetumpka H.S., 36092, (334) 799-0104, virginia.vilardi@elmoreco.com; vavilardi@gmail.com



ALABAMA SCIENCE OLYMPIAD 2020

The Alabama Science Olympiad site is at <http://www.alabamaso.org/>. Individuals can visit the [Tournaments](#) page for details. The following is the listing of tournaments with hot links to the various sites:

Division A2 -- Elementary Science Olympiad at

Jacksonville High School

Saturday, February 22nd

Details at the <http://www.esoatjhs.org/> web site.

Maximum of one team per school.

University of West Alabama

Tuesday, October 15th

Wiregrass Elementary School

Saturday, March 7th

Auburn University

Saturday, April 25th

Details at the <http://www.auburn.edu/cosam/scienceolympiad> web site.

Division B – Middle School (6-9) Science Olympiad at

University of Alabama, Tuscaloosa

Saturday, February 29th

Link to additional <https://scienceolympiad.as.ua.edu/>

University of Alabama at Huntsville

Saturday, February 15th

Link to additional <http://www.nsstc.uah.edu/scienceolympiad/index.html>

University of Alabama at Birmingham

Saturday, February 22nd

Link to additional <http://www.uab.edu/sthonors/scienceolympiad>

Maximum of one team per school (per division).

Division C – High School (9-12) Science Olympiad at

University of Alabama, Tuscaloosa

Saturday, February 29th

Link to additional <https://scienceolympiad.as.ua.edu/>

University of Alabama at Huntsville

Saturday, February 15th

Link to additional <http://www.nsstc.uah.edu/scienceolympiad/index.html>

University of Alabama at Birmingham

Saturday, February 22nd

Link to additional <http://www.uab.edu/sthonors/scienceolympiad>

Maximum of one team per school (per division).

Invitational Tournament

Jefferson County Invitational

Open only to Jefferson County Schools

Saturday, February 1st (B & C Divisions)

State Tournaments

Auburn University

Division B and C State Olympiads

Saturday, March 28th

Link to additional

<http://www.auburn.edu/cosam/departments/outreach/programs/Science%20Olympiad/>

ASO State Policies can be found at:

- [Registration Information: http://www.alabamaso.org/registration.html.](http://www.alabamaso.org/registration.html)
- [Registration Form \(PDF\): http://www.alabamaso.org/registration.html.](http://www.alabamaso.org/registration.html)
- [Coaches Handbook and Policies: http://www.alabamaso.org/handbook.html.](http://www.alabamaso.org/handbook.html)
- [Division Descriptions: http://www.alabamaso.org/divisions.html.](http://www.alabamaso.org/divisions.html)
- [ASO News and Notes: http://www.alabamaso.org/index.html.](http://www.alabamaso.org/index.html)

National Science Olympiad Tournament

The Science Olympiad National Tournament for Divisions B and C will be hosted May 13-16, 2020, by NC State University, Raleigh, NC.

State Director: Mary Lou Ewald, Director of Science and Math Outreach, 131 SCC Building, Auburn University, Auburn, AL 36849 (334) 844-5745, ewaldml@auburn.edu.

Alabama Science Olympiad web page: <http://alabamaso.org/>.

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

WILLIAM H. MASON SCIENCE TEACHER FELLOWSHIPS

The William H. Mason Science Teacher Fellowship Fund honors the late Dr. Mason's dedication and leadership in the Academy. Contributions may be made online on the Alabama Academy of Science website. Ronald Hunsinger serves as Chair of the Mason Science Teacher Fellowship Committee, rnhunsin@samford.edu. Downloadable applications and further information can be found on the Academy web site, www.alabamaacademyofscience.org.

Fellowships have been awarded to these individuals for study at the indicated institutions:

1990 - 1991	Mrs. Amy Livengood Sumner, UAB
1991 - 1992	Mrs. Leella Holt, UNA
1992 - 1993	Mrs. Joni Justice Shanklee, Samford University
1993 - 1994	Jeffrey Baumbach, Auburn University
1994 - 1995	Not Awarded
1995 - 1996	Laura West Cochran, University of Montevallo
1996 - 1997	Tina Anne Beams, UA
1997 - 1998	Carole Collins Crabbe Clegg, UAB
1998 - 1999	Cynthia Ann Phillips, UNA
1999 - 2000	Ruth Borden, UAB
2000 - 2001	Amy K. Murphy, UAB, Karen L. Celestine, AL A&M
2001 - 2002	Jeannine Ott, Eubanks, Auburn University
2002 - 2003	Not Awarded
2003 - 2004	Kanessa Miller, Auburn University
2004 - 2005	Not Awarded
2005 - 2006	Mary Busbee, UAB, and Bethany Knox, UAB
2006 - 2007	Kelly Harbin, UAB
2007 - 2008	Michael Hallman, UA
2008 - 2009	Sherri Sanders Grosso, UNA
2009 - 2010	Not Awarded
2010 - 2011	Danielle Brooke Morlan, UWA
2011 - 2012	Cory Goble, University of Montevallo
2012 - 2013	Amber Foster, UA
2013 - 2014	Amy Bolding
2014 - 2015	Arpan Bosmia, UAB
2015 - 2016	Lacey McEwen, Samford
2016 - 2017	Tyler Rice, Auburn
2017 - 2018	Celia Dozier, Samford
2018 - 2019	Jacob Helf, Auburn
2019 - 2020	Joshua Evans, University of Montevallo

WRIGHT A. GARDNER AWARDEES

Recipients are selected for their Outstanding Contributions to Science

- 1984 Robert P. Bauman, Physics, University of Alabama at Birmingham
- 1985 Nolan E. Richards, Research Scientist, Reynolds Metals Company, Sheffield
- 1986 S. T. Wu, Mechanical Engineering and Aeronautic Research, University of Alabama in Huntsville
- 1987 Herbert H. Winkler, Microbiology, University of South Alabama
- 1988 Richard W. Compans, Microbiology and Senior Scientist, University of Alabama at Birmingham
- 1990 Max Cooper, Medicine and Immunology, University of Alabama at Birmingham
- 1991 Dan Urry, Biochemistry, University of Alabama at Birmingham
- 1992 Gail Cassell, Microbiology, University of Alabama at Birmingham
- 1994 Frank Rose, Electrical Engineering, Space Power Institute, Auburn University
- 1996 Prakash Sharma, Physics, Tuskegee University
- 1997 Robert E. Pieroni, Internal and Family Medicine, University of Alabama, Tuscaloosa
- 1998 Thomas J. Wdowiak, Physics and Space Exploration, University of Alabama at Birmingham
- 1999 Samuel B. Barker, Physiology, and Dean Emeritus, University of Alabama at Birmingham
- 2000 George Crozier, Dauphin Island Sea Lab, Mobile
- 2001 James B. McClintock, Biology, University of Alabama at Birmingham
- 2002 Sara C. & Wayne H. Finley, University of Alabama at Birmingham Medical School
- 2003 Leven S. Hazlegrove, Samford University, Executive Director, Alabama Academy of Science
- 2004 William J. Barrett, Southern Research Institute, Retired, Birmingham
- 2005 Eugene Omasta, Professor Emeritus, Troy University.
- 2006 Dan Holliman, Professor Emeritus, Birmingham Southern College
- 2007 No award
- 2008 No award
- 2009 No award
- 2010 No award
- 2011 J. Michael Wyss, Director of COD, University of Alabama at Birmingham
- 2012 No award
- 2013 David B. Allison, Associate Dean for Science, School of Public Health, UAB, Birmingham.
Ram Gupta, Chemical Engineering, Auburn University.
- 2014 Arnold Luterman, Ripps-Meisler Professor of Surgery, University of South Alabama
- 2015 Shaik Jeelani, Chair, Department of Materials Science & Engineering; Tuskegee University
- 2016 Pradeep Lall, John and Anne MacFarlane Endowed Professor, Department of Mechanical Engineering, Director, NSF-CAVE3 Electronic Research Center, Auburn University.
- 2017 E. O. Wilson, University Professor Emeritus, Harvard University.
- 2018 No Award
- 2019 David J. Wineland, Nobel Laureate in Physics, University of Oregon.
- 2020 Jodi Singer, Director NASA Marshall Space Center, Huntsville; Richard Myers, Director and President, HudsonAlpha Institute for Biotechnology, Huntsville.

FELLOWS OF THE ALABAMA ACADEMY OF SCIENCE

- 2007 Ellen Buckner (University of Alabama at Birmingham), Leven Hazlegrove (Samford University), Richard Hudiburg (University of North Alabama), Larry Krannich (University of Alabama at Birmingham), Eugene Omasta (Troy University), Prakash Sharma (Tuskegee University).
- 2008 Ram B. Gupta (Auburn University), Harry O. Holstein (Jacksonville State University), Adriane G. Ludwick (Tuskegee University), Ken Marion (University of Alabama at Birmingham), Michael B. Moeller (University of North Alabama)
- 2009 Stephen A. Watts (University of Alabama at Birmingham) and Jane Nall (State Director, Science Olympiad Program)
- 2010 George Cline (Jacksonville State University), David H. Nelson (University of South Alabama), and Virginia Vilardi (State Coordinator, Science Fairs, Wetumpka High School)
- 2011 James T. Bradley (Auburn University), Anne Cusic (University of Alabama at Birmingham), James B. McClintock (University of Alabama at Birmingham)
- 2012 Benjamin J. Bateman (Troy University) and Edward E. Thomas (Auburn University)
- 2013 Safaa H. Al-Hamdani (Jacksonville State University) and Catherine D. Shields (Jefferson County International Baccalaureate School)
- 2014 Brian Burnes (University of West Alabama), Ronald N. Hunsinger (Samford University), and Pradeep Lall (Auburn University)
- 2015 Mickie Powell (University of Alabama at Birmingham) and David Brian Thompson (University of North Alabama)
- 2016 No award
- 2017 No award
- 2018 Mark Jones (J. F. Drake Middle School) and Akshaya Kumar (Tuskegee University)
- 2019 Lawrence J. Davenport (Samford University) and Puneet Srivastava (Auburn University)
- 2020 Mel Blake (University of North Alabama) and Arjun Tan (Alabama A&M University)

SECTION OFFICERS, 2019-2020

Section I: Biological Sciences:

- Chair: (2021) Brad Bennett, Department of Biology, Samford University, Birmingham, AL 35229, (205) 726-2303, bbennet1@samford.edu.
- Vice Chair: (2021) Mary Anne Garner, Department of Biology, Judson College, Marion, AL 36756, mgarner@judson.edu

Section II: Chemistry:

- Chair: (2020) Christopher Stopera, Dept. of Chemistry and Industrial Hygiene, Univ. of North Alabama, Florence, AL 35632, (256)-765-4479, cstopera@una.edu
- Vice Chair: (2020) Donna Perygin, Dept. of Chemistry and Geosciences, Jacksonville State Univ., Jacksonville, AL 36265, dperygina@jsu.edu.

Section III: Physics and Mathematics:

- Chair: (2021). Wen Yan, Dept. of Mathematics, Tuskegee University, Tuskegee, AL wyan@tuskegee.edu
- Vice Chair: (2021) Matthew Edwards, Dept. of Physics, Alabama A&M University, Normal, AL 35762, matthew.edwards@aamu.edu

Section IV: Engineering and Computer Science:

- Chair: (2020), Brian Toone, Dept. of Mathematics and Computer Science, Samford University, Birmingham, AL 35229 (205) 726-2960, brtoone@samford.edu.
- Vice Chair: (2020) Ravi Gollapalli, Dept. of Engineering Technology, Univ. of North Alabama, Florence, AL 35632 (256)-765-4857, rgollapalli@una.edu

Section V: Social Sciences:

- Chair: (2020) Susan Herring, (256)-851-8036, sdherring@att.net
- Vice Chair: (2020) Bryan Kennedy, Dept. of Management and Psychology, Athens State Univ., Athens, AL 35611, (256) 216-5363, Bryan.Kennedy@athens.edu

Section VI: Anthropology:

- Chair: Jason Mann, Department of Social Studies, Troy University, Troy, AL 36082, (334) 670-3957, jmann@troy.edu
- Vice Chair: Phillip Koerper, Dept. of History, Jacksonville State Univ., Jacksonville, AL 36265, (256)-782-5604 pkoerper@jsu.edu.

Section VII: STEM Education:

- Chair: (2021) Sarah Adkins, Dept. of Biology, University of Alabama at Birmingham, Birmingham, AL 35294, saadkins@uab.edu
- Vice Chair: (2021) Jeffrey Morris, Dept. of Biology, University of Alabama at Birmingham, Birmingham, AL, evolve@uab.edu.

Section VIII: Environmental and Earth Science:

- Chair: (2021) Will Jackson, Dept. of Geology, University of South Alabama, Mobile, AL 36688 (251)-460-7569, wjackson@southalabama.edu
- Vice Chair: (2021) Vacant

Section IX: Health Sciences:

- Chair: (2020) Ron Hunsinger, Dept. of Biology, Samford University, Birmingham, AL 35229, rnhsin@samford.edu
- Vice Chair: (2020) Donna Cleveland, Dept. of Radiologic Science, University of South Alabama, Mobile, AL 36688, jclevel1@bellsouth.net, dcleveland@southalabama.edu.

Section X: Bioethics and History and Philosophy of Science:

- Chair: (2020) Clark Lundell, Department of Industrial & Graphic Design, Auburn University, Auburn, AL 36849, (334)-844-2369, lundece@mail.auburn.edu.

- Vice Chair: (2020) Brian LaHaie, College of Environment and Design, Univ. of Georgia, Athens, GA 30-602 (706)-542-5125, blahaie@uga.edu.

ELECTED OFFICERS, 2019-2020

President: Drew Hataway, Dept. of Biology, Samford University, Birmingham, AL 35229, (205)-726-4190, rahatawa@samford.edu

President-Elect: Cameron Gren, Dept of Chemistry and Industrial Hygiene, University of North Alabama, UNA Box 5049, Florence, AL 35632, (256) 765-5027, cgren@una.edu.

Second Vice-President: John Shelley-Tremblay, Department of Psychology, University of South Alabama, UCOM 1123, (251) 460-6883 Mobile, AL 36688

Secretary: Malia Fincher, Department of Biology, Samford, University, 900 Lakeshore Dr., Birmingham, AL 35229, (205) 726-2928 rmfinche@samford.edu.

Treasurer: Bettina Riley, USA College of Nursing, 161 N. Section Street, Suite C, Fairhope, AL 36532, briley@southalabama.edu.

Editor: Brian Toone, Department of Computer Sci., Samford University, Birmingham, AL 35229 (205) 726-2960, brtoone@samford.edu.

Coordinator of the Junior Academy: Mark Jones, J. F. Drake Middle School, 655 Spencer Ave., Auburn, AL 36832, (334) 444-3099 mtjones@auburnschools.org.

Associate Counselor to the Junior Academy: Mary Williams, Altamont School, 4801 Altamont Rd., Birmingham, AL 35222, (205) 879-2006, mawilliams@altamontschool.org.

Associate Counselor to the Junior Academy: Wanda Phillips, Brooks High School, 4300 Highway 72, Killen, AL 35645 (256) 757-2115, wanda.phillips@lchschoools.org.

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

Coordinator of State Science Olympiad: Mary Lou Ewald, Director of Science and Math Outreach, 131 SCC Building, Auburn University, Auburn, AL 36849 (334) 844-5745, ewaldml@auburn.edu.

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

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

TRUSTEES:

- Ken Marion, Department of Biology, University of Alabama at Birmingham, Birmingham, AL 35294–1170 , kmarion@uab.edu.
- Prakash Sharma, Department of Physics, Tuskegee University, Tuskegee, AL 36088 (334) 727-8998, pcsharma@mytu.tuskegee.edu.
- James Bradley, Department of Biological Sciences, Auburn University, Auburn, AL 36849, bradljt@auburn.edu.
- David Nelson, Department of Biology, University of South Alabama, Mobile, AL 36688 (252) 460-6331, dnelson@usouthal.edu.
- Brian Burnes, Department of Biology, University of West Alabama, Livingston, AL 35470 (205) 652-3442, bburnes@uwa.edu.
- Richard Hudiburg, Department of Psychology, University of North Alabama Box 5187, Florence, AL 35632 (256) 765-4572, rahudiburg@una.edu.

- Adriane Ludwick, Department of Chemistry, Tuskegee University, Tuskegee, AL 36088 , aludwick@tuskegee.edu.
- Brian Toone, Department of Computer Sci., Samford University, Birmingham, AL 35229 (205) 726-2960, brtoone@samford.edu.
- Ellen B. Buckner, Ida V. Moffett School of Nursing, (205) 726-2092, Samford University, (205) 726-2092 ellen.buckner@samford.edu
- Stephen Watts, Department of Biology, University of Alabama at Birmingham, Birmingham, AL 35294–1170 (205) 934–2045, sawatts@uab.edu.
- Anne Cusic, Department of Biology, University of Alabama at Birmingham, Birmingham, AL 35294–1170 (205) 934-9686, acusic@uab.edu.
- VACANT

APPOINTED COMMITTEES 2019-20

Archives

- VACANT

Auditing Senior Academy

- Budget and Finance Committee

Auditing Junior Academy

- Budget and Finance Committee
- Mark Jones, J. F. Drake Middle School, 655 Spencer Ave., Auburn, AL 36832, (334) 444-3099 mtjones@auburnschools.org.

Budget and Finance

- Trustee, Ken Marion, (Chair) 2020, Dept. of Biology, Univ. of Alabama at Birmingham, Birmingham, AL, 35294-1170, , kmarion@uab.edu
- Trustee, Ellen Buckner, (2020) College of Health Sciences, School of Nursing, Samford University, Birmingham, AL, 35229, (205)726-2092(w); (205) 810-9877(c), ebuckne2@samford.edu; ebbuckner@gmail.com
- First Vice-President, Cameron Gren, (2020) Department of Chemistry and Industrial Hygiene, University of North Alabama, UNA Box 5049, Florence, AL, 35632, (256) 765-5027, cgren@una.edu
- Counselor to the Junior Academy, Mark Jones, (2020) J. F. Drake Middle School, 655 Spencer Avenue, Auburn, AL, 36832 , mtjones@auburnschools.org
- President, Drew Hataway, (2020) Department of Biology, Samford University, Birmingham, AL, 35229, (205) 726-4190, rahatawa@samford.edu
- Treasurer, Bettina Riley, (2021) USA College of Nursing, 161 N. Section Street, Suite C, Fairhope, AL, 36532, (251) 517-5363, briley@southalabama.edu
- Secretary, Melia Fincher, (2021) Department of Biology, Samford University, Birmingham, AL, 35229, (205) 726-2928, rmfinche@samford.edu
- Executive Director, Larry Krannich, Department of Chemistry, University of Alabama at Birmingham, Birmingham, AL 35294, krannich@uab.edu

Editorial Board and Associate Journal Editors: (staggered 3-yr terms)

- John Shelley-Tremblay, (Acting Chair) (2022), Department of Psychology, University of South Alabama, UCOM 1123, (251) 460-6883 Mobile, AL 36688, jstremblay@southalabama.edu
- Jim Bradley, (2022) Department of Biology, Auburn University, Auburn, AL 36849, bradljt@auburn.edu
- David Myer, (2020) English Department, Jacksonville State University, Jacksonville, AL 37276, dmyer@jsu.edu
- Prakash Sharma, (2021) Department of Physics, Tuskegee University, Tuskegee, AL 36088, psharma@tuskegee.edu

Electronic Media: (3-yr terms)

- Diann Jordan, (2022) 915 South Jackson Street, Montgomery, AL 36101, djordan@alasu.edu
- Richard Hudiburg, Associate Editor, (2020) Department of Psychology, University of North Alabama, Box 5187, Florence, AL 35632, rahudiburg@una.edu
- Brian Toone, (2022) Dept. of Computer Science, Samford Univ., Birmingham, AL, 35229, (205) 726-2960, brtoone@samford.edu
- Jason L.Heaton, (2021) Dept of Biology, Birmingham Southern College, Birmingham, AL, jheaton@bsc.edu

- Ad Hoc Committee for Electronic Media to consider Bylaw concerning associate editors, online JAAS publication, and Journal indexing: Brian Toone, John Shelley-Tremblay, and JAAS Editors

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

- Richard Hudiburg, Chair, (2021) Department of Psychology, University of North Alabama, Box 5187, Florence, AL 35632, rahudiburg@una.edu
- David Nelson, (2020) Department of Biology, University of South Alabama, Mobile, AL 36688, dnelson@usouthal.edu
- Brian Toone, (ex officio) Department of Computer Sci., Samford University, Birmingham, AL 35229 (205) 726-2960, brtoone@samford.edu.
- Larry Davenport, (2021) Department of Biological Sciences, Samford University, Birmingham, AL 35229, ljdavenp@samford.edu

Gorgas Scholarship Program: (staggered 3-yr terms)

- Ellen Buckner, Co-chair, College of Health Sciences, School of Nursing, Samford University, Birmingham, AL 35229 (205) 726-2092 ellen.buckner@samford.edu
- Larry Krannich, Co-chair, Department of Chemistry, University of Alabama at Birmingham, Birmingham, AL 35294, krannich@uab.edu
- Elizabeth Dobbins, (2020) Department of Biology, Samford University, Birmingham, AL 35229, egdobbin@samford.edu
- David H. Nelson, (2020) Department of Biology, University of South Alabama, Mobile, AL 36688, dnelson@usouthal.edu
- Prakash Sharma, (2022) Department of Physics, Tuskegee University, Tuskegee, AL 36088, psharma@tuskegee.edu.
- Andy Coleman, (2022) 512 Scenic Circle, Trussville, AL, 35173, urbanturtleproject@gmail.com; atcoleman80@gmail.com.
- Peggy Burnett, Alabama Power Foundation, 600 North 18th Street, Birmingham, AL 35203, PEBURNET@southernco.com.
- Mitzi, Adams (2022) 320 Sparkman Drive, Huntsville, AL, 35805, mitzi.adams@nasa.gov

Junior Academy:

- Mark Jones, J. F. Drake Middle School, 655 Spencer Avenue, Auburn, AL 36832, mtjones@auburnschools.org

Junior Academy Regional Counselors:

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

Local Arrangements at Alabama A&M University

- Matthew Edwards, (2020) Dept. of Physics, Alabama A&M Univ., Normal, AL, 35762, (256) 372-8119 or (256) 372-8104, matthew.edwards@aamu.edu

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

- Akshaya Kumar (2022) Department of Physics, Tuskegee University, Tuskegee, AL 36088, (334) 727-8968, akumar@tuskegee.edu.
- Puneet Srivastava (2023) 200 Corley Building, Biosystems Engineering, Auburn AL 36849, srivapu@auburn.edu.
- Brian Toone, (ex officio) (2020) Department of Computer Sci., Samford University, Birmingham, AL 35229 (205) 726-2960, brtoone@samford.edu.
- John Shelley-Tremblay, (2023), Department of Psychology, University of South Alabama, UCOM 1123, (251) 460-6883 Mobile, AL 36688, jstremblay@southalabama.edu

Mason Scholarship: (staggered 3-yr terms)

- Ronald Hunsinger (Chair) (2022) 1070 Crest Rd., Leads, AL rmhunsin@samford.edu
- Mickie Powell (2022) Department of Biology, University of Alabama at Birmingham, Birmingham, AL 35294 mpowell@uab.edu
- Amanda Coffman, (2021) Department of Chemistry and Industrial Hygiene, University of North Alabama, School Florence, AL 35632, alhofacker@una.edu
- R. Melvin Blake, (2020) Department of Physical and Earth Science, University of North Alabama, Florence, AL 35632, rdblake@una.edu

Membership and Development:

- Akshaya Kumar (Chair) Dept. of Physics, Tuskegee University, Tuskegee, AL 36088, (334) 727-8968, akumar@tuskegee.edu
- Active Past Presidents

Adriane G. Ludwick	1989-90
Ken R. Marion	1991-92
Michael B. Moeller.....	1992-93
Prakash Sharma	1993-94
Eugene Omasta	1994-95
Ellen B. Buckner.....	1997-98
Richard Hudiburg	2000-01
Stephen A. Watts	2002-03
Anne M. Cusic.....	2003-04
Larry Davenport	2005-06
David Nelson	2006-07
George Cline.....	2007-08
D. Brian Thompson	2009-10
Brian Burnes	2010-11
Mickie Powell.....	2011-12
Ronald N. Hunsinger	2012-13
Emanuel Waddell	2013-14
John McCall.....	2014-15
Brian R. Toone	2015-16
Akshaya Kumar	2016-17
Ketia Shumaker	2017-18

Nominating:

- John (Jack) Shelley-Tremblay (2020), Department of Psychology, University of South Alabama, UCOM 1123, (251) 460-6883 Mobile, AL 36688, Section Chairs

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

- Rekha Lall (Chair) (2022) Auburn Primary Care, East Alabama Medical Center, 1719 Catherine Ct, Auburn, AL 36830, 334-826-7220, rlall@eamc.org
- Donna Perygin (2021) Department of Chemistry and Geosciences, Jacksonville State University, Jacksonville, AL 36265, dperygina@jsu.edu.
- Larry Krannich, (2020) Department of Chemistry, University of Alabama at Birmingham, Birmingham, AL 35294, krannich@uab.edu
- George Cline, (2022) Department of Biology, Jacksonville State University, Jacksonville, AL 36265, gcline@jsu.edu
- Itza Soloman (2024), University of Mobile, 5735 College Parkway, Mobile, AL 36613, sitza@umobile.edu.

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

- Brian Burnes, Chair (2021) bburnes01@gmail.com

- Stephen Watts, (2022) Department of Biology, University of Alabama at Birmingham, Birmingham, AL 35294, sawatts@uab.edu
- Afef Janen, (2021) Alabama A&M University, afef.janen@gmail.com
- Berneece Herbert, (2023) Department of Community and Regional Planning, Alabama A&M University, Normal, AL 35762 (256) 372-4988, berneece.herbert@ammu.edu
- Vacant (2024)

Resolutions:

- Brian Burnes, Chair (2021) bburnes01@gmail.com

Science, Public Policy, and Public Relations: (staggered 4-yr terms)

- Scott Brande, co-Chair, (2021) Department of Geology, University of Alabama at Birmingham, Birmingham, AL 35294, sbrande@uab.edu
- Brian Burnes, co-Chair (2021) bburnes01@gmail.com
- Ellen Buckner, (2012), College of Health Sciences, School of Nursing, Samford University, Birmingham, AL 35229 (205) 726-2092(w); (205) 810-9877(c), ebuckne2@samford.edu; ebbuckner@gmail.com.
- Gregory Buckley (2023) Dept. of Physical and Earth Science, University of North Alabama, Florence, AL 25632, gbuckley@una.edu.
- James Bradley, (2020) Department of Biological Sciences, Auburn University, Auburn, AL 36849, bradljt@auburn.edu
- Vacant (2023)

Steering:

- Immediate Past President, Akshaya Kumar (2018) Department of Physics, Tuskegee University, Tuskegee, AL 36088, (334) 727-8968 akumar@tuskegee.edu.
- President, Drew Hataway (2020), Dept. of Biology, Samford University, Birmingham, AL 35229, (205)-726-4190, rahatawa@samford.edu
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- Secretary, Bettina Riley, (2021) USA College of Nursing, 161 N. Section Street, Suite C, Fairhope, AL 36532, briley@southalabama.edu.
- Treasurer, Melia Fincher, (2021) Department of Biology, Samford University, 900 Lakeshore Dr., Birmingham, AL 35229, (205) 726-2928 rmfinche@samford.edu

Wright A. Gardner Award: (4 members with staggered 2-yr terms)

- Prakash Sharma, Chair, (2020) Department of Physics, Tuskegee University, Tuskegee, AL 36088, pcsharma@mytu.tuskegee.edu
- Anne Cusic, (2020) Department of Biology, University of Alabama at Birmingham, Birmingham, AL 35294, mamcusic@gmail.com
- Matthew Edwards, (2021) Dept. of Physics, Alabama A&M Univ., Normal, AL, 35762, (256) 372-8119 or (256) 372-8104, matthew.edwards@aamu.edu
- Vacant (2022)

PAST PRESIDENTS

<i>NAME</i>	<i>TERM</i>
Wright A. Gardner (2 terms).....	1924-26
Stewart J. Lloyd.....	1926-27
John R. Sampey.....	1927-28
Walter C. Jones.....	1928-29
Fred Allison.....	1929-30
Emmett B. Carmichael.....	1930-31
George J. Fertig.....	1931-32
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C.M. Farmer.....	1940-41
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Eugene D. Emigh.....	1948-49
C.A. Basore.....	1949-50
Harold E. Wilcox.....	1950-51
Henry Walker.....	1951-52
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J. Allen Tower.....	1956-57
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Samuel B. Barker.....	1959-60
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H. Ellsworth Steele.....	1967-68
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Wilbur B. DeVall.....	1969-70
W.L. Furman.....	1970-71

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H. Dean Moberly	1987-88
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Michael E. Lisano.....	1990-91
Ken R. Marion	1991-92
Michael B. Moeller.....	1992-93
Prakash Sharma	1993-94
Eugene Omasta	1994-95
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Moore Asouzu	1998-99
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Roland Dute	2001-02
Stephen A. Watts	2002-03
Anne M. Cusic	2003-04
Ronald L. Jenkins	2004-05
Larry Davenport.....	2005-06
David Nelson	2006-07
George Cline	2007-08
Kenneth Roblee	2008-09
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Mickie Powell.....	2011-12
Ronald N. Hunsinger.....	2012-13
Emanuel Waddell.....	2013-14
John McCall.....	2014-15
Brian R. Toone.....	2015-16
Akshaya Kumar.....	2016-17
Ketia Shumaker	2017-18
Nixon Mwebi	2018
Drew Hataway	2018-20

HOSTS FOR FUTURE ALABAMA ACADEMY OF SCIENCE MEETINGS

2021 – University of South Alabama (February 10-12, 2021)

2022 – Athens State University

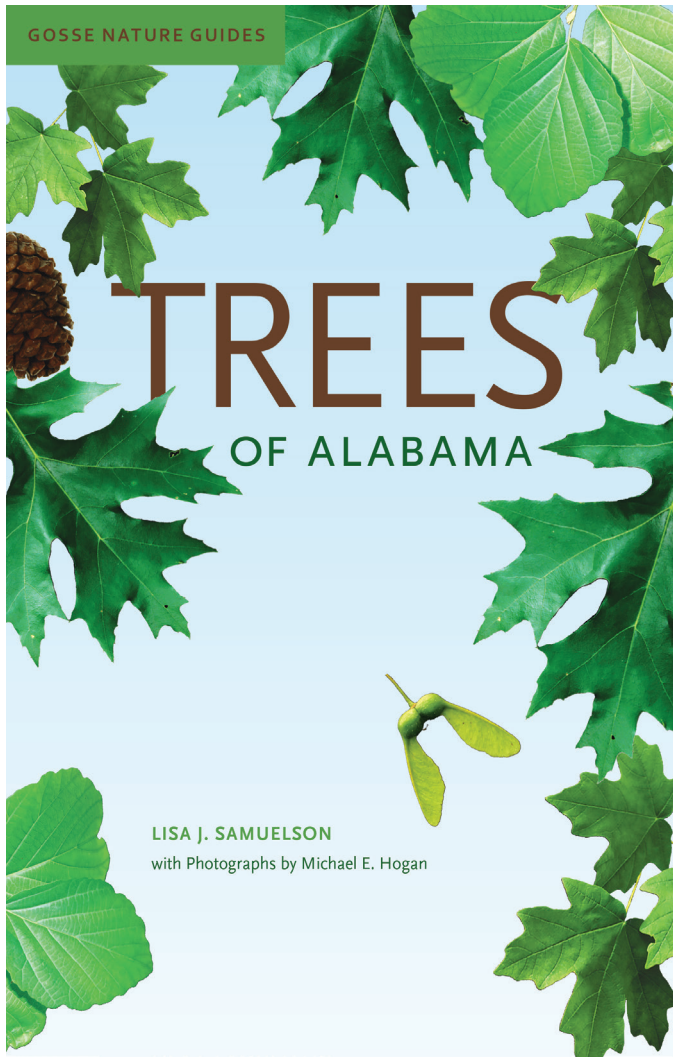
2023 – College of Health Sciences, Samford University

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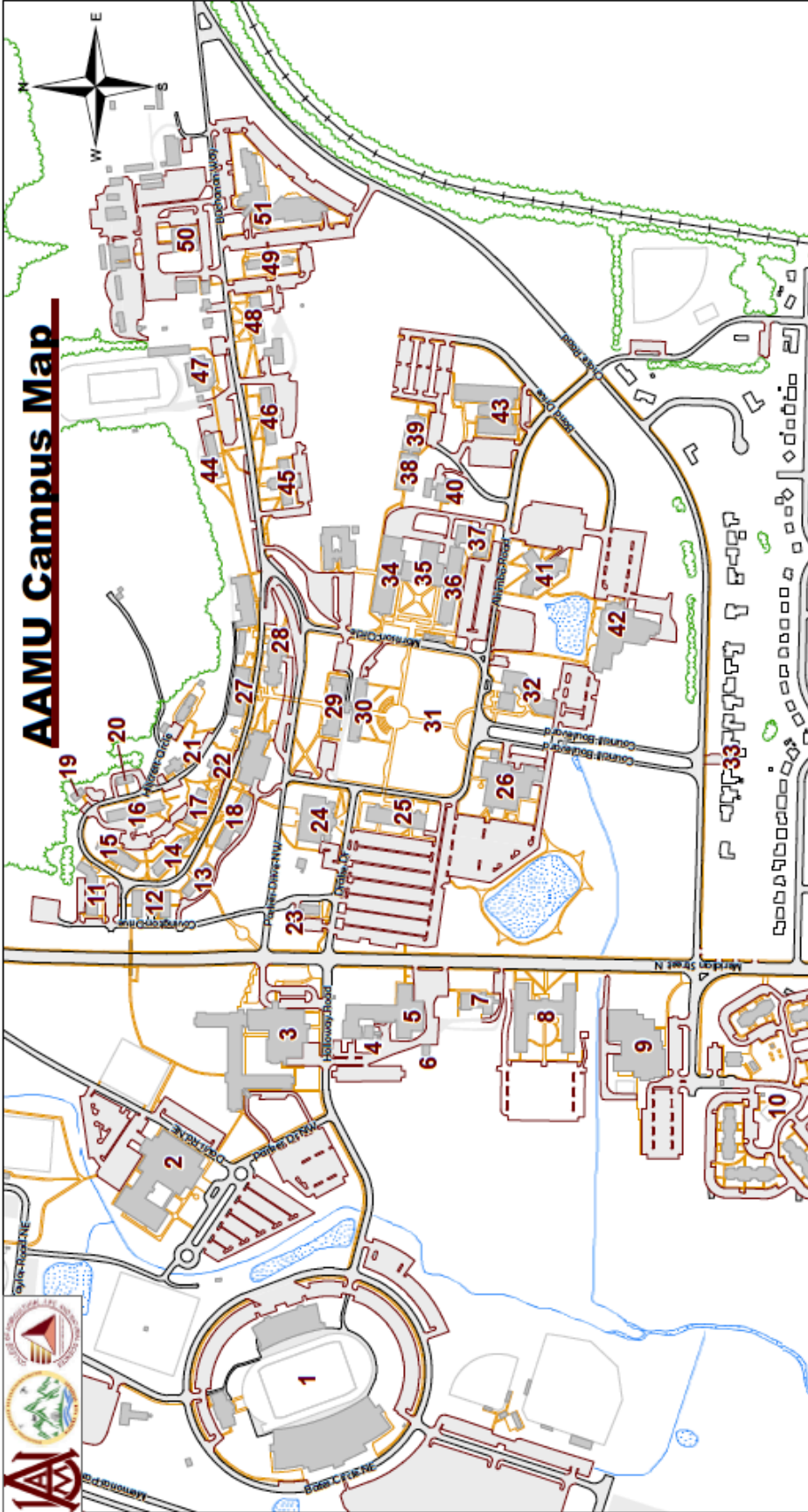
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ALABAMA JUNIOR ACADEMY OF SCIENCE
GORGAS COMPETITION AWARDS



February 10-12, 2021
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MOBILE, AL



AAMU Campus Map



1. Lewis Crews Stadium	14. Palmer Hall	27. Blbb Graves Hall	40. Greenhouse
2. T.M. Eimore Gym	15. William Council Hall	28. Ralph Lee Student Center	41. Dawson Building
3. Knight Center	16. Buchanan Hall	29. Carter Hall	42. Engineering School
4. Mechanical Engineering Annex	17. Drake Hall	30. Chambers Hall	43. Agricultural Research Center
5. Council Training Center	18. Thigpen Hall	31. Campus Quad	44. Grayson Hall
6. Writing Skills Center	19. Honors Center	32. School of Business	45. Hopkins Hall
7. A.G. Crump Building	20. Virginia McCormick Building	33. Alumni Affairs	46. Walker Wood Hall
8. New Residence Hall	21. Wilson Hall	34. Carver Complex N Hollins	47. Frank Lewis Gym
9. Health and Wellness Center	22. Carnegie Hall	35. Carver Complex S Bonnor	48. Morris Hall
10. Normal Hills	23. Post Office	36. Carver Complex S Bonnor	49. Steohens Hall
11. Terry Hall	24. J.F. Drake Library/LRC	37. Carver Complex A Thomas	50. Services and Public Safety
12. Thomas Hall	25. Patton Hall	38. T.R. Parker	51. Mamie Foster Hall
13. Hurt Hall	26. Morrison Fine Arts Building	39. T.R. Parker Annex	