

2023-24 Neutrino Mid-year Special Edition



American Nuclear Society
Savannah River Section

January 2024 to March 2024 Edition

Web address: <http://local.ans.org/savriv/>

Officers and Executive Committee

Chair: Michelle Johnson

Vice Chair: Bob Sindelar

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Scholarship: Mukesh Gupta

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Programs Co-Chairs: Rebecca Rice and Kevin O’Kula

Past Chair: Kevin O’Kula

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Chair and Vice Chair Messages

Chair

Dear ANS- SRS,

In this special edition of the Neutrino, we would like to dedicate it in memory of our dear colleague Kenneth John Hofstetter, PhD., 83, passed away suddenly Monday evening, January 15, 2024. When we heard that Ken was no more, we were shocked and saddened. Death has taken away a genuinely warm individual, more importantly a loving husband and father and deprived so many others, including us all, of a good friend. While we mourn the loss of a colleague, we pay tribute and celebrate a life that was well lived. A life committed to advancing the nuclear industry. Not many leave behind a legacy of such dedication and accomplishment.

A native of the Quad Cities, IL, Ken was a son of the late Glenn and Maxine Glancy Hofstetter. He attended Augustana College in Rock Island, IL, where he met his future wife. He graduated with a BA in Chemistry and earned his PhD in Nuclear Chemistry from Purdue University. He was a professor at Texas A & M and the University of Kentucky prior to entering the nuclear field. Ken moved to the Aiken area in 1974 and worked for a short time at Allied-General Nuclear Services as a Radiochemistry Supervisor before moving to Pennsylvania in 1980 to work at Three Mile Island Nuclear Station as a Radiochemical Engineering Supervisor. In 1987, when the TMI cleanup was completed, he returned to Aiken and went to work as a Senior Advisory Scientist at Westinghouse Savannah River Company and was a senior scientist at the Savannah River National Laboratory, when he retired in 2007. Ken was a highly skilled nuclear spectroscopist with an extensive background in nuclear and radiochemistry techniques in environmental radiation monitoring. He has worked with the FBI, USCG, Homeland Security and United Nations searching for WMD in Iraq. His major accomplishments include several patents and licensed technologies in the field of radiation detection, has more than 130 publications in the scientific literature, and has been listed in multiple editions of Who's Who in America and Who's Who in the South and Southwest. Ken was very active in the Aiken community. He was a member of South Aiken Presbyterian Church where he was an elder, trustee, served on the administration committee and was a faithful member of the choir. He was instrumental in setting up the endowment fund at SAPC. Ken was a member of South Boundary and the Aiken Singers. At the time of his death, Ken was preparing to teach a class beginning in February on nuclear accidents for the Academy of Lifelong Learning at USC-Aiken.

Ken was a brilliant and visionary leader who achieved national recognition for his work in the nuclear industry. Despite his established background and position, Ken was a modest man; and a real gentleman. Life can be fleeting. But a life lived to the fullest stays in fond memories. Ken through his decorum and grace endeared himself to many. This is particularly a difficult and painful time for his family. In extending to them our heartfelt condolences, we wish them courage and strength to bear this irreparable loss.

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Chair and Vice Messages (contd)

Thank you, members, for your continued participation and enthusiasm in our professional community, and sponsors for your incredible support. Finally, I'd like to give a special shout-out of appreciation to our Executive Committee and to Diane Shelton, our Executive Administrator, for their tireless work on behalf of the ANS-SRS, and to the section for all the resources, guidance and support they provide each and every day.

Thank you all!

Michelle Johnson

ANS-SR Section 2023-2024 Chair



Vice Chair

Dear ANS-SR Section Members and Friends of the ANS-SR Section,

It is an honor and a privilege to take the reins from Michelle Johnson and serve as your ANS-SR section chair for the upcoming 2024-2025 year. Our Savannah River Section celebrated our 60th Anniversary in the Fall of 2023. This “diamond jubilee” milestone achievement is a testament to the impactful and enduring role of nuclear science and technology in our lives. Our forebears gave us a baton to carry on. You and our immediate leadership team of the section landed us the 2023 “Best Local Section Meritorious Award” from national ANS, reflective of our stellar membership, programs, information & education, and section management. Let’s keep it going!

Since 1986, I have lived and worked in the CSRA after being hired at the then Savannah River Laboratory by - you didn’t guess it – our own Dr. Kevin R. O’Kula. I have had broad experiences over my career that involve nuclear technologies spanning the conventional nuclear fuel cycle, the next generation nuclear energy systems, and in the pursuit of commercial fusion energy plants. If you have questions, just ask me - I know it all, and I am right - I am Bob!

Seriously speaking, I look forward to serving as chair of our ANS-SR section, and I will take all your suggestions (under advisement!). Nuclear plants have gone from initial design lives to “life after 60” and beyond. Our SR section will be there with them too using your energy and enthusiasm in your

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Chair and Vice Messages (contd)

participation and service. Over this past year, I have seen our young and a young-at-heart membership in action. I am certain we will continue to grow and thrive as a section!

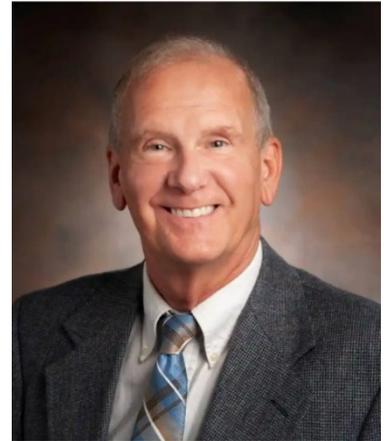
Looking forward to the 2024-2025 year of our section.

All the Best,

Bob Sindelar

slr072@aol.com

2023-24 Vice Chair

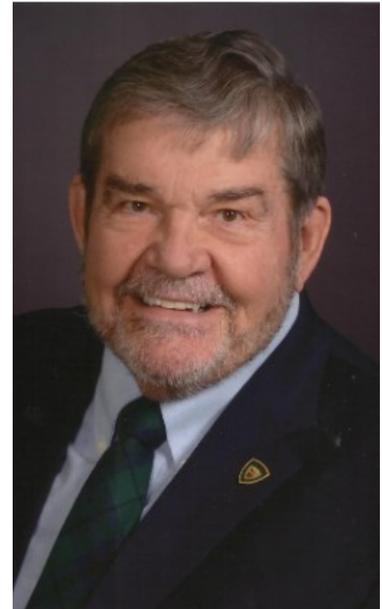


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Losing an ANS Giant

In its 60 years of existence, the ANS Savannah River Section (SRS) has benefited from many “giants,” who were experts in their field, cared about ANS locally and nationally, and enriched local activities in their communities through their active leadership and participation. On Monday, January 15, 2024, ANS SRS, Aiken area and the entire nuclear science and technology profession lost a true giant with the sudden passing of Ken Hofstetter.

While Ken was tall in stature, he was known as a gifted nuclear professional and a remarkable person that many of us got to know through ANS SRS networking and scholarship activities. He served in many ANS National and SRS leadership roles, including chairing ANS SRS in the 1990s, and most recently as the Scholarship Co-Chair. He was an advocate in his support of STEM education and supported the nuclear science and technology community through ANS SRS and the Citizens for Nuclear Technology Awareness scholarship activities. Ken was a conscientious and meticulous judge in each of the first ten years of the Benjamin Memorial Scholarship and celebrated with us whether in person or in Zoom format each time a new group of scholarship winners was recognized.



Kenneth J. Hofstetter
1940-2024

In 2021, Ken Hofstetter, was the Retiree Liaison for ANS SRS and submitted a short bio-sketch to the ANS SRS website to help newcomers as well as old-timers get to know him a little better. It reads: “I grew up in Moline, IL, graduating from Purdue University with a PhD degree in Nuclear Chemistry followed by a post-doc at Texas A&M University. Continuing in academia, I taught and led research programs in nuclear sciences at the University of Kentucky in Lexington, KY for 5 years. Feeling the call of the nuclear industry, I took a position at the AGNS facility in Barnwell providing radiochemical and nuclear instrumentation support for nuclear fuel reprocessing as a means to close the nuclear fuel cycle. Political pressure closed the facility before hot operations. In 1979, the accident at Three Mile Island Unit 2 occurred as the most significant event in the history of the commercial nuclear power industry. I was asked to come to Middletown, PA and support the decontamination and defueling of the crippled reactor. For almost 7 years I provided that support through defueling and shipping of the damaged fuel. [Editor’s note: At the time of his death, Ken was preparing to teach a class in February on nuclear accidents focusing on TMI for the Academy of Lifelong Learning at USC Aiken]. Upon achieving those milestones, I was offered a position at the Savannah River Site working for DuPont, Westinghouse, and the Savannah River National Laboratory. I applied my skills in nuclear radiation detection development to support environmental monitoring and eventually to Homeland Security in their search for Weapons of Mass Destruction (WMD) post 9/11. I retired from SRNL in 2007 and remain in Aiken with my family.”

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Losing an ANS Giant (contd)

Ken was an international technical leader in nuclear and radiochemistry, and environmental radiation monitoring. In the vein of Dick Benjamin (with whom Ken worked with at SRNL), he was a subject matter expert “giant” as an environmental scientist for SRNL and outside federal agencies especially in the in the field of detection of WMD. With over 100 technical publications spanning many topics, he discussed cutting edge work *from radiation detection in Iraq, microorganisms at TMI* (e.g., Kenneth J. Hofstetter & Beverly S. Ausmus, 1989, *The Identification and Control of Microorganisms at Three Mile Island Unit 2*, Nuclear Technology, 87:4, 837-844, DOI: 10.13182/NT89-A27677), and many more. His technical division membership in ANS was with the Isotopes and Radiation Division (IRD).

Ken was by no means an “all-work” guy. If you were with us at the 60th Anniversary of ANS SRS in November, Ken gave a brief announcement of opportunities to hear holiday choral singing in the Aiken area. True to his stature, he was a second bass with Aiken and South Boundary Singers, and with his church choir at South Aiken Presbyterian Church.

To say that Ken Hofstetter will be missed by ANS SRS and the Aiken-Augusta community is a tremendous understatement. However, we can honor his legacy by striving to promote understanding of nuclear science and technology in our own way, mentoring younger colleagues, and contributing our talents in the areas for which we are most passionate.

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Technical Meeting

February 2024

Professor Steven Biegalski of Georgia Tech Discusses the Consortium for Enabling Technologies & Innovation (ETI) and Obtaining Signatures from Additive Manufacturing

Professor Biegalski, the Nuclear and Radiological Engineering and Medical Physics Program Chair at the Georgia Institute of Technology, spoke to an audience of 22 at the Section's February 15th meeting at Rio Cantina in North Augusta. Professor Biegalski's talk was a cross-cutting discussion that highlighted all three thrust areas in the Consortium for Enabling Technologies & Innovation (ETI) with a discussion entitled "Signature Discovery within Additive Manufacturing." ETI is sponsored by NNSA with twelve national laboratories (including Savannah River National Laboratory) and fourteen university partners.

In his presentation, Professor Biegalski noted the team's main goal for the project is to identify signatures from additive manufacturing. While advances in manufacturing technology enable the production of complicated physical objects with less effort and skill than traditional manufacturing, there is a concern that a proliferator could bypass export controls through the utilization of advanced manufacturing. He showed examples of how signatures can be extracted from data collection to identify manufacturing methods and the objects being manufactured.



Dr. Biegalski discusses additive manufacturing

Before coming to Georgia Tech, Dr. Biegalski was a faculty member at The University of Texas at Austin for 15 years and held the position of Reactor Director for The University of Texas at Austin TRIGA reactor for over a decade. Earlier in his career, he was the Director of Radionuclide Operations at the Center for Monitoring Research. In this position, Dr. Biegalski led international efforts to develop and implement radionuclide effluent monitoring technologies, supporting both U.S. national capabilities and international treaties.

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Technical Meeting (contd)

Dr. Biegalski holds Professional Engineering licenses in the states of Texas and Virginia. He has three degrees in nuclear engineering from the University of Maryland, University of Florida, and University of Illinois, respectively. He has published over 200 peer-reviewed articles, three book chapters, and has advised 28 Ph.D. students to their PhDs.



Following Dr. Biegalski's talk and the Q&A session, Chair Michelle Johnson presented Savannah River Section member Carl Fields a certificate from ANS for 50 years of National membership. Carl is the Savannah River Section's Retiree Liaison and joined as a young engineer with Bettis Atomic Power Laboratory outside of Pittsburgh.



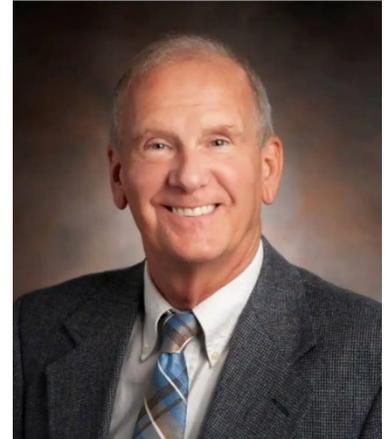
ANS SRS Chair Michelle Johnson presents Carl Fields with a 50-year certificate from ANS National.

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Future Technical Meeting

March 2024

Dr. Robert L. Sindelar of the Savannah River National Laboratory (SRNL) will give a presentation entitled, "Challenges and Solutions for Safe Management of Spent Nuclear Fuel." In his presentation, Dr. Sindelar plans to highlight various forms of spent nuclear fuel (SNF) and indicate that a key goal of SNF storage is to ensure general safety objectives are met throughout a desired storage period either in wet or dry storage systems. He will note that staff at SRNL in collaboration with partners at other national laboratories, industry research organizations, and the University of South Carolina, have performed materials aging testing and analyses, and have established nuclear materials aging management programs to support extended periods of safe storage of SNF. Examples of challenges to extended safe storage are from corrosion, hydrogen radiolysis, and chloride-induced stress corrosion cracking. The presentation will describe several challenges and the formulated solutions to support extended safe storage of SNF.



Dr. Sindelar, Laboratory Fellow at SRNL

Dr. Sindelar is a leading international expert in nuclear materials science & technology in the broad fields of aging effects and aging management of structures, and applications of materials in nuclear systems. Dr. Sindelar has 38 years of research, development, and deployment (RD&D) experience and a publication portfolio (175 external publications, and 200 internal reports at the Savannah River Site) in a broad range of materials disciplines for the nuclear fuel cycle; nuclear systems' structural integrity demonstrations; environmental degradation including mechanical and corrosion properties of ferrous materials and of aluminum alloys; irradiation effects; fracture analysis of metallic structures and components; and national codes & standards relevant to these areas.

Time/Date: 6:00 PM, Tuesday, March 19, 2024

Venue: Newberry Hall, 117 Newberry Street SW • Aiken, SC 29801 (803) 641-7087

Menu: Buffet featuring Homestyle Pot Roast, Grilled Chicken Newberry, Herbed Orzo Pasta, Fresh Seasoned Vegetable, Mixed Greens Salad with house-made dressing, Iced Tea and Water, Coffee Station, and Peach Cobbler dessert.

No-host bar is available.

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Future Technical Meeting (contd)

Cost:

- ANS Member (& their guest) Cash or Check: \$39
- ANS Member (& their guest) PayPal or Credit: \$41
- Non-ANS members (all payment methods): \$44
- Full-time Students and Educators (all payment methods): \$20

To attend this event, use the SurveyMonkey link to reserve space for you and guest(s)
<https://www.surveymonkey.com/r/Q56FGXG>. Alternatively, email: ans.savannahriver@gmail.com.

May 2024

Planning is in the beginning stages to make an ANS membership presentation to the employees of Plant Hatch. Hatch is a BWR power plant in Baxley, GA and is owned by Georgia Power. Savannah River Section members will travel to Hatch to present ANS and section membership. Plant Hatch is in the Savannah River Sections' membership area. A tour of the plant will be conducted at the conclusion of the meeting. Details to follow in emails and notices.



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Outreach

On January 30th, the American Nuclear Society Savannah River Section (ANS-SRS) Webmaster James Deaton, gave a presentation via MS Teams to Savannah River Mission Completion's (SRMC) READY group of engineers. The group consisted of approximately 30 engineers in a variety of disciplines working on the Savannah River Site. The presentation provided an overview of ANS-SRS, introduced local members, and outlined key events slated for 2024. The primary focus was to acquaint newer engineers with the opportunities for professional networking within the nuclear industry, emphasizing the potential for cross-collaboration across various projects and sectors. A summary of 2023 events and speakers was presented and insight to the February technical dinner was presented along with invitation to attend. Follow on Q&A gave attendees time to ask questions and get information about joining our chapter. The Teams session was recorded and subsequently disseminated to the entire SRMC READY distribution list, encompassing approximately 100 members, to ensure broader accessibility and knowledge sharing.

Other Events

UP and ATOM Breakfast

Citizens for Nuclear Technical Awareness (CNTA) held its annual Up and Atom breakfast at Newberry Hall in Aiken, SC on March 13th. The speaker was Dr. Kallie Metzger of Westinghouse. Her presentation was entitled "Fuel Strategy For the Westinghouse eVinci Reactor" Dr. Metzger is the Director of eVinci Fuel for the Westinghouse microreactor. The eVinci is a microreactor that can produce 5MWe for 8 years fuel power operation without refueling. Its small size allows for rapid transportation and delopment.



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Benjamin Memorial Scholarship



Savannah River Section, P.O. Box 7001, Aiken, SC 29804



<http://local.ans.org/savriv/>

2024 American Nuclear Society Savannah River Section ELEVENTH ANNUAL BENJAMIN MEMORIAL SCHOLARSHIP



The Benjamin Scholarship is a competitive financial award given in memory of Dr. Richard W. Benjamin towards the first year of a four-year Science, Technology, Engineering and Mathematics (STEM) College/University, or either year of a two-year Technical College degree program.

- **Scholarship Award amounts will be based on number & quality of applications.**
- **Seeking students with STEM career goal, potentially interested in a Nuclear Science and Technology career.**
- **Current CSRA graduating high school seniors or first-year technical college students are eligible.**
- **Application window : January 22 - April 29, 2024**
- **Required Application Materials and Evaluation Criteria (%):**
 1. Cover letter including name, address, evening phone number, current school, home email address and name of college or technical school to which the Benjamin Memorial Scholarship would be applied. If the school is uncertain, then name the current top choice. Also, at the end of the cover letter, add a one-sentence non-school related fun fact about yourself (10%).
 2. A one-page essay (300 words or less) on why a career in science, technology, engineering, and mathematics, and educational is the goal of the student; Highlight what you plan to pursue in college & potential career goals (40%)
 3. High school transcripts (seven (7) semesters in the case of current high school seniors); plus first-semester transcripts for applicants who are first-year technical college students, along with their entire high school transcript; (20%)
 4. Two (2) letters of recommendation from education institution or community organization individuals (e.g., teachers, coaches, service or religious organization leaders, etc.). Each recommendation is weighted 15%. (30%)
- **Submit application materials by: 1) Email with attachments to: ans.savannahriver@gmail.com, or 2) U.S. mail to:
Benjamin Scholarship, ANS-Savannah River Section, P.O. Box 7001, Aiken, SC 29804**
- **Scholarship Award(s) will be announced in July 2024.**

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Benjamin Memorial Scholarship (contd)

The ANS Savannah River Section sponsors a scholarship in memory of Dr. Richard Benjamin. The Benjamin Scholarships are given to help defray first-year college costs for an academic year of study and are provided in the memory of its long-time member, Dr. Richard (Dick) Benjamin (1925-2013). The award is now in its ninth year and is for students expressing academic and career interests in a STEM field, and particularly those wishing to major in a field associated with nuclear science and technology.

Dr. Benjamin was a mentor to many nuclear science and technology professionals in the Aiken-Augusta area for over four decades. He received his BA in Engineering from Lamar University, MS in Nuclear Engineering from Southern Methodist University, and earned his PhD in Nuclear Physics from the University of Texas in 1965. After a three-year post-doctoral study at the Swiss Federal

Institute of Technology, Dr. Benjamin came to the Aiken-Augusta area in 1968 with the acceptance of employment at the Savannah River Laboratory (now Savannah River National Laboratory). He worked in many technical areas during his Savannah River Site career, most notably the Reactor Physics, Atmospheric Technologies, and Advanced Planning Groups, followed by the Accelerator Production of Tritium Project.

During his long and illustrious ANS career, he was active with two of its divisions, the Fuel Cycle and Waste Management and Environmental Sciences Divisions, and served as a chair for each one at different times. In June 1992, Dr. Benjamin had the honor of representing ANS at the first United Nations Framework Convention on Climate Change held in Rio de Janeiro, Brazil. He served in many ways and held key offices with the Savannah River Section of ANS. Dr. Benjamin was co-director of the local Tasters Guild, a wine and food appreciation society, and was an avid supporter of the Augusta Opera and the Augusta Choral Society. He also enjoyed outdoor activities such as hunting and skiing, and helped found the Aiken Dove Club. He was a co-founder and proprietor of Wine World in North Augusta, where many ANS Savannah River Section Executive Committee meetings were held until its closing in 2019.



Dr. Richard (Dick) and his wife, Sally Benjamin, circa early 2000s.

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Benjamin Memorial Scholarship (contd)

American Nuclear Society (ANS)

ANS is a professional and technical society of approximately 10,000 engineers, scientists, education professionals and students worldwide that work to promote the awareness and understanding of applications of nuclear science and technology for the benefit of humankind. The ANS Savannah River Section is a 501(c) 3 organization under IRS guidelines. Donations to ANS are tax deductible as allowed by law.

Donations can be sent to the following address and checks can be made out to ANS Savannah River Section.

ANS Savannah River Section
PO BOX 7001
Aiken, SC 29804

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Corporate Sponsorship

The section would like to thank the following companies their support of our endeavors:



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Plant Vogtle Status

The new construction at Plant Vogtle in Burke county is complete. Unit 3 has been in commercial operation since July 2023. Unit 4 is loaded with fuel, has obtained initial criticality and the the startup testing phase is in progress. On March 1st Unit 4 tied to the electrical grid. A vibration issue with piping on the secondary (non-nuclear) side has been identified and resolved. Unit 4 should be in commercial operation in the second quarter of 2024. Unit 1 has been in commercial operation since 1987 and Unit 2 since 1989.



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Future Events

PicNuke

The fourth annual PicNuke is scheduled for April 20th at Brookfield Park in Augusta. The fun starts at noon and goes to about 3 PM. Please come and join in meeting the section and enjoying the day. Brookfield is at 2740 Mayo Road, Augusta, GA 30909.

Pictures from last year:



DIG STEM Festival

This event will be held in Williston, SC on May 4th. Details to follow.

SEED STEM Festival

Science Education Enrichment Day (SEED) is a family-themed festival celebrating science, technology, engineering, and math. The SEED event for 2024 will be on October 26. The festival will be held at the USC Aiken. Further information will be available at a later date.



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Future Events (Contd)

Save the Date: ANS Savannah River Section Plays Ball with the Augusta GreenJackets on Friday, June 7th at 7:00 PM



ANS Savannah River Section members and their guests will return to SRP Park and the Lawn Ace Lounge in North Augusta on Friday, June 7, 2024, at 7:00 PM for their annual networking event to see the Augusta GreenJackets take on the Myrtle Beach Pelicans. The Lawn Ace Lounge is a covered, reserved space behind the GreenJackets dugout on the third base side at the concourse level of SRP Park and features an excellent view of the field and the Augusta skyline. Our event features a 90-minute ballpark fare buffet with soft drinks, hot dogs, hamburgers, watermelon, usual sides, and cookies, and we will have an assigned attendant to take additional beverage orders.

Space in the Lawn Ace Lounge is limited. A reservation announcement for this event will be made soon through our website (<http://local.ans.org/savriv/>) and through the standard ANS SRS notice to our distribution.



The Augusta GreenJackets are a minor league baseball team in the South Division of the Carolina League and a Single-A affiliate of the Atlanta Braves.



Part of the ANS SRS group in 2023

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Executive Administrator Wanted

Qualifications:

- 1 to 2 years of administrative experience strongly preferred, preferably in development or at a nonprofit organization
- Proficiency in Microsoft Office required
- Detail-oriented, strong sensitivity to deadlines, multitasking ability, strong organizational and problem-solving skills a must
- Ability to work collaboratively with a team

Duties and Responsibilities:

- Prepare notices for distribution regarding monthly technical meeting and section information
- Draft notice(s) are sent to specific chair for review before distribution
- Database management (e.g. updating new contact information)
- Preparing, transmitting, registration surveys (surveymonkey.com)
- Collecting surveys and sending reservation confirmations
- Resolving questions/problems with reservations
- Provides as-needed assistance with various events and meetings throughout the year including monthly technical dinners
- Prepare roster with specific information for each meeting
- Prepare name badges
- Work with the Treasurer and Chair as needed
- Assist other Section Program Chairs on an as-needed basis
- Performs other administrative, general clerical tasks, and project duties as needed

** **Note** the ANS-SRS Executive Administrator is a paid volunteer position.

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Awards

Here is the award that was presented to our local section for 2023. Many thanks to the section leadership for 2023 – 24.

