Alabama Academy of Science: The First 100 Years 1924-2024

1924

2018

Welcome to the 100th Anniversary Celebration of the Alabama Academy of Science!

We hope you will share in our celebration of the centennial of the Alabama Academy of Science (AAS) in many ways in addition to reading and enjoying this booklet! Won't you join us at one of our Annual Meetings such as the one to be held at Samford University on March 8th, 2023? You can make a presentation, put up a poster, or get involved in scholarly works, leadership, and mentorship! You can watch dozens of presentations from scientists around our state. You can watch and even judge outstanding high school students in the Junior Academy Paper Reading Competition or the Gorgas Scholarship Competition. Feast at our banquet, socialize at our SciMix, or join us for Celebration of Mentoring BBQ Event at the Vulcan Park in Birmingham. All of this information is available at https: www.alabamaacademyofscience.org.

As you can see from the paragraph above, the AAS is alive and thriving as Alabama's oldest science organization. Our history is one of fellowship, mentorship, advocacy and education, public service, and networking. Over the last 100 years we have become a nexus of information for scientists and policymakers. We help to organize and fund the State Science Fair, Science Olympiad, and other state-wide initiatives. All of this can be traced back to passionate, volunteer leaders from around the state. One of the best parts of this booklet is that it will put faces with the names of some of these pioneers and visionaries. You will learn from stories and collages about some of the presidents, executive officers, and volunteers who have added important pieces into the mosaic that is the AAS.

This booklet provides a depiction of the history and values of Alabama Academy Of Science (AAS) covering its 100 years existence. To that extent, a monumental celebration is in order! This celebration expresses the steadfastness of AAS creator and the huge character of the many leadership teams over the ensuing years. How did AAS manage to maintain itself over the 100 years without self-destruction from within or from external destruction from outside influences? You will find evidence of its survival in this booklet.

The purpose in this booklet is fourfold, and these four actions are to express AAS's science reality of the past, its experiences of the present, its hopes and aspirations of the future, and its values to the communities it has served in each of these periods.

One of the enduring values of the AAS has been its structure as a mechanism for mentoring. Young students in middle school and high school are mentored by the best teachers, often nationally certified, and always willing to go beyond the requirements to facilitate the growth of these emerging young scientists. At the college level faculty engage with undergraduates in research to support their development of ideas and their learning of the skills and processes of science. At the graduate and colleague level, faculty encourage each other, testing their ideas, collaborating, and learning from peer review and constructive criticism. Mentors may become lifelong friends, those to whom we look back in appreciation for their impact on our journey. The 100th Anniversary Meeting is a "Celebration of Science & Mentoring" designed to recognize and commemorate what their mentoring has done for science in Alabama and for those of us who became scientists through their influence. This booklet describes those scientists who have inspired, nudged, encouraged, and collaborated in ways that made our science and our society better. This book is dedicated to them – past, present, and future, including ethical values, mentoring, collaborations, and scholarly contributions.

The basic structure of the booklet is to highlight events, occasions, and persons of the past and present, and to foretell a positive expectation of the future, how its leaders and

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Samford University
100th Annual Meeting
Chairperson

Matthew Edwards
Alabama A&M University
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contributors express their vision and desires of the AAS. All aspects of the AAS are revealed in the booklet including the important words of the founder, the messages of scholarly contributors, our hopes for the continuous growth and ethical values of the AAS, and the fundamental conditions that scientific research and facts matter in AAS.

Acknowledgements

Several persons have been critically important in the production of this booklet. Primarily in this group are: **Ellen B. Buckner**, chairperson of the 100th Anniversary Committee and Local Arrangements Chair for the meeting; **Matthew E. Edwards**, AAS Trustee and Chairperson of the 100th meeting booklet committee; **John "Jack" Shelley-Tremblay**, Executive Director of AAS; **Jeffrey Morris**, President of the AAS and organizer and editor of the booklet; **Virginia Villardi**, AAS Trustee who assisted with content material and editing the booklet; **Ashley Rudd**, who digitized the 75th annual meeting booklet from 1998; and **Larry Krannich**, past Executive Director of AAS. Other contributors have been key members of the executive committee, including: **Prakash Sharma**, **Vinoy Thomas**, **Mark Jones**, **Adriane Ludwick**, **Donna Cleveland**, **Ken Marion**, **Brian Toone**, **Mel Blake**, and **David Nelson**, **Ron Hunsinger**, **Richard Hudiburg**, and **Diann Jordan**.

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Ellen Buckner, Samford University

Early History of the Alabama Academy of Science

(by Clyde H. Cantrell, ca 1960)

In the early 1920's, Alabama experienced considerable educational and industrial development. Members of the faculty and research appointees at the University of Alabama, the Alabama Polytechnic Institute (now Auburn University), and other institutions of higher learning in the State, as well as other scientists and industrialists, began to realize that considerable value might be received from scientific meetings and through the organization of appropriate scientific societies. These interested individuals considered state academies of science as the best medium for the regional dissemination of scientific and technical information. In such societies could be enrolled scientists of all types — biologists, botanists, chemists, conservationists, engineers, foresters, industrialists, social scientists, zoologists, etc.

One person deserves especial credit for taking the lead in forming the Alabama Academy: Wright A. Gardner, a Ph.D. from the University of Chicago, who became Professor and Head of Botany and Plant Physiology at the Alabama Polytechnic Institute in 1917. As a member of numerous scientific societies, he had attended many national and regional meetings and was able to visualize advantages to the State of Alabama and to the entire Southeastern region through the formation of a state scientific society. Some scientists in Alabama questioned the advisability of attempting to form such a society. In January, 1891, the Alabama Industrial and Scientific Society had been founded and existed for nine years until dwindling membership and general lack of interest caused it to disband. Nonetheless, Gardner felt that, twenty-odd years later, the State was on the verge of expansion in science and industry and that a state academy of science could and should be established. Since the Alabama Education Association met annually, Gardner saw this as an opportunity for scientists to come together to read papers and to discuss problems of mutual interest. He considered that they might meet for a few years as a science section of the AEA, and then, as the membership increased, establish an.academy of science.

The early correspondence of the Alabama Academy of Science contains many letters which Gardner wrote to others in and out of the State seeking advice and attempting to develop interest in the proposed organization. In most of the letters Gardner solicited aid and advice in the formation of a state academy of science, and also requested that they be prepared to present papers at the first meeting. Gardner felt that the youthful organization should be broad in its base and thereby be of interest to

scientists of all types regardless of their specialties. "For the time being it seems to me that all the sciences should be included. Should our organization grow too large, a cleavage can be made later," he wrote.

The initial meeting of the new group was held at the Sidney Lanier High School, Montgomery, 4 April 1924, at first for organizational purposes. Machinery was set up for the election of officers and plans made for a committee to draw up a constitution. The first President was, as one would expect, Wright A. Gardner, the person who had done more than anyone else to bring the organization into existence. S. A. Ives was selected Secretary-Treasurer. The remainder of the program consisted of the reading of papers. The titles indicated that, from the very first meeting, there was an interest in a variety of fields of scientific endeavor:

"Some Effects Produced in Man by Eating Velvet Beans" by Emerson R. Miller
"Low Temperature Precipitation of Iron," by C. A. Basore
"Electrolytic Calcium Arsenate," by Stewart J. Lloyd
"The Distribution of and the Damage Done by the Dry-Rot Fungus, *Poria incrassata*, in Alabama," by L. E. Miles
"The Eye is the Window of the Mind," by E. E. Sechriest
"The State Mine Experiment Station and its Relation to the Mining and Metallurgical Industries," by H. P. Pallister
"Leukocytic Indices of the Body Resistance, With Report of a New Index," by Walter Clinton Jones
"The Mexican Cotton Boll Weevil as a National Problem" by W. E. Hinds '
"The Decomposition of Organic Toxins by Soil Organisms" by Wright A. Gardner
"Historical Sketch of the Alabama Industrial and Scientific Society," by Eugene Allen Smith
"Ozone Manufacture and the Energy Relations in its Formation 1' by P. C. Saunders
"Ecological Survey of the Flora of the Birmingham District," by Sumner A. Ives

This first conference of the Alabama Academy proved to be a great success, although notes on a carbon copy of a letter from Gardner to the manager of the Exchange Hotel in Montgomery indicate only ten persons attended the luncheon (*"Luncheon 12:30. 10 plates at 1.50. So. chicken dinner with grapefruit. demitasse & ice cream. very good."*). However, between thirty and forty persons participated in the two sessions and were enthusiastically in accord that a golden opportunity existed for the formation and development of a state scientific society which would tend to tie together the scientific interests of the various teachers, scientists, and research workers within the State. To stimulate research in science, to promote the exchange of scientific information, to encourage scientific publications, to promote better instruction in science — these

were the objectives of the new group. The success which the Alabama Academy of Science was to enjoy, developing from year to year, would be ample proof that the judgment of those at the first conference was sound and accurate.

Historical Milestones for the AAS

1923	Letters from W.A. Gardner propose new society.
1924	1st Meeting, Sidney Lanier High School, Montgomery, AL, April 4, as part of the Alabama Education Association meeting. 36 members pay annual dues of $1 and are designated charter members. 1st Constitution adopted. *"The purpose of this society shall be the study and the advancement of science."*
1927	Alabama Academy of Science Abstracts 1924-26 published as The Journal: Volume 1.
1927	AAS becomes an affiliate of American Association for the Advancement of Science, AAAS.
1930	Journal voted to be published annually: Ernest V. Jones is elected first Editor.
1930	Meeting is held separately from AEA for the first time, at Auburn,
1932	Junior science organization is proposed by Emmett B. Carmichael.
1933	Organizational meeting of Alabama Junior Academy of Science (AJAS) is held at Birmingham Southern College.
1937	James L. Kassner is appointed Acting Permanent Counselor to AJAS, serving in that capacity for more than 10 years.
1943-44	Annual meetings were canceled because of World War II. Papers were published in the journal without interruption.
1947	AAS is incorporated as the Alabama Academy of Science, Inc.
1947	The Gorgas Scholarship Committee was formed jointly by the Alabama Chamber of Commerce, The Alabama Academy of Science, in cooperation with Science Service, Washington, DC, State public and private colleges and universities, and industries (e.g. Southern Research Institute). The Gorgas Competition was named for General William Crawford Gorgas, Alabama Physician and Surgeon General of the United States whose discoveries conquered yellow fever, making the building of the Panama Canal possible. The Gorgas Competition was a State affiliate of the National Science Talent Search Competition.

1948 The First Gorgas Competition was held, and although segregated, there were competitions and scholarships for both white students and black students.

1950 The Academy Award is given to a teacher who has been outstanding in working with the Junior Academy. Katherine Boehm, Ensley H.S., is the first recipient. The Academy Award continues today as Outstanding Teacher recognized by AJAS.

1951 First quarterly Newsletter is published by University of Alabama; Ralph L. Chermock is first Editor.

1952 Gorgas Scholarship Foundation, Inc, a non-profit corporation representing most 4-year colleges in Alabama is organized to guarantee the financial security of Alabama Science Talent Search.

1954 Madison L Marshall is appointed State Coordinator of Science Fairs by AAS Executive Committee; succeeded by Arthur Biendorff and Father George O. Twellmeyer. Regional and State fairs include winners participating in National and International contests.

1955 API (now Auburn University) agrees to subsidize publication of the AAS Journal with a $500 annual grant.

1962 Visiting Scientist Program is organized through a National Science Foundation Grant, directed by Ruric E. Wheeler and continued for 5 years. Later re-instituted (1985) as a voluntary program and renamed (1996) as Visiting Scientist Network to include electronic "visits".

1963 Publication of the History of the AAS by Cantrell, Bailey, and Barker, to honor the Academy's 40th anniversary.

1980 Dr. Geraldine Emerson, Professor of Biochemistry at UAB, is elected first woman president.

1982 Establishment of Administrative Officer for the Academy and William J. Barrett elected. This office was later renamed Executive Director, and is now held by John Shelley-Tremblay.

1984 Gardner Award is initiated to honor noteworthy achievement in the field of science while in residence in Alabama. Robert Bauman, Professor of Physics at UAB, is first recipient.

1986 Carmichael Award for best paper in Journal is initiated. First recipients are Drs. C. R, Kline and Ann Williams, Dept. of Zoology and Wildlife, Auburn University and Dr. D. L. West, Dauphin Island Sea Laboratory.

1989	Science Teacher Fellowship is instituted, named the Mason Fellowship in 1991. 1st recipient is Amy Livengood.
1990	Science Olympiad is begun in Alabama, under the auspices of AAS With Steve Carey, as State Coordinator.
1996	First AAS Homepage is created by President Tom Jandebeur, Athens State College.
1998	Dr. Moore Asouzu of Troy University becomes the first African American President of the AAS.
1998	Gorgas Foundation was dissolved and the Gorgas Scholarship Selection Agreement established the competition administered jointly by the Alabama Power Foundation (finances) and the Alabama Academy of Science (competition procedures & judging).
1998	Publication of the 75th Anniversary Booklet
2003	Gorgas Scholarship Competition established as its own independent competition (one of only three active & funded state programs in the country) following the dissolution of the Science Service State-affiliate programs.
2007	Initiated the Fellows of the Alabama Academy of Science (FAAS) Award
2013	Partnership with Alabama Math Science & Technology Initiative (AMSTI) creates structure for the eleven local paper reading competitions for the Alabama Junior Academy of Science (AJAS)
2018	Initiation of the position of Associate Executive Director, originally held by John Shelley-Tremblay (Psychology, University of South Alabama), and held starting in 2023 by Dr. Matthew Edwards (Physics, Alabama A&M University).
2020	AAS Annual Meeting, scheduled to be hosted by Alabama A&M University, was canceled due to the coronavirus pandemic. AJAS and Gorgas competitions were transitioned to virtual in one week without interruption.
2021	Gorgas Scholarship Competition Program becomes solely supported by the AAS through a 501c3 fund
2023	Publication of the 100th Anniversary Booklet to commemorate the centennial of the AAS
2023	Initiation of the Dr. Adriel D. Johnson, Sr. Mentoring Award

MEMORIES OF THE FIRST 100 YEARS OF THE AAS

Adriane G. Ludwick
Tuskegee University

My connection with the Alabama Academy of Science began in the 1980s. A letter from Ray Isbell soliciting membership in the Academy inspired me to encourage two students, a graduate student and an undergraduate, to present their research. Not being familiar with the Academy, I registered us for everything, including the Friday evening banquet with the Alabama Junior Academy of Science. I still remember the talk on the Shroud of Turin. I also remember that the dinner included boned chicken; Joel McCloud, the undergraduate, deftly cleaned every morsel of chicken from the bones; he went on to become a physician! Seeing that evening the impact that the Academy had on secondary education, I was hooked. I became involved in the Chemistry Section, and before too long, found myself in leadership positions in the Academy. It has been a good ride and an important one to me. We are fortunate in Alabama to have such an organization.

—Adriane G. Ludwick

Padmaja Guggilla
Alabama A&M University

I grew up in a small village, surrounded by the beauty of the outdoors. As a child, I was filled with a passion for understanding the world around me which led me to pursue a career in science and obtain degrees in Electrical Engineering and Applied Physics. But becoming a scientist is not just about passion; it also takes patience and persistence. Along the way, I sought out mentors and role models who provided guidance and support, and helped me to navigate the often challenging world of scientific research. I also made sure to network and build connections with other scientists.

One such networking opportunity was the Alabama Academy of Sciences, which I first attended in 2008 and have remained active with ever since. AAS is a great venue for disseminating scientific research within Alabama and it has helped me to connect with other scientists from different institutions.

I am proud to say that my persistence paid off, and today I am successful in the field I love the most. I am grateful for the opportunity to do what I love every day and to contribute to the advancement of knowledge. My story is a reminder that anyone, regardless of where they come from or their background, can achieve their dreams with the right mindset, education, support, and persistence.

Finally, I congratulate the successes of the Alabama Academy of Science on its 100th annual meeting!

In the early days of the AAS, there was sometimes tension between environmental advocacy and industrial/technological progress. Some things never change!

Capital Is Host To Scientists At State Rally

Mosquito Control And Other Topics To Be Discussed

RY ADVERTISER ★ 4/14/39

In The Same Boat —Spang

Birmingham Age-Herald 4/15/39

TVA'S MALARIA FIGHT DEBATED

Widely Divergent Views Expressed At Meeting Of State Academy

MONTGOMERY, Ala., April 14—(AP)—Malaria control methods of the State Health Department and Tennessee Valley Authority were described as protections for human life and denounced as likely to cause death themselves before a section of the Alabama Academy of Science here Friday.

Divergent views also were expressed regarding effects of control measures on wildlife.

Dr. Walter B. Jones, Alabama conservation commissioner, charged that "somebody in the Tennessee Valley is going to die from eating poisoned fish," asserting 200 parts per million of arsenic had been found in some dead fish.

Seventeen parts per million, Jones said, is dangerous for humans, adding it was his belief TVA spreading of Paris green as a control measure portened an "impending disaster."

Wildlife Damage Charged

Jones charged that oil sprays were killing animal and duck life and that fluctuations of impounded waters in spawning seasons killed off fish reproduction.

Answering Jones on his assertions regarding dangers of poisoning, E. Harold Hinman, of the TVA Division of Malaria Control and Studies, said 200 parts of arsenic per million had been found in earth, taken from a stream bed six miles from the nearest point of poison spreading.

George H. Hazelhurst, State Health Department director of sanitation, asserted control measures were "based upon the postulate that the protection of human life and health should be given first concern and that many other important interests of a socio-economic nature should be considered and weighed in the light of their relative importance."

C. C. Kiker, TVA sanitary engineer, said that "through many years of field experience" he had never observed that oil film seriously damaged vegetation, fish or wild life.

All speakers described the Gambusia (top) minnow was an important factor in controlling mosquito production, due to its appetitie for larvae.

Archer Supports View

Allen F. Archer, of the Alabama Museum of Natural History, supported the view that Paris green "is apparently harmless to domestic animals," but that "oil sprays are very destructive . . . to game and even vegetation."

Jones insisted the pool levels of impounded waters should be as nearly as possible stationary during the fish spawning season.

A paper written by Dr. E. L. Bishop, TVA health director, and read before the section on biology and medical science, said, however: "Pool level fluctuations, both seasonal and cyclic, are fundamental to the effectiveness and economy of control. . . ."

Hazlehurst and Hinman agreed with the view expressed by Dr. Bishop's paper. Stringent control advocates insisted removal of vegetation in certain zones likewise was necessary in reservoirs.

Perspective

HELEN MABRY

THE ALABAMA ACADEMY OF SCIENCE FOUNDED 1924

50th ANNIVERSARY
1924 - 1974

Science Will Be Fun

Putting aside their lab coats and field shoes, scientists, students, engineers, geologists, doctors, industrialists and business persons converge on Birmingham April 4-6 for the Fiftieth Anniversary Convention of the Alabama Academy of Science.

Bus loads of students also will arrive at the convention site, Kahler Plaza Hotel and nearby University of Alabama-Birmingham, as the Alabama Junior Academy of Science holds its meetings and convention.

In its half century, the academy has encouraged scientists on three levels.

Since 1934 high school students have been able to join science clubs which affiliate with the Alabama Junior Academy of Science and take part in the Regional Science Fairs. Anyone who ever approached an Alabama high school during Science Fair season knows the impact this has had on the state. High schools also participate in the Junior Science and Humanities Symposium, and seniors are eligible to compete in the Alabama Science Talent Search for four year scholarships to Alabama colleges and universities sponsored by the Gorgas Scholarship Foundation. Grants for individual research are available for college students. Winners in all these categories are recognized at the annual meeting, they present their papers in the appropriate section of the Senior Academy, and exhibit their Science Fair projects.

One of the first Gorgas Scholarship Winners in 1948 was Tommy Scott, a farm boy from Nauvoo who didn't know how to dial the telephone number he used to reach his parents with his good news. He went to college, made Phi Beta Kappa, earned a Ph.D. from Harvard and today is chairman of the Physics Department at University of Florida. A more recent Science Fair winner was Miss Hilda Hutcherson of Tuskegee Institute High School who had had very little contact with other ethnic groups and was uncertain of her acceptance. Hilda was a biology state winner, and when she heard her name called at the national meeting as one of five to go to London for international competition, couldn't speak for several moments. "I don't believe it, I don't believe it!" She won a scholarship to Stanford University where she is in premedical courses.

The Golden Anniversary prompts a long look back at the first gathering in Montgomery in 1924. People came driving Reos, Studebakers and Model "T" Fords over dirt roads. Lindbergh hadn't flown the Atlantic and the only people interested in airplanes were barnstorming daredevils and General "Billy" Mitchell. Radio was used for messages in Morse code. Boys like Tommy Scott and girls like Hilda Hutcherson didn't go to college. In 1924 the Women's Christian Temperance Union celebrated its Golden Anniversary!

These 50 years will be highlighted by the president of UAB, Dr. Joseph F. Volker, in an address to the Golden Anniversary Banquet, which both junior and senior members will attend. Next morning, on Saturday, world-renowned heart surgeon, Dr. John Kirklin of Birmingham will speak to the groups on "Cardiac Surgery."

Membership in the Academy is open to any man or woman actively engaged in pure or applied science who has a four year collegiate degree or 10 years' professional experience. The 1,000 members form a broad spectrum of interests and achievement. The Executive Board and the Trustees are weighted with Ph.D. degrees, but there has always been a healthy balance between the academics and the professionals in business, industry and government. From the earliest days, representatives from the U. S. Geological Survey, the State Department of Conservation, U. S. Bureau of Mines, American Cast Iron Pipe Company, TCI, Alabama Power Company, and more recently, Southern Research Institute, have all been active in the Academy. There was no mention of women in the founding group and no woman has been elected president of the Academy—yet. However, women have been active since 1925 when Mary Robinson of the Phillips High School faculty read a paper on electro-magnetism.

The Academy was launched in 1924 by a small but enthusiastic group who met in one large room at Sidney Lanier High School in Montgomery during a session of the Alabama Education Association. Thirty-six paid members heard 26 papers on a wide range of topics. Dr. Fred Allison, Professor Emeritus of Physics, Auburn University, was a founder, president in 1929-30, and today is the oldest living member. Birmingham's Dr. E. B. Carmichael, Professor Emeritus of Bio-Chemistry, University of Alabama-Birmingham, was president in 1930-31 and is the second oldest. He retired in December, 1973 from editorship of the *Journal of the Alabama Academy of Science*. The *Journal* began publication in 1930 carrying abstracts of all papers presented, some publication papers and all presidential addresses in full.

The Alabama Academy of Science rotates its annual meetings to visit different college campuses in the state. Birmingham and the University of Alabama welcome the members of the Academy as they arrive via chartered bus, car pool, or private plane, over the freeway, down at the airport. There will be color television in the rooms—and the WCTU is now 100 years old and *now* registered at the Kahler Plaza. **B**

First meeting of the AAS, Montgomery 1924

95th meeting of the AAS, Samford 2018

The Changing Faces of the AAS
(by J. Jeffrey Morris, AAS President 2022-2023)

Great advances in science and technology have occurred in the century since Wright Gardner suggested the creation of a scientific society in Alabama. But the changes in society, both in Alabama and in the broader world, have been just as great, and it is interesting to see how the AAS has changed with it. Consider how different the photographs on the preceding page look. One can immediately see that the AAS of today is dramatically more diverse than the founding group of 1924. But how and when did those changes take place?

In preparing to put this commemorative booklet together I spent a lot of time looking at old pictures of the AAS and its members. In particular I found myself looking at the photo (below) of the attendees of the 10th anniversary meeting held at Springhill College in Mobile in 1934. It was like looking through a portal into another world, but one that was still recognizably similar to the academic world I grew up in.

Two things in particular jumped out at me about this photo: the number of women and the prominence of clergy, such as the Rev. Patrick Yancy (second row, 5th from left). I guess we're all guilty from time to time of holding stereotypical beliefs, but I had assumed that these old photos would be composed exclusively of men, and yet in every photo I saw, there were many women present. It didn't take long to find out that women have in fact always been important members of the AAS. In the early days they

were probably primarily present as teachers — the Academy has always supported science education in the state at all levels — but as early as 1948 the AAS was awarding scholarships to young women to study biology, chemistry, and physics at Alabama universities through the Gorgas Program.

I was just as surprised to see how prominently priests were featured in the early AAS. There are many today who want to maintain that there is a fundamentally adversarial relationship between science and religion, but it is clear that the scientific community in Alabama in the first half of the 20th century did not hold this prejudice. Two Jesuit priests from Springhill College have held the position of President of the AAS — Rev. Patrick Yancy (1938-1939) mentioned above, and Rev. Louis Eisele (1962-1963) who was cheekily known as "Father Earthquake". Rev. Eisele's Oct. 6, 1988 obituary in the LA Times discusses some of the contributions he made to science:

Louis J. Eisele, *76, a Jesuit priest and seismologist who was the first person to record the Alaskan earthquake that killed 114 people in 1964. Eisele, also a physicist, taught at the Roman Catholic Spring Hill College in Mobile, Ala. and operated its seismographic station for more than 40 years. Nicknamed "Father Earthquake," he reported data on major quakes to the National Earthquake Information Service and was the first to record the March 2, 1964, quake. It registered 8.5 on the Richter scale.*

One can't help but notice what isn't in the picture though — and that's even one representative of Alabama's African American population, even though there were many Black scientists working in the state at places like the Tuskegee Institute. Unfortunately, the AAS operated under the confines of Alabama's Jim Crow segregation laws for the first four decades of its existence, making it difficult or even illegal to involve Black and White scientists at the same meeting. That being said, the Academy

provided support for science at Black high schools and universities even in those years. From the beginning of the "Alabama State Science Talent Search" that awarded scholarships in the name of General William Gorgas, who was responsible for defeating yellow fever in the Panama Canal Zone, some scholarship money was set aside to support Black high school students to attend Tuskegee University. In the first Gorgas Competition in 1948, five scholarships were awarded, four to White students and one to a Black student (Myrtle V. Turner of Birmingham's historic Parker High School, who went on to earn a BS in Chemistry at Tuskegee). While the scholarships were targeted to separate, segregated universities, the amount awarded was the same.

Despite the presence of these diverse voices in the Academy in the early years, only decades later would women and minorities rise to leadership positions in the AAS. Geraldine Emerson, a UAB biochemist, would become the Academy's first woman president in 1980. She was quoted in AAS's 75th anniversary meeting program saying "*It has been a distinct pleasure for me to have been able to follow fifty-five able gentlemen as President of the Alabama Academy of Science*". It would be almost another 20 years before the Academy would elect its first Black president, Troy University chemistry professor Moore Asouzu (president 1998-1999).

Like Alabama, the AAS has gone through many changes, progressing toward increasing representation and inclusivity for the wide diversity of scientists in the state. Our new

Geraldine Emerson, UAB
First Woman President of AAS
1980-1981

Moore Asouzu, Troy University
First African American President of
AAS, 1998-1999

Associate Executive Director and 2024-2025 President Matthew Edwards of Alabama A&M University hopes to establish closer ties between AAS and the many HBCUs in the state, recognizing the major contributions those institutions have played in both the Academy and science education over the years in Alabama. One thing is certain — the next 100 years of the AAS will continue our trajectory to enrich and improve science in this state and beyond.

THE ACADEMY TODAY

Objectives of the Academy

According to its charter, 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.

The Annual Meeting

The annual meeting of the Academy is held in March or April on the campus of a college or university. Scientific papers are presented by members, graduate students and invited guests. Academy business is conducted, and scientific associations are renewed. The Alabama Junior Academy of Science, consisting of high school science clubs and their teacher-sponsors, meets at the same time. The two academies come together at a joint banquet where a guest speaker gives an address, and where prizes and awards are presented.

Publications

The Journal of the Alabama Academy of Science began as an annual publication in 1930 and became quarterly in 1958. The Journal is fully refereed and publishes scientific papers reporting original research in any of the eleven' discipline sections of the Academy. Each manuscript receives at least two simultaneous peer reviews. Timely review articles of exceptional quality and general readership interest are also

considered. Invited articles dealing with science activities in Alabama are occasionally published. Book reviews of Alabama authors are also accepted. The Journal is administered by an Editor and an Editorial Board. All members of the Academy receive the Journal.

Public Service

Members of the Academy are always available to the state government and various agencies for informational and advisory services. A resource directory listing specific capabilities of members is available and periodically is revised and updated.

Educational Activities

The Academy sponsors the **Alabama Junior Academy of Science**, a statewide organization of high school clubs. A Counselor and Two Associate Counselors, elected by the membership of the Academy, supervise the activities of the Junior Academy. The Junior Science and Humanities Symposium is an activity supported by the United States Army, the United States Navy, and the United States Air Force. In 2013, a partnership with Alabama Math, Science, & Technology Initiative (AMSTI) created the structure for the eleven local paper reading competitions for the Alabama Junior Academy of Science (AJAS). The symposium is primarily a paper-reading contest whose winners are given opportunities to participate in the National Junior Science & Humanities Symposium (JSHS). The Junior Academy also publishes a Journal, which includes research papers written by high school students, and it annually recognizes an outstanding high school science teacher.

The Academy sponsors seven **Regional Science Fairs** at which high school student's exhibit the results of their research or study projects. The best exhibits receive awards and are entered in the International Science and Engineering Fair. A Coordinator of Science Fairs, who is an elected officer of the Academy, supervises the regional fairs and arranges for participation in the international Fair.

The Academy also sponsors **the Science Olympiad**. Regional Winners compete at the state level and the Alabama winners go to the National Competition.

The Academy coordinates a **Visiting Scientist Network** in which volunteer members, upon invitation by a teacher, go to high schools to present talks, demonstrations, or workshops. Through this program, students and teachers learn about college, careers, society's problems, the methods of science, and life. around us.

Support is provided to graduate and to undergraduate students in the form of **research grants and travel grants**. Research grants assist students in completing projects required for degrees. Travel grants enable students to attend the annual meetings where they can present their research results in the Student Research Award Competition.

A student scholarship Program organized by the Academy in 1946 was the forerunner of the **Gorgas Scholarship** which was supported for many years by a Foundation set up in 1952, but which became solely supported by the AAS as of 2021. The Gorgas Scholarship Program conducts a statewide science talent search and awards scholarships to the winning high school senior students. The final judging is done at the Academy's annual meeting and the awards are announced there. Additional scholarships are offered to Gorgas Finalists and winners by most 4-year colleges and universities in Alabama.

The **Mason Science Teacher Fellowship** is awarded to a graduate student to enroll in a 5th Year Teacher Certification Program.

The newly inaugurated **Adriel D. Johnson, Sr. Mentoring award** will be granted for the first time in 2023 and honors an Alabaman who has demonstrated exceptional mentoring of scientists.

Sections

The AAS has grown to a society with over 600 members. The numerous disciplines, specialties and subspecialties of scientific endeavors are organized into ten sections as follows:

I. BIOLOGICAL SCIENCES
II. CHEMISTRY
III. PHYSICS AND MATHEMATICS
IV. ENGINEERING AND COMPUTER SCIENCE
V. SOCIAL SCIENCES
VI. ANTHROPOLOGY
VII. STEM EDUCATION
VIII. ENVIRONMENTAL AND EARTH SCIENCE
IX. HEALTH SCIENCES
X. BIOETHICS AND HISTORY AND PHILOSOPHY OF SCIENCE

Research

Over its 100-year history the Academy's purposes have centered on research and teaching. Annual scientific sessions and involvement in education activities within the state have constituted its major contribution. Educators, governmental and private industrial scientists and students have presented their work to colleagues for critical review and to develop ideas and determine new approaches to solving problems.

Alabama Junior Academy of Science

A History of AJAS
(from 1963 Executive Committee Minutes)

The organizational meeting of AJAS was held March 11, 1933 at Birmingham Southern College. Ten high schools, 5 outside the Birmingham area, attended prompting John Sampey to report *"This is a promise of a truly statewide organization of the future."* In 1937 James T, Kassner was appointed Acting Permanent Counselor AJAS, serving for over 10 years. The logo (left), designed by Junior Academy President Henry Shine in 1939 has the letters AJAS in high relief with a microscope, a retort and flashes of lightning symbolic of biology, chemistry and physics respectively. The AJAS conducts an annual meeting, including the Junior Science and Humanities Symposium and elects state officers. The 2022-2023 Officers are Dr. Mark Jones (State AJAS Director) and Dr. Mel Blake (Associate Counselor).

Paper Reading

Students present their posters at the annual meeting in Athens, 2022

The Alabama Junior Academy of Science sponsors the Alabama Junior Academy Symposium (AJAS) better known as Paper Reading, The Program is a Tri-Service – U.S. Army, U.S. Navy and Marine Corps, and U.S. Air Force and Space Force – sponsored STEM competition which promotes original research and experimentation in the sciences, technology, engineering, and mathematics (STEM) at the high school level and publicly recognizes students for outstanding achievement by connecting talented students, their teachers, and research professionals at affiliated symposia and by rewarding research excellence.

Students currently compete virtually in their AMSTI region to earn the ability to continue competition at the state level held jointly with the Gorgas Scholarship annually. The top five students from the state continue competition at the National Junior Science and Humanities Symposium. Registering to participate in a regional JSHS event is of no cost to the student and provides the opportunity to win scholarships.

AJAS Paper Reading Finalists 2022, Athens State University

Science Olympiad

Founded in 1984, Science Olympiad is the premier team STEM competition in the nation, providing standards – based challenges to 6,000 teams at 425 tournaments in all 50 states.

Science Olympiad comes in many shapes and sizes. At the K-6 level, Elementary Science Olympiad (ESO) program, can come in the form of a competitive tournament, a hands-on science Fun Day or an expert-filled Science Olympiad Fun Night. In grades 6-12, Science Olympiad functions much like an athletic team, requiring preparation, commitment, coaching and practice throughout the year. Each school-based team is allowed to bring 15 students who cross-train for a variety of events.

Science Olympiad competitions are like academic track meets, consisting of a series of 23 team events in each division (Division B is middle school; Division C is high school). Each year, a portion of the events are rotated to reflect the ever-changing nature of genetics, earth science, chemistry, anatomy, physics, geology, mechanical engineering

ISEF Team Alabama 2022, Atlanta, Georgia

and technology. By combining events from all disciplines, Science Olympiad encourages a wide cross-section of students to get involved. Emphasis is placed on active, hands-on group participation.

In Science Olympiad teams first compete at one of the regional level tournaments to earn a spot at the state competition held each spring. The top team from the state tournament then represents the state at the National Event in May.

Science Fair

Affiliated fairs are members of the Society for Science network. These competitions exist in nearly every state in the United States as well as over 70 other countries, regions and territories. Fairs are conducted at local, regional, state and national levels and can be affiliated with the International Science and Engineering Fair (ISEF). To compete at ISEF, a 9th-12th grade student must first win the honor through participation at a Society-affiliated fair. Each affiliated fair has a designated number of projects (individual or team) that they may support to come to ISEF.

Most science fairs in the U.S. and U.S. territories are held from January through March and must observe the International Rules for Pre-college Science Research. In Alabama school or local fairs are held for students in grades 6-12 to determine which projects move on to one of the four regional fairs. At the regional fairs' students compete to progress to state competition. The top projects at the regional fairs are eligible for a variety of awards and prizes including the coveted advancement to compete at ISEF. State science fair competition also challenges competitors to perform their best for the chance to win recognition, awards, and a spot on the state ISEF team.

GEARSEF 2020

Gorgas Scholarship Competition

In 1947 a joint committee from the AAS and the Alabama Chamber of Commerce met and drew up procedures for establishment of the General William Crawford Gorgas Scholarship named for Alabama's world-renowned physician who conquered yellow fever in the Panama Canal Zone. The competition which includes the Alabama Science Talent Search and final judging of projects is concluded at the joint meeting of the AAS and AJAS with awards announced at the banquet, Winners receive scholarship awards up to 4 years tuition to attend an Alabama College or University. From the original description of the Gorgas program:

"IMMEDIATE PURPOSE: To discover, encourage and foster the higher education of ambitious boys and girls attending Alabama schools — Who possess more than ordinary scientific skill; Who indicate uncommon creative talent; and Who, upon reaching maturity, it is hoped will have, like General Gorgas: Capacity for leadership, Patience to overcome ignorance, Courage to resist ridicule, Conviction based on truth, Persistence to overcome obstacles to progress and Stick-to-it-iveness to carry on a great work whenever a noble cause is to be served.

REGIONAL PURPOSE: To lift the economic level of the South through scientific endeavor.

BROAD PURPOSE: To focus attention on the function of Science in a disordered world and its long-range objectives as they pertain to-Agriculture, Industry, Education, Public Health, National Defense, World Peace, Broader Horizons."

High school seniors from across the State compete in the final judging of the Gorgas Scholarship Program in the spring in conjunction with the meeting of the Alabama Academy of Science (AAS) and the Alabama Junior Academy of Science (AJAS). Scholarships of up to $4000 are awarded to winners and many Alabama colleges and universities offer further scholarships up to full 4-year tuition awards. In order for a student to enter the Alabama Science Talent Search, the student must enter the Intel National Science Talent Search (formerly sponsored by Westinghouse). Applications include the report of student's original scientific research, transcript, essay and recommendations.

The 2022 Gorgas Competition at Athens State University

Adriel D. Johnson, Sr. Mentoring Award

The Alabama Academy of Science is pleased to announce its newest award, the Dr. Adriel D. Johnson, Sr. Mentoring Award, which will be bestowed for the first time at the 100th Annual Meeting "A Celebration of Mentoring" event, Wednesday, March 8th, 2023, at the Vulcan Museum, Birmingham, AL.

Dr. Adriel D. Johnson, Sr.

Dr. Adriel D. Johnson, Sr., PhD, was a native of Tuskegee Alabama and following graduation from Tuskegee Institute High School, earned an undergraduate degree in Biology from Washington University in St. Louis. Johnson earned two master's degrees - one in biology-population genetics from Tennessee Technological University in 1981, and the second in biology-muscle protein biochemistry from University of Alabama in Huntsville (UAH) in 1986. Dr. Johnson earned his doctorate in Animal Science and Nutritional Physiology from North Carolina State University (1989). Dr. Johnson was a member of the biology faculty at the University of Alabama in Huntsville for over twenty years.

During his career, Dr. Johnson mentored and encouraged countless students across the United States in STEM degree attainment. He served as the faculty advisor for multiple student groups and held leadership roles in the Alabama Louis Stokes Alliance for Minority Participants, the Bridge to Doctorate, and the Alliance for Graduate Education and the Professoriate (AGEP) programs. He received numerous awards including the NASA/ASEE Award for Research and Summer Research Mentor Award, and UAH Student Government Association Outstanding Faculty Award.

Serving his community, Dr. Johnson was a life member of the National Eagle Scout Association, mentored hundreds of scouts through Merit Badge advisement in the Greater Alabama Council of the Boy Scouts of America, and served as a coach for community baseball. He was a life member of the Alabama Academy of Science (AAS),

providing significant leadership as an officer and member of the AAS Executive Committee. His students presented to the Annual Meeting, and he served in numerous roles in the Academy. His vision for the Academy included growing its mentoring of students across all educational and professional levels. He was beloved by students and colleagues alike.

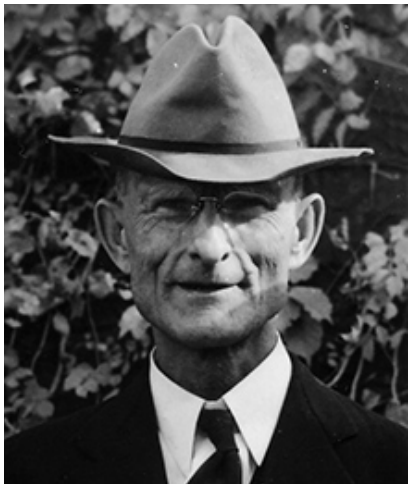
Though he encouraged and mentored all students, mentored faculty colleagues and other professionals, he had a deep passion and commitment to mentoring minority students. He is one of the consummate models of mentoring. One of his favorite phrases was “Success equals Graduation.

The Adriel D. Johnson, Sr. Mentoring Award is instituted to recognize outstanding mentors at the collegiate and high school levels. Awardees must be current or former Alabama residents and must demonstrate evidence of exceptional mentoring of individuals in Alabama.

PAST PRESIDENTS OF THE AAS

The first AAS president, Wright Gardner, was an obvious choice, since the academy was both his idea and his handiwork. In the ensuing 100 years, a veritable who's who of Alabama scientists have occupied the role. Look through this gallery of presidents for a glimpse at how the face of the society had changed over the years. We weren't able to locate photographs for all of our presidents — if you can help us locate the missing faces, please let us know!

Wright A. Gardner
1924-1926



Stewart J. Lloyd
1926-1927

John R. Sampey
1927-1928

Fred Allison
1929-1930

Emmett B. Carmichael
1930-1931

J. F. Duggar
1932-1933

Russell S. Poor
1934-1935

Walter B. Jones
1936-1937

Roger W. Allen
1937-1938

Patrick H. Yancey
1938-1939

George D. Palmer
1939-1940

C. M. Farmer
1940-1941

James L. Kassner
1946-1947

John Xan
1947-1948

Cleburne A. Basore
1949-1950

J. Henry Walker
1951-1952

Joseph F. Volker
1953-1954

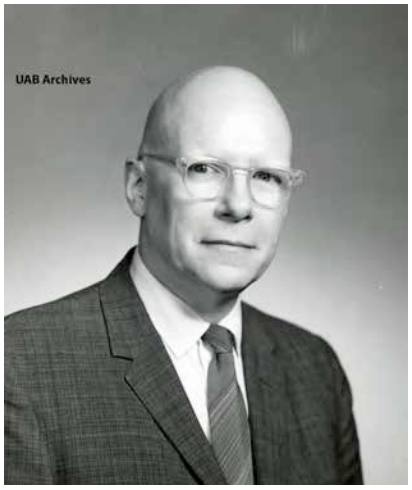
William T. Wilks
1954-1955

Ralph Chermock
1955-1956

J. Allen Tower
1956-1957

Howard Carr
1957-1958

Herbert A. McCullough
1958-1959

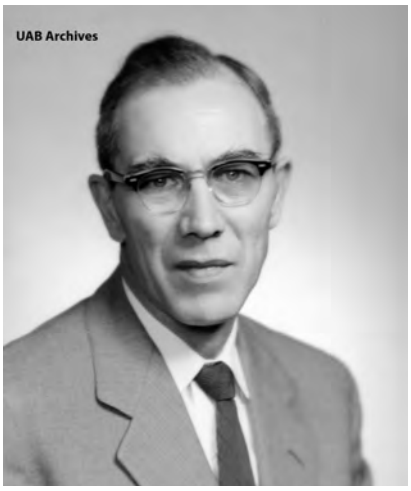


Samuel B. Barker
1959-1960

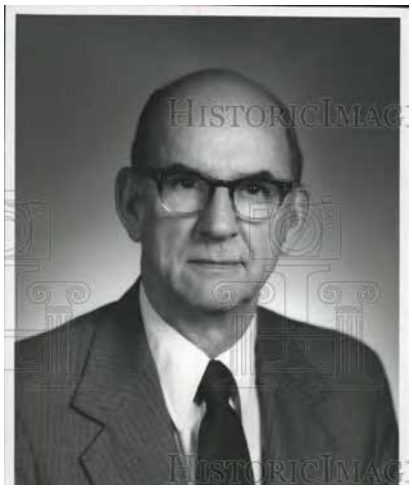
James R. Goetz
1960-1961

Paul C. Bailey
1961-1962

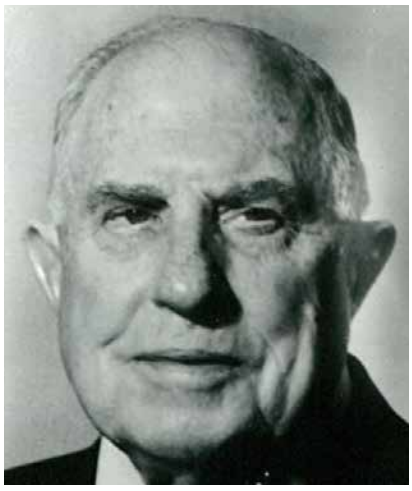
Louis J. Eisele
1962-1963



E. Carl Sensenig
1963-1964



William J. Barrett
1964-1965



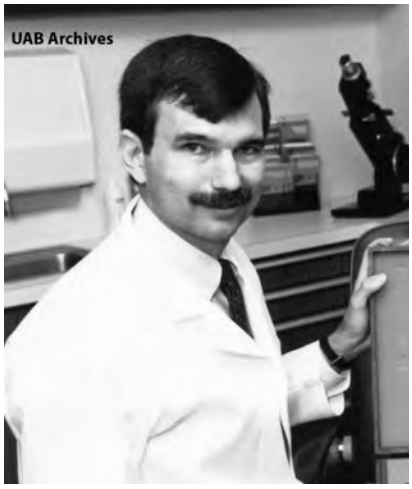
James F. Sulzby, Jr.
1965-1966

David L. DeJarnette
1966-1967

H. Ellsworth Steele
1967-1968

Ruric E. Wheeler
1968-1969

G. O. Spencer
1971-1972



Reuben B. Boozer
1974-1975

Urban L. Diener
1976-1977

William Arendale
1978-1979

Geraldine M. Emerson
1980-1981

Charles M. Baugh
1982-1983

Raymond E. Isbell
1983-1984

John F. Pritchett
1984-1985

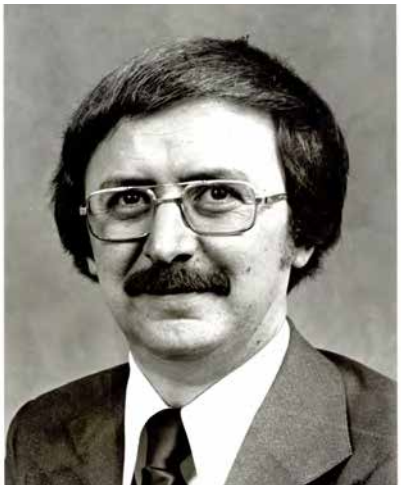
Stanley T. Jones
1985-1986

Philip G. Beasley
1986-1987

Howard Dean Moberly
1987-1988

Richard L. Shoemaker
1988-1989

Adriane G. Ludwick
1989-1990



Michael E. Lisano
1990-1991

Ken R. Marion
1991-1992

Michael B. Moeller
1992-1993

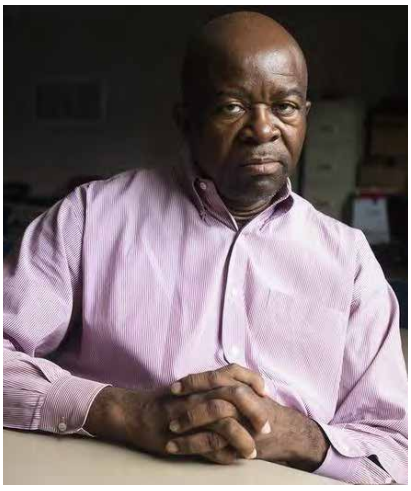
Prakash Sharma
1993-1994

Eugene Omasta
1994-1995

Dan C. Holliman
1995-1996

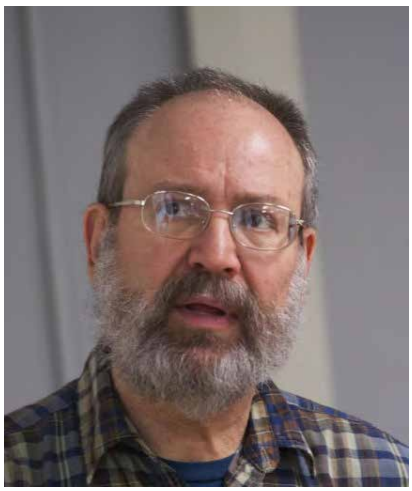
Thomas S. Jandebeur
1996-1997

Ellen B. Buckner
1997-1998



Moore Asouzu
1998-1999

Larry R. Boots
1999-2000

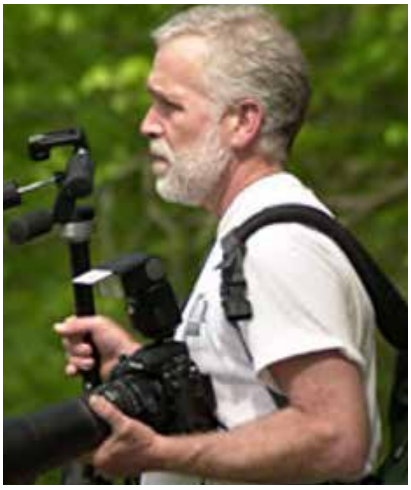


Richard Hudiburg
2000-2001

Roland Dute
2001-2002

Stephen A. Watts
2002-2003

Anne M. Cusic
2003-2004



Ronald L Jenkins
2004-2005

Larry Davenport
2005-2006

David Nelson
2006-2007

George Cline
2007-2008

Kenneth Roblee
2008-2009

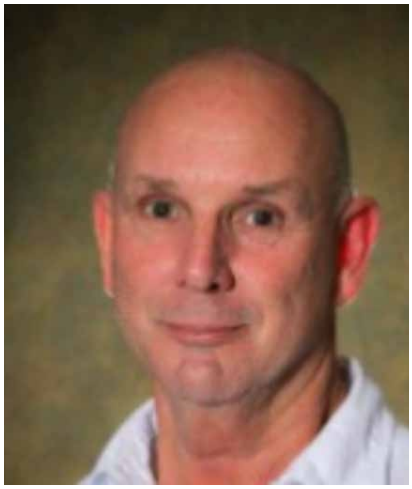
D. Brian Thompson
2009-2010

Brian Burnes
2010-2011

Mickie Powell
2011-2012

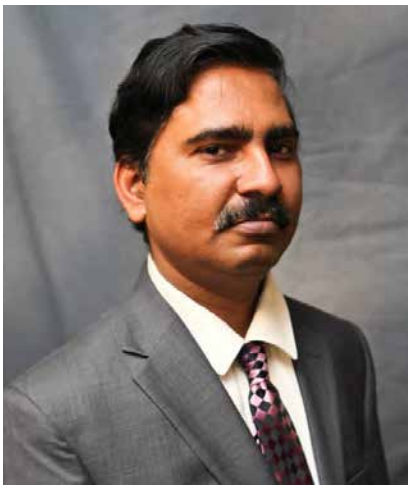
Ronald N. Hunsinger
2012-2013

Emanuel Waddell
2013-2014



John McCall
2014-2015

Brian R. Toone
2015-2016



Akshaya Kumar
2016-2017

Ketia Shumaker
2017-2018

Nixon Mwebi
2018-2019

Drew Hataway
2019-2020

Cameron Gren
2020-2021

John Shelley-Tremblay
2021-2022

J. Jeffrey Morris
2022-2023

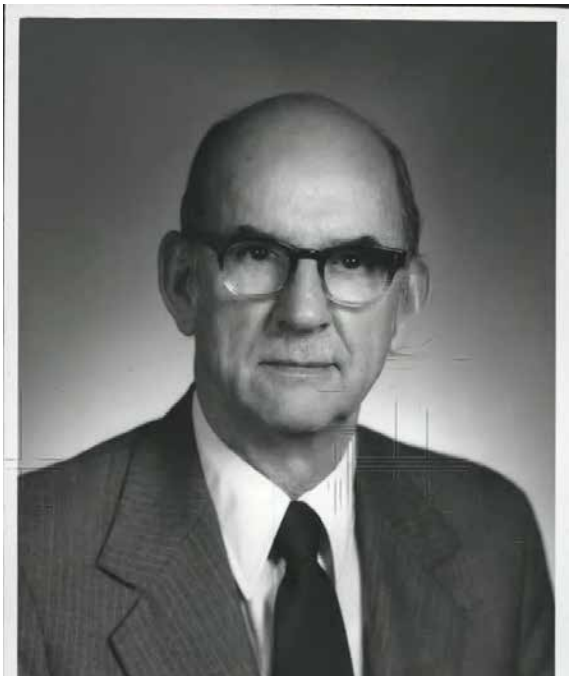
Vinoy Thomas
2023-2024

Matthew Edwards
2024-2025

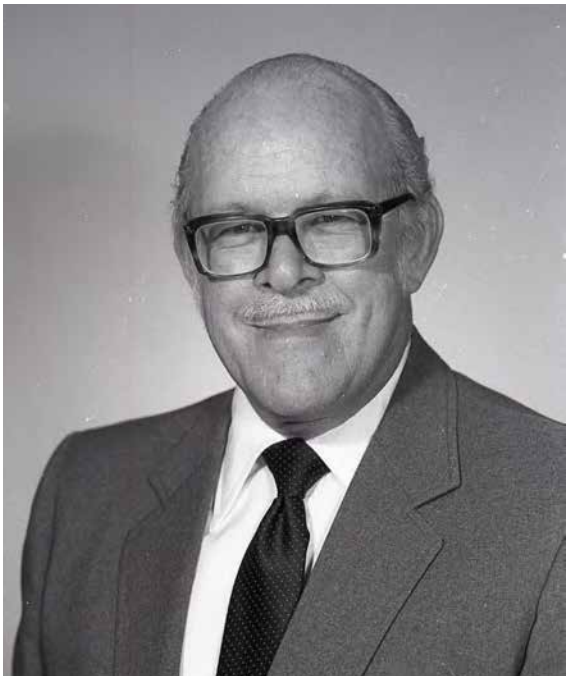
Not pictured:

Walter C. Jones 1928-1929
George J. Fertig 1931-1932
J. L. Brakefield 1933-1934
A. G. Overton 1935-1936
Paul D. Bales 1941-1942
W. M. Mobley 1942-1943
E. V. Jones 1943-1944
J. T. McKenzie 1944-1945
J. M. Robinson 1945-1946
Eugene D. Emigh 1948-1949
Harold E. Wilcox 1950-1951
John A. Fincher 1952-1953
Wilbur B. DeVall 1969-1970
W. L. Furman 1970-1971
Joseph C. Thomas 1972-1973
Robert T. Gudauskas 1973-1974
Thomas E. Denton 1974-1975
James C. Wilkes 1977-1978
Jack H. Moore 1979-1980
Kenneth Ottis 1981-1982

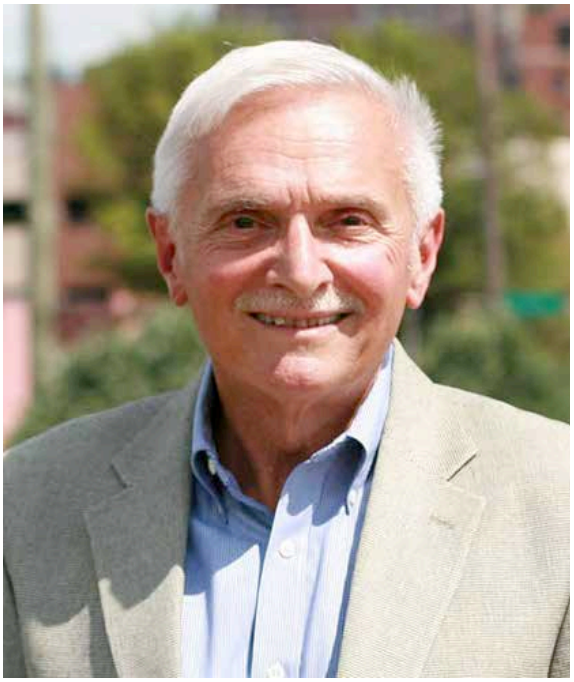
EXECUTIVE DIRECTORS OF THE AAS



William J. Barrett
1982-1990



Leven S. Hazlegrove
1990-2003



Larry Krannich
2003-2022

John Shelley-Tremblay
2022-present

Associate Executive Directors of the AAS

John Shelley-Tremblay 2018-2022
Matthew Edwards 2023-Present

AAS Journal Editors

Ernest V. Jones 1930-1942
Emmett B.Carmichael 1942-1948
John Xan 1948-1954
Paul Bailey 1954-1960
Asael T. Hansen 1960-1962
C.C. Hall 1962-1963
E.D. Chastain, Jr. 1963-1965
Robert T. Gudauskas 1965-1972
Elroy A. Curl 1972-1974
Thomas J. Carrington 1974–1977
William H. Mason 1977-1990
James T. Bradley 1990-2005
Safaa al-Hamdani 2005-2017
Brian R. Toone 2017- present

Wright A. Gardner Awardees

1984 Robert P. Bauman
1985 Nolan E. Richards
1986 S. T. Wu
1987 Herbert H. Winkler
1988 Richard W. Compans
1990 Max Cooper
1991 Dan Urr
1992 Gail Cassell
1994 Frank Rose
1996 Prakash Sharma
1997 Robert E. Pieroni
1998 Thomas J. Wdowiak
1999 Samuel B. Barker
2000 George Crozier
2001 James B. McClintock
2002 Sara C. & Wayne H. Finley
2003 Leven S. Hazlegrove
2004 William J. Barrett
2005 Eugene Omasta
2006 Dan Holliman
2011 J. Michael Wyss
2013 David B. Allison & Ram Gupta
2014 Arnold Luterman
2015 Shaik Jeelani
2016 Pradeep Lall
2017 E. O. Wilson
2019 David J. Wineland
2020 Richard Myers
2020 Jodi Singer
2021 Errol Derwin Crook
2022 Michael Saag

Fellows of the AAS

Ellen Buckner (2007)
Leven Hazlegrove (2007)
Richard Hudiburg (2007
Larry Krannich (2007)
Eugene Omasta (2007)
Prakash Sharma (2007)
Ram B. Gupta (2008)
Harry O. Holstein (2008)
Adriane G. Ludwick (2008
Ken Marion (2008)
Michael B. Moeller (2008)
Stephen A. Watts (2009)
Jane Nall (2009)
George Cline (2010)
David H. Nelson (2010)
Virginia Villardi (2010)
James T. Bradley (2011)
Anne Cusic (2011)
James B. McClintock (2011)
Benjamin J. bateman (2012)
Edward E. Thomas (2012)
Safaa H. Al-Hamdani (2013)
Catherine D. Shields (2013)
Brian Burnes (2014)
Ronald N. Hunsinger (2014)
Pradeep Lall (2014)
Mickie Powell (2015)
David Brian Thompson (2015)
Mark Jones (2018)
Akshaya Kumar (2018)
Lawrence J. Davenport (2019)
Puneet Srivastava (2019)
Mel Blake (2020)
Arjun Tan (2020)
Matthew Edwards (2022)
Courtney N. Haun (2022)