



# Nuclear Science Week™ 2021

INTERNATIONAL IMPACT REPORT

NUCLEAR SCIENCE WEEK 2021  
October 18-22, 2021

[www.nuclearscienceweek.org](http://www.nuclearscienceweek.org)

report issued February 28, 2022

**About this Impact Report:** This report represents a compendium of the many hours of effort that has gone into a remarkable public outreach effort to disseminate current, accurate information about nuclear science, its impact on our world and its history during the

observance of Nuclear Science Week in 2021. For this year, Nuclear Science Week was offered in “hybrid” versions of programming; some held in-persons, many offered only virtually. During the 2021 year, the Delta variant of Corona Virus was prevalent and impacted how communities emerged and began to engage again. All of these changes required nimble planning and incredible ingenuity from the places where nuclear science is discussed and where work in the field takes place.

This International Impact Report has been developed to record the many places where Nuclear Science Week was observed, the groups that participated and organized these events; and the numbers of people, mostly members of the public, that participated. The year 2021 represents the twelfth anniversary of this event and annual time that NSW has been observed and the scale of it as a week for public discourse and learning continues to grow as evidenced by this report of impact. It is hoped that this report will be used to record interactions, entice larger groups to engage, to encourage more discussion, to transmit more knowledge and excite more students about nuclear science and related STEM fields as potential future career pathways. Although this report hopes to be extensive, the report cannot have captured every action taken during NSW 2021. For those that were not included, we apologize for this oversight of awareness and invite communication of exciting events that will be held at the 2022 events.

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- 1) About Nuclear Science Week:** Nuclear Science Week continues to grow in importance as a primarily non-technical outreach forum for communities to discuss nuclear science and issues that concern it. Even in the face of the pandemic, those dedicated individuals that

see Nuclear Science Week as an annual opportunity to disseminate information dug down deeply and came up with unique outreach options to utilize for a vibrant discussion. In fact, because so much of NSW was on-line in 2021, many more people may have engaged in the event dialogue and viewed the programming being presented world-wide. As a non-technical meeting, NSW can engage community leaders, politician, policy-makers, law-makers in understanding issues related to nuclear science in fields of energy production, medicine, industrial manufacturing, defense, space exploration and myriad other applications. There are numerous technical forums that take place for scientists, engineers, policy analysts, equipment manufacturers and sales associates held around the nation and world. Each are geared to the field represented and are targeted to those working directly in that area. There are even very specific conferences that deal with certain aspects of the technical efforts around nuclear power generation, radiation science, medical application, waste management, defense industries and communication of these important technical areas. But there is not an open forum dedicated to conversation, discourse, comparing of perspectives and new ideas, learning and sharing of information in a community-based manner except Nuclear Science Week.

Nuclear Science Week continues to increase in interest and with a growing number of participants world-wide. There is no similar observance or recognition as an annual communication need being unmet before Nuclear Science Week began. But, due to the incredible pride of the many professionals in the vast nuclear field of effort, the interest of educators, parents and students, Nuclear Science Week has become an important annual opportunity to speak out and to ask questions, learn more about this critically important energy resource. There is a lot of disinformation or incorrect information out there about nuclear energy and so having the time and place to share accurate information is vital for us all. Nuclear Science Week is not a “professionals” level meeting, nor an industry conference; instead it is a “pipeline” event that helps grow interest and share accurate information and place it in the hands of those that can take up careers in STEM and related fields. NSW “pre-loads” interested citizens into the conversation about the role of nuclear energy in this world. Here they learn about effects on climate issues, energy production and distribution, breakthroughs in medical technologies, space applications, national defense and manufacturing and research that hold so much potential for our future. I hope that you have a team of excited people that want to learn more, or you wish to share your work with others in nuclear science; if so, Nuclear Science Week is for you!

- 2) **A word of thanks to our sponsors:** Nuclear Science Week would not be possible without the deep support from so many corporate, professional, governmental, media and individual partners. It is because each of these organizations, large and small, all across the globe who see the value in educating the public about the critical role that nuclear science plays in our world that the vast group of planners have financial capacity to bring this exciting energy resource forward for examination and understanding. We thank each person that accepted the challenge to assist in obtaining this support and those leaders in organizations that felt this work worthy of such support. A complete list of sponsors

can be found in the report. 2021 represents the fourth year of a multi-year sponsorship and partnership in presenting the NSW events in the United States. The Chair wishes to thank Palo Verde Generating Station for this and future support in continuing Nuclear Science Week.

**3) A Message from the Steering Chair:** Nuclear Science Week is getting bigger and getting better utilized, many great voices are joining the conversation about the exciting world of nuclear. Each person helps us to improve the planning processes to create learning opportunities and showcase great science and acknowledge innovation. I want to thank and recognize our superb International Steering Committee of hard-working professionals from around the globe in so many places and fields of work. These efforts, individual and in teams, make NSW the most effective opportunity for broad general communication with the non-technical audiences that we know exists. It is this interested general public, the regular people that we need to speak to, to listen to, to talk with and share with. They have a need for current accurate information about the role of nuclear energy as a resource that is trusted and can be counted upon. These folks need to have an accurate grasp of this science as future decision-makers and current citizens. Our International Steering Committee team helps us reach these people in eight different countries now. Again, thanks to each of you for your continued commitment. I would also like to extend deep appreciation for a strong and continuing partnership with The American Nuclear Society. The ANS and its fine staff utilize NSW as a communication opportunity to reach professionals, constituents and the public and offer leadership to those thousands of professionals in sections all across the US who put on programming in observance of Nuclear Science Week. I also want to acknowledge a profound sense of gratitude to our colleagues and neighbors to our north. Over these years Nuclear Science Week observance and prominence has grown in Canada. Thanks to indefatigable efforts of Dr. Jason Donev and his many colleagues across all the Provinces, the world of nuclear energy in Canada is even better understood and made more exciting.

Jim Walther  
Chair, International Steering Committee  
Nuclear Science Week

#### **4) The Members of the International Steering Committee for Nuclear Science Week 2021**

- **Derek Bass:** Wilmington BIG Event Chair, ANS Section Chair, System Engineer, GE Hitachi Nuclear Energy
- **James Beirschbach:** Jensen Hughes
- **Hannah Murphy :** Studio Stillwater, Social Media & Graphics, National Museum of Nuclear Science & History

- **Nzinga Brown:** Executive Director, WIN Canada
- **Regan Callan:** PSEG
- **Brendan Daly:** PSEG
- **Ryan Dean:** NuScale Power
- **Sarah DeSilva:** GE/Hitachi, Wilmington NC Team
- **Dr. Jason Donev:** University of Calgary, Canada events team lead
- **Susan Downs:** Business Operations Analysis Specialist, Talen Energy / Susquehanna Nuclear LLC and U.S. Women in Nuclear
- **Michelle Durant:** Australian Institute of Nuclear Science and Engineering, organizer Australian programs
- **Julie Ezold:** Oak Ridge National Labs
- **Leslie Fraser:** Director of Development, National Museum of Nuclear Science & History
- **Jennifer Hayden:** Big U.S. Event Co-chair 2018; Director of Communications, National Museum of Nuclear Science & History
- **Janice Lindgard:** Education and Community Outreach Specialist; American Nuclear Society
- **Arun Khuttan:** UK Team
- **Amanda Lang:** US NAYGN, Duke Energy
- **Lenelle Wright:** American Museum of Science & Energy, Oak Ridge TN
- **Meghan Mathews:** Wilmington BIG Event Fundraising, Commodity Fulfillment Leader, GE Hitachi Nuclear Energy
- **HaliAnne McGee-Hilbert:** Pacific Northwest National Laboratory
- **Mindy Mets:** NWI Program, Director of Regional Workforce Programs, Savannah River Site Community Reuse Organization
- **Katelyn Morales:** US Department of Energy
- **Naif Siddiqui:** BWXT, NAYGN North America President
- **Maria Pfeffer:** Oak Ridge National Labs
- **Chris Perfetti:** University of New Mexico
- **Kory Raftrey:** Palo Verde Generating Station, Big U.S. Event Co-chair 2018
- **Melonie Roberts:** Oak Ridge National Labs
- **Melody Rodriguez:** Palo Verde Generating Station, Big U.S. Event Co-chair 2018
- **Kim Saxon:** Assistant Coordinator, Savannah River Site Community Reuse Organization
- **Laura Scheele:** Idaho National Labs
- **Luisa Vargas Suarez:** University of Calgary, Calgary Canada
- **Andrew Smith:** American Nuclear Society
- **Zach Sumners:** University of Calgary, Calgary Canada
- **Jeff Terry:** Professor of Physics, Illinois Institute of Technology
- **Marissa Thornton:** Environmental Protection Agency
- **Alisa Trunzo:** US Department of Energy, Communications Lead for Nuclear Energy
- **Jim Walther:** Museum Director and International Steering Committee Chair, National Museum of Nuclear Science & History
- **Brendan Ward:** GE Hitachi Nuclear Energy, Wilmington NC Team
- **Joshua Wheeler:** Exelon Energy
- **Theresa Wigner:** PSEG

- **Jamie Williams:** Manager of Grass Roots and Outreach Programs, Nuclear Energy Institute
- **Chris Wolfe:** SCANA, Wilmington 2016 Event Team, NAYGN Liaison
- **Natalie Wood:** Entergy Nuclear, NAYGN
- **Alex Woodworth:** New Brunswick Power, NB, Canada

5) Supporting and Participating Organizations: Nuclear Science Week would like to thank the following organizations and associations for financial and in-kind support and engagement for events held in 2021.

**Sponsorship for THE BIG U.S. program of 2021  
The following corporate partners brought NSW 2021 to reality**

Palo Verde Generating Station  
Entergy  
Southern Company  
Jensen Hughes  
Interlock Holdings  
Mountain West Consulting  
Society of Nuclear Medicine and Molecular Imaging  
NuScale Power  
Idaho National Labs  
Exelon  
General Atomics

**The following organizations are recognized as additional financial and planning partners for 2021**

Aiken Augusta Electric & Security  
Aiken Technical College  
American Museum of Science & Energy  
American Nuclear Society  
Applied Research Center  
Area Health Education Center (GA)  
Argonne National Laboratory  
Arizona Public Service  
Augusta Technical College  
Augusta University  
Australian Nuclear Association  
Australian Institute of Nuclear Science and Engineering  
Australian Nuclear Science and Technology Organisation  
Australian Young Generation in Nuclear  
BWX Technologies  
Calvert Cliffs Nuclear Power Plant  
Canadian Institute on Nuclear Physics

Canadian Nuclear Laboratories  
Canadian Nuclear Society  
Canberra  
Citizens for Nuclear Technology Awareness  
Duke Energy  
Doctor's Hospital  
Dominion Energy  
Entergy  
Exelon  
GE-Hitachi  
General Atomics  
Georgia Power  
HOLTEC International  
Idaho National Labs  
Idaho Local Section, American Nuclear Society  
Idaho Women in Nuclear  
Illinois Institute of Technology  
Jensen-Hughes  
Kimberly-Clark Corporation  
Massachusetts Institute of Technology  
Mothers for Nuclear  
NASA  
National Museum of Nuclear Science & History  
New Brunswick Power  
North American Young Generation in Nuclear  
Nuscale Power  
Nuclear Energy Institute  
Oak Ridge National Laboratories  
Pacific Northwest National Laboratory  
PPL  
Palo Verde Generating Station  
PSEG  
Rural Sourcing, Incorporated  
Rothney Astrophysical Observatory  
Ruth Patrick Science Education Center  
Sandia National Laboratories  
Savannah River Nuclear Solutions  
Savannah River Remediation  
Savannah River Site  
Savannah River Site Community Reuse Organization  
Savannah River Site Museum  
Savannah River Site Women in Nuclear  
SITEC Construction  
Society of Nuclear Medicine and Molecular Imaging

Southern Nuclear Generating Co.  
Students for Nuclear  
SRP Federal Credit Union  
Terra Power  
Textron Specialized Vehicles  
TRIUMF, Saskatchewan, CANADA  
U. S. Women in Nuclear  
United States Department of Energy  
United States Environmental Protection Agency  
University of Calgary, Dept. of Physics and Astronomy, Alberta, CANADA  
University of Georgia Savannah River Ecology Laboratory  
University of Idaho  
University of New Mexico  
University of North Carolina, Wilmington  
University of Regina, CANADA, Fedoruk Centre  
University of South Carolina, Aiken  
University of South Carolina Salkehatchie  
URENCO USA  
Women in Nuclear, Canada  
Young Generation in Nuclear, Canada  
X-Energy

**6) Nuclear Science Week Observances world-wide:**

- a. There were numerous observances of Nuclear Science Week in large and small communities across the world in October of 2021. Most were remotely created and available on-line, the groups placing their program into the master calendar listings on the Nuclear Science Week website. This site is where all interested parties looked for details of specific site or individual programs. Some smaller groups held limited in-person observances or programming, many did not. The International Steering Committee wishes to express gratitude to each and every coordinator, contributor, sponsor, supporter and participant in all and any Nuclear Science Week events in 2021.
  
- b. United States Observances and the United States BIG Event for 2021: The National US Big event was held in Washington DC by a dedicated group of local professionals and organizers. Several evening events were held in Washington and day-time school events held in Maryland as a component of NSW offerings. The International Steering Committee wishes to thank Melody Rodriguez and Kory Raftery for continued coordination and planning support.

Themes for the days of presentation continued to feature the following topic areas.

- Transformative Healthcare
- Innovation & Technology

- Carbon-Free Energy
- Space Exploration
- Global Leadership

Nuclear Science Week 2021 would like to express appreciation and thanks to  
Presenting Sponsor of the BIG Event program –

**Palo Verde Generating Station**

### **2021 and Current Activities held at **past** United States BIG Event sites:**

Nuclear Science Week has been observed each year since 2010 and each organizing group is encouraged to continue to present programming celebrating Nuclear Science as able, some with large and complex programming, others smaller. Below are representative samples of past sites.

**Albuquerque, New Mexico (US BIG Event held 2010, 2018):** For NSW 2020 in Albuquerque at The National Museum of Nuclear Science & History, continues to be a vibrant place for nuclear education through numerous partnerships at The National Museum of Nuclear Science & History. Program partners included American Nuclear Society Trinity Section, Sandia National Labs, American Society of Radiologic Technologists, Air Force Research Laboratories. Nuclear Science Week at the National Museum of Nuclear Science & History. Team consisted of members of the education department, volunteer coordinator, museum’s administrative coordinator, and several volunteer docents.

Lisa Guida  
Director of Education  
National Museum of Nuclear Science & History

### **Washington DC 2019, US BIG EVENT celebration:**

#### **2021 DOE Emerging Professionals NUCLEAR TECH CONNECT EVENT**

(note: this portion of programming is solely the content of The U.S. Department of Energy, no financial support for this event portion was provided by the NSW Committee.)

NSW related events continued on Thursday October 22 as the Department of Energy hosts its “Emerging Professionals Nuclear Tech Connect Event” an annual opportunity to hear from the field on a wide range of current issues and topics of interest to those in the nuclear fields.





**Chicago, Illinois (US BIG Event held 2012):** Dr. Jeff Terry of Illinois Institute of Technology again planned and executed a comprehensive school outreach day in the Chicago area with several partnering organizations. The team visited 5 school districts in 3 states to give a talk called Power is Everything. We have 1 talk remaining at a 6th school district scheduled. We have had some issues dealing with the increasingly difficult background checks that the school districts are implementing. We may have to try to find funds in the future to pay for substitute teachers and busses and bring students to campus. We were in front of about 600

students in the 5 districts that we have visited so far. We expect to get another 30 or so in the last one which will put us over 600 in the Chicago area.

**Aiken, South Carolina (US BIG Event held 2013):** The fine team in Aiken again organized one of the nation's largest observances of NSW. Lead by Mindy Mets and Kim Saxon, the team at Savannah River Site Community Reuse Organization look upon NSW as an important opportunity to get out into their communities and hold tours, talk, screen movies, open new exhibits and teach students.

### **Science Education Enrichment Day STEM Fest (Aiken, SC)**

**Attendees: 2,500**

October 9, 2021

Hosted by UofSC Aiken and Ruth Patrick Science Education Center

The Science Education Enrichment Day (SEED) event provides the community with an opportunity for engagement and exchange of real-world STEM activities, projects, and experiences

Highlights from this year's festival included more than 35 hands-on exhibits and activities. Exhibitors included the Aiken County EMS, Southern Nuclear-Plant Vogtle, American Nuclear Society, Cold Creek Nurseries, SC DNR, UofSC Aiken, Savannah River Nuclear Solutions, the Astronomy Club of Augusta, and more. Visitors enjoyed demonstrations of technologies and science including robotics, nuclear power, flight, biology, chemistry, neuroscience, and biodiversity.

### **Ruth Patrick Science Education Center Education Days (Aiken, SC)**

**Participants: 60**

October 18 – October 22, 2021

Hosted by Ruth Patrick Science Education Center

Middle and high school students engaged in programs on Center of the Atom (An Investigation of Protons, Neutrons, Electrons, Elements, and Isotopes) and Sunstruck Planetarium (Energy from the Sun with Content about Nuclear Energy from the Sun).

### **Augusta University Health Sciences Campus (Augusta, GA)**

**Participants: 37**

October 19, 2021

Hosted by Augusta University's Society of Nuclear Scholars

Activity booth included games, treats, and nuclear science trivia to promote the wide-ranging applications and career opportunities in the field of nuclear science!

## **Augusta Technical College (Augusta, GA)**

**Participants: 100**

October 18 - 22, 2021

Promoted regional nuclear careers and distributed Workforce Opportunities in Regional Careers (WORC) scholarship information to students on campus.

## **Aiken Technical College Video Series (Aiken, SC)**

**Participants: 1,212**

October 18 - 22, 2021

To celebrate Nuclear Science Week, Aiken Technical College had a video series highlighting the five areas showcased on the NSW regional flyer.

Each of the video series was uploaded to the Aiken Technical College student and employee portal as well their social media sites and YouTube channel.

### *Nuclear Technology Supports*

Debunking Nuclear Myths - Ms. Aherial Polite, Chemistry, Physics, & Nuclear Science Department Chair

<https://www.youtube.com/watch?v=pvK9QtBlabw&list=PL9LPiO09khgY8rzBMRV6ouSpVfNOe13Rq&index=>

### *Why Choose Nuclear Careers?*

Interview with one of our current RPT students who is also an SRS employee

<https://www.youtube.com/watch?v=KIoVg141j9k&list=PL9LPiO09khgY8rzBMRV6ouSpVfNOe13Rq&index=3>

### *Employability Skills Needed*

The importance of strong employability skills - Student Success Coaches

<https://www.youtube.com/watch?v=V61rBZAKlB8&list=PL9LPiO09khgY8rzBMRV6ouSpVfNOe13Rq&index=4>

### *Educational Degree Options*

A virtual tour of our RPT mock lab

<https://www.youtube.com/watch?v=IS3gYLH9nG4&list=PL9LPiO09khgY8rzBMRV6ouSpVfNOe13Rq&index=5>

### *Nuclear Career Options*

Scholarship and upcoming apprenticeship opportunities- Dr. Steve Simmons, Dean Technical & Continuing Education

<https://www.youtube.com/watch?v=-jFNJSryrLo&list=PL9LPiO09khgY8rzBMRV6ouSpVfNOe13Rq&index=6>

### **University of South Carolina Salkehatchie (Allendale, SC & Walterboro, SC)**

**Participants: 407**

October 18 – 21, 2021 & October 30, 2021

USC Salkehatchie held a series of events throughout the week that focused on career planning and development, while featuring opportunities in STEM, including those with Department of Energy and Savannah River Site.

#### *Planning Your Career Path: Virtual Alumni Panel Discussion (Zoom)*

Panelist were STEM professionals and liberal studies students working in a STEM field sharing their experience at USC Salkehatchie.

#### *Get Career Ready! An Industry Professionals Panel Discussion about Employability*

Industry professionals discussed careers in the nuclear industry.

Walterboro Campus – Hosted an information booth that included the Drone Obstacle Course and for interested students and community members to speak with about STEM opportunities during the 2-hour drop-in event. There were 11 industries represented,

Allendale Campus – Hosted an information booth and were available for interested students and community members to speak with about STEM opportunities during the 2-hour drop-in event. Attendees participated in the Drone Obstacle Course and witness a 3-D printer and corresponding design software, while various items printed during the event. There were 7 industries represented.

#### *Fall Career Fair*

It featured community industry representatives and information booths on various Salkehatchie programs, including STEM. The goal is for students to get a holistic view of all local industry jobs and internship opportunities available in the area.

#### *Colleton County Farmer's Market and Community Fall Festival*

USC Salkehatchie hosted a variety of interactive and hands-on activities during this event for community members and children of all ages. Activities included Recruitment/Student Success & Engagement, General STEM Information Booth, Drone Obstacle Course, Slime Station, 3-D printers (computer programming in action), “Boo-Bubbles” (a lesson in phases of matter) and “Witch’s Brew” (a lesson in chemical reactions).

### **Savannah River Site Women in Nuclear Virtual Jeopardy Game (Aiken, SC)**

**Impact: 31 high schools**

October 18 – 22, 2021 (Available Throughout the Year)  
Hosted by the Savannah River Site Women in Nuclear (SRS WIN)

The SRS WIN created a fantastic “Let’s Get Radioactive!” Jeopardy Game.

- The game has 5 categories of questions and answers:
1. Radiation
  2. Fact or Fiction
  3. Medical Uses
  4. Radiation in Home & Workplace
  5. Avoiding Radiation

Each category has a point range from 100-500. Person/team selects the category and the point range they would like then answers the question. The person/team with the highest points at the completion of the round wins Nuclear Jeopardy.

The game is available throughout the year. <https://jeopardylabs.com/play/lets-get-radioactive>

### **Savannah River Site Virtual Field Trips (Aiken, SC)**

**Participants: 4,202**

October 1 – November 30, 2021 (Available Throughout the Year) Hosted by Savannah River Nuclear Solutions

*In the Beam, Science in the Fast Lane*

Created for Virtual Reality, participants took a video journey to follow a sample through a mass spectrometer. The recreation of the instrument in the video was produced from a laser mapping inside a mass spec used in Savannah River National Laboratory. R&D Engineering, imaging robotics engineers created the experience.

To provide the virtual experience of the atomic world inside mass spectrometers to students, teachers completed a short form to receive the free video and educator’s guide.

<https://www.surveymonkey.com/r/INTHEBEAM>

*“Feathers in the Forest” Come On! Get on the Bus!*

In the video participants joined a team of ecologists as they assessed two different forests to determine which forest meets the habitat requirements of the endangered Red-cockaded

Woodpecker (RCW). They also experienced SRS conservation efforts by the US Forest Service as they work to preserve the RCW's home.

Educators were able to get keys to the bus by completing a short form at:

<https://www.surveymonkey.com/r/RCWvirtualfieldtrip2>

*"Wet Wonders" Come On! Get on the Bus!*

In the video participants journey took them on a "Wet Wonders" adventure at Savannah River Site to study biotic factors that determine the health of a pond.

Educators were able to get keys to the bus and student activity sheet with answer key by completing a short form at: <https://www.surveymonkey.com/r/VirtualTripWetWondersSRS>

### **Southern Nuclear Plant Vogtle (Waynesboro, GA)**

**Participants: 125**

October 19 – October 21, 2021

Hosted by Southern Nuclear Plant Vogtle

The Vogtle Energy Education Center staff took local high school students on site visits at Plant Vogtle which included nuclear 101 education, driving tours of the site, and hands-on activities relating to power production and nuclear energy.

### **STEM Career Connections® Virtual Event (GA & SC)**

**Participants: 1,800**

October 25 – November 14, 2021

Hosted by Savannah River Site Community Reuse Organization

The Savannah River Site Community Reuse Organization adapted the popular STEM Career Connections® event to a virtual format.

Employers gave the inside perspective that is helping today's students know about careers they can consider with a high school diploma to more than four years of college. Industries in the video included Southern Nuclear, Savannah River Site/Savannah River Nuclear Solutions, SITEC Construction, Aiken Augusta Electric & Security, Dominion Energy, Textron Specialized Vehicles, Doctors Hospital and Rural Sourcing, Incorporated. This year's video event also includes personal financial information to guide students toward future financial health.

The video is available on YouTube at <https://www.youtube.com/watch?v=nUR-9eCgNMw>

### **Citizens for Nuclear Technology Awareness Oyster Roast & Low Country Boil (Aiken, SC)**

**Attendees: 140**

October 16, 2021

Hosted by Citizens for Nuclear Technology Awareness Young Professionals Committee.

The Young Professional Fundraiser is an event with the purpose to raise funds to support their outreach to young professionals. The funds go toward free membership for Young Professionals and supports events like the Tap into Nuclear series.

### **Citizens for Nuclear Technology Awareness Edward Teller Lecture & Banquet (Aiken, SC)**

**Attendees: 161**

October 28, 2021

Hosted by Citizens for Nuclear Technology Awareness

An opportunity for the public to learn more about the current advances in nuclear technology as well as see pioneering scientists awarded for their efforts in the industry. This event also recognized CNTA's award winners.

Keynote Speaker: Dr. Brent Park - Dr. Park is a physicist, a retired national laboratory executive and a former Deputy Administrator for Defense Nuclear Nonproliferation at U.S. Department of Energy (DOE) National Nuclear Security Administration (NNSA).

### **Citizens for Nuclear Technology Awareness Classroom Teach-Ins (Aiken, SC)**

**Participants: 9**

October 1- October 29

Hosted by Citizens for Nuclear Technology Awareness

Subject matter experts were available for local educators to ask questions regarding atomic and nuclear fundamentals, nuclear energy, nuclear technologies and applications, careers in nuclear, and a wide range of other topics.

### **Savannah River Site Museum Tours (Aiken, SC)**

**Participants: 106**

October 20 – 23, 2021

Hosted by Savannah River Site Museum

The Savannah River Site (SRS) Museum offered visitors hands-on activities and a tour of the museum where they learned more about South Carolina's role in winning the Cold War through stories and artifacts from SRS.

The SRS Museum exhibit “6,000 Stories” details life before the plant in surrounding communities of Ellenton, Dunbarton, and Meyer’s Mill, whose residents relocated to make way for the 310 square mile plant. Additional exhibits explore Cold War culture, nuclear materials production, radiation, waste cleanup missions, space exploration, and ecology.

Even after seven decades, the Savannah River Site remains one of the most influential entities in the Central Savannah River Area (CSRA) and is one of the CSRA’s largest employers. Visitors will discover its impact on the community from its mid-20th century origins through today.

### **Boy Scouts of America Nuclear Science Merit Badge (Aiken, SC)**

**Participants: 19**

October 19, 2021

Event Sponsors: Savannah River Ecology Laboratory, Savannah River Site Museum and Southern Nuclear Plant Vogtle

Earning the Nuclear Science Merit Badge is a chance for Scouts to learn about radiation, atoms, electrons, elements from the periodic table, and more.

### **New Ellenton Atomic City Festival**

**Attendance: 500**

October 9, 2021

Family Fun Event! Rock Climbing Wall, Car Show, Bouncy Houses, Old Fashioned Games, Fire Pit Smores , Food/Craft Vendors, Karaoke, Fireworks and more.

### **Nuclear Career Pathway Posters & Flyers**

**Impact: 200 distributed to local schools**

Promotional marketing on nuclear careers and local scholarship opportunities.

### **Citizens for Nuclear Technology Awareness & Aiken Standard/North Augusta Star NSW Newspaper Insert**

**Impact: 31,000 (Sunday & Wednesday circulations)**

Promotional marketing that highlights regional nuclear innovations.

### **SRS Community Reuse Organization “The Bridge” Electronic Newsletter**

**Impact: 309 subscribers**

Promotional marketing on regional events.

### **SRS Community Reuse Organization NSW Regional Website**

Impact: 269 clicks/visits

Promotional marketing of all regional events hosted by partners in The Central Savannah River Area (CSRA).

**Knoxville & Oak Ridge, Tennessee (US BIG Event held 2015)** "Nuclear Science" was the monthly topic of AMSE's Family Science Saturdays held on both October 12 and 26, 2020 from 2-4 pm. Participating parents and children used Geiger counters to complete some of the activities required for the Boy Scout's Nuclear Science Merit Badge. During the October 26 session, we featured some new demonstrations that will continue to be used for future merit badge programs. First, a terrarium-sized cloud chamber used thorium rocks to make contrails (see attached video) so that visitors could actually "see" radioactivity. In addition, in conjunction with a small-scale Seebeck Effect model used to show how plutonium-based radioisotope thermoelectric generators work, a Stirling engine model demonstrated how future uranium-based reactors may convert heat from radioactive decay into electricity for communities on the moon. It is estimated that we hosted about dozen participants total.



### [AMSEcast](https://amsecast.libsyn.com/)

Produced from the American Museum of Science and Energy, AMSEcast invites guests from the world of science, literature, and technology to share unique perspectives from the minds of the highly trained and curiously minded.

<https://amsecast.libsyn.com/>

**Lenelle Wright**  
**Science Educator /School System Outreach Coordinator**  
**American Museum of Science & Energy**  
115 Main Street East  
Oak Ridge, TN 37830

### **Wilmington, North Carolina (US BIG Event held 2016):**

The team in Wilmington presented a number of events to observe NSW 2021.  
A Scout Merit Badging program was offered (boys and girls together)  
A broad STEM Day (students of all ages) was created.  
Tours of Brunswick Nuclear Plant (pending site approval)  
Panel discussion at the Lifelong Learning Center (50-70 participants)  
Brunswick Nuclear Plant/Duke Energy

We had a Career forum where Nuclear Professional panel involved 12 people (including the moderator) and reached 24 college and high school students for a one hour presentation. Our communication's rep has recorded the session and offered it to all the local high schools. We also put together and delivered candy reactor kits for 700 middle school students.

*Melanie Roberts*

*Work Week Manager - Women in Nuclear Member  
Brunswick Nuclear Plant/Duke Energy  
910-832-2590 (office)  
910-617-4365 (mobile)*



The Wilmington GE-Hitachi team put together a youtube playlist

<https://youtube.com/playlist?list=PLWHU91eRzd35Zci0vrFFjkGXubv2HCsUI>

A screenshot of a YouTube playlist page. The title 'Nuclear Science Week 2021' is displayed in blue text at the top right. Below the title is the 'youtube.com' logo. The main content area shows four video thumbnails in a row. Each thumbnail features a portrait of a speaker and some text below it. The speakers are identified as: 1. Harry Bryant, 2. Kevin Burnett, 3. Haley Cowen, and 4. Jashan Grewal. The text below the portraits includes names and titles, such as 'Senior Director, Nuclear Operations' and 'Senior Director, Nuclear Operations'.

on what nuclear is, how it can be used as a clean energy source, and what careers are available – focus was towards early high school students.

We invited live follow on Q/A sessions which had international attendance. All in all, so far since the event, we've reached out to roughly 100 students with this effort; we expect to continue to use the videos going forward.

The team that organized the videos included these individuals

- Harry Bryant
- Kevin Burnett
- Haley Cowen
- Jashan Grewal
- Joseph Orellana
- Shirly Rodriguez
- Brendan Ward
- Elizabeth Weed

Thank you,  
Brendan Ward  
GE Hitachi Nuclear Energy, Wilmington NC Team

### **Idaho Falls, Idaho: Idaho National Labs (US BIG Event held 2017)**

The event in Idaho Falls in 2021 was produced by an able team of professionals from numerous organizations including great support from Idaho National Labs, a lead sponsor in the programming.

- 7) International Teams and Observances:** Nuclear Science Week is growing in its observance in numerous countries. The International Steering wishes to thank all of Nuclear Science partner organizations world-wide for planning and execution of well attended events, programs, lectures, tours and presentations. Below are some examples:

## **CANADA**

- a. **Canada:** Our Canadian NSW partners continue to grow in number and to develop deeper programming opportunities., The International Steering Committee wishes to recognize Dr. Jason Donev of the University of Calgary, Alberta for his tireless energy and effort to expand NSW across all Canadian provinces in Universities and technical organizations. His efforts have led to increased awareness and more partnerships in Canada.

### **Canadian Nuclear Science Week 2021**

Nuclear Science Week 2021 was a success despite the limitations imposed by COVID isolation. Millions of social media impressions were made on various social media platforms. Various organizations across Canada including New Brunswick Power, McMaster University, Humber College, the University of Saskatchewan, the University of Regina and the University of Calgary all held virtual events.

## The Centre of Excellence for Energy, New Brunswick Power, and the Atlantica Centre for Energy (New Brunswick)



In New Brunswick, The Centre of Excellence for Energy, NB Power, and the Atlantica Centre for Energy presented a series of webinars to classrooms in New Brunswick. Speakers from the Atlantica Centre for Energy, NB Power, ARC Clean Energy Canada Inc., Moltex Energy, Horizon Health, University of New Brunswick, New Brunswick Community College, and Science East participated in the events. The New Brunswick Minister of Education and Early Childhood Development and Minister of Natural Resources and Energy Development provided opening remarks during the week.

At the end of the week, students tested their knowledge in a Kahoot quiz where top classes were awarded prizes, including energy themed board games and a field trip.

The webinars were open to the public and were promoted through social media. Following the sessions, the webinars were recorded and posted on [The Centre of Excellence for Energy's website](#) (list of recordings is [here](#)).

## Humber College (Ontario)

On Tuesday October 19th, 2021, the Department of Mathematics, Research Skills and Analysis, at Humber College Institute of Technology & Advanced Learning (Toronto, ON, Canada), hosted the online event "Learning about Nuclear Energy in the Mathematics and Physics Classroom". The presentation discussed how to bring the subject of nuclear energy into the classroom. Subjects covered included explanations of various energy production methods with a focus on nuclear energy, nuclear energy's roll in energy production strategy and reduction of fossil fuel emissions, and the basics of nuclear science and radiation. A variety of examples of mathematics and physics test questions relating nuclear energy were also given. The event was attended by 23 faculty members who teach a variety of Mathematics, Physics, and Engineering

courses. The presentation lead into a question period and group discussion which many faculty enthusiastically took part in.

### McMaster University's Nuclear Operations & Facilities (Ontario)



McMaster University's Nuclear Operations & Facilities (NO&F) partnered with the Canadian Nuclear Association (CNA) to create a social media post titled "9 Things You Didn't Know About Nuclear Science." This post was shared on Nuclear Science Week's [Instagram](#), [Twitter](#), and [Facebook](#) pages, as well as on [NO&F's](#) and [CNA's](#) LinkedIn pages, and received over 5000 impressions. The post highlighted nine interesting applications of nuclear science, with a particular focus on the benefits of nuclear energy.

McMaster University's Nuclear Operations & Facilities hosted their first-ever Nuclear Research Symposium, which gave McMaster graduate students an opportunity to share their research on a diverse set of topics in nuclear science. The event was held in-person with a small group of participants, including four presenters and 10+ audience members. The presentations were recorded and will be published on NO&F's [website](#) on Nov. 8<sup>th</sup>.

Nuclear Operations & Facilities hosted an interactive "Fact or Fiction" game on McMaster University's [Instagram](#) stories, which gave McMaster students an opportunity to test their knowledge on McMaster Nuclear Reactor. The answers to the "Fact or Fiction" prompts were expanded upon in an [article](#) on McMaster University's Daily News website. NO&F also shared a virtual tour of McMaster's nuclear facilities on McMaster University's Instagram stories, led by one of our graduate students. The tour provided a behind-the-scenes look at McMaster's nuclear facilities, including a close-up view of the reactor's 'blue glow.'

### The Sylvia Fedoruk Canadian Centre for Nuclear Innovation (Saskatchewan)

The Sylvia Fedoruk Canadian [Centre for Nuclear Innovation](#) Inc. hosted the 9<sup>th</sup> Annual NuclearFACTS Peer-to-Peer Forum 2021 online event on October 19, supported by the Centre for the [Study of Science and Innovation Policy](#) with 15 research presentations and more than 50 people attending.

### University of Calgary (Alberta)

The week also included the University of Calgary launching a bilingual [Knowing Nuclear / Connaître le Nucléaire](#) video series and a [Spanish](#) and [French](#) version of the [Energy Encyclopedia](#). New Brunswick Power partnered with the [Centre of Excellence for Energy](#) to talk about how knowing nuclear can lead to careers in radiation therapy. The social media campaign

included a number of quizzes for students on how well they know nuclear science and an opportunity to play with a PhET derived simulation [build a nucleus](#) (see figure 1 and in [French](#), [Spanish](#) and even [Romanian!](#)) or tour a [nuclear reactor](#) (see figure 2) or see how nuclear science [powers space exploration](#) (also in [Spanish](#)).

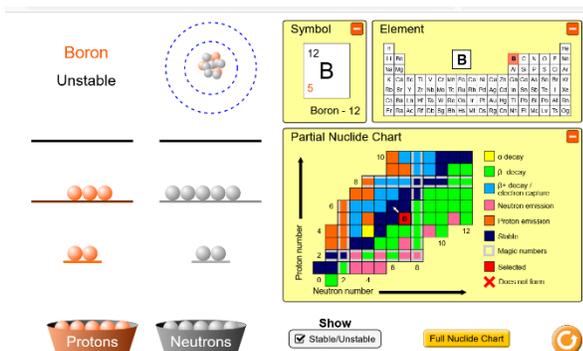


Figure 2 Build a nucleus simulation

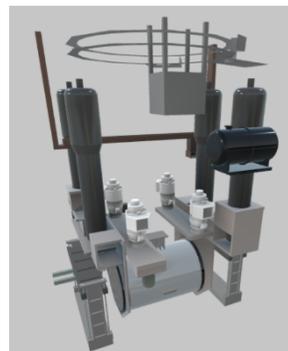


Figure 1 CANDU reactor visualization

- b. **The United Kingdom:** Programming in the UK is set to increase for 2019 as teams there re-energize around new development. A leader in the Nuclear Community in England, Kirsty Gogan of Energy for Humanity has been a strong partner. NSW was to be seen at the COP 26 meeting in Glasgow, Scotland but nuclear energy interest and connections were mostly shutout of participation.
- c. **Australia:** The teams in Australia have grown to share NSW in new communities. Thanks for the unflinching efforts by AINSE and Michelle Durant, BSc, BFA in Administration and Managing Director of Australian Institute of Nuclear Science and Engineering (AINSE)

### **Postgraduate Orientation Week 2021**

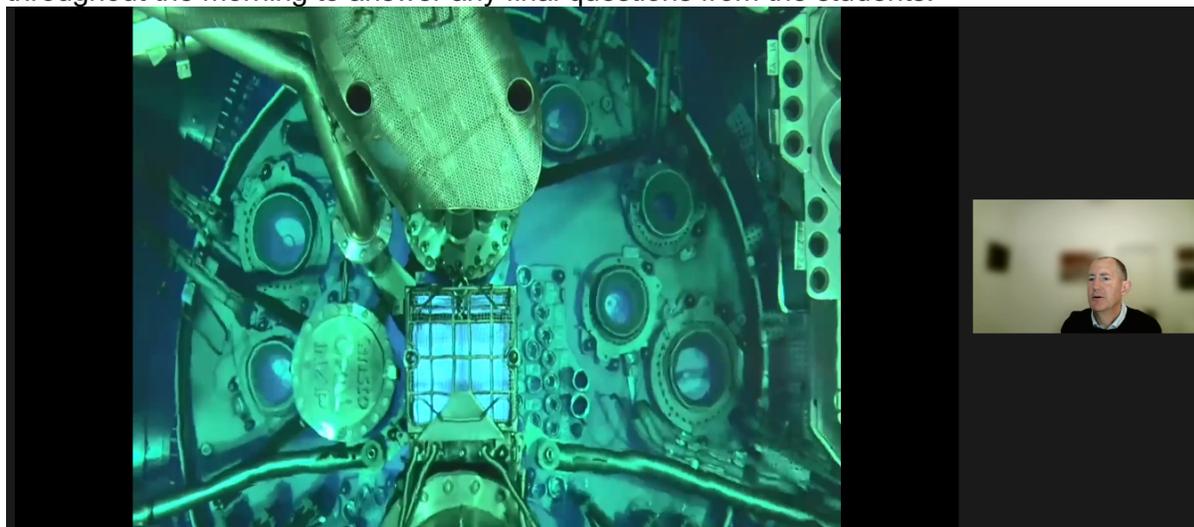
AINSE was delighted to host twenty-three new postgraduate scholars, fifteen new scholarship applicants, and ten international guests at the annual Postgraduate Orientation Week held from October 18 to October 20 2021, coinciding with the international celebrations of Nuclear Science Week.

The event began with an insightful Acknowledgement of Country by ANSTO's **Brett Rowling**, highlighting the deep history of Indigenous knowledge and research on the lands where ANSTO and AINSE are based. AINSE Managing Director **Michelle Durant** and ANSTO CEO **Shaun Jenkinson** then officially opened the event, welcoming the new postgraduate students to the ANSTO research community and welcoming international guests to the event as part of the worldwide celebrations of Nuclear Science Week.

Over the course of the three-day online event, students and guests were provided with a detailed overview of ANSTO's numerous research projects across the key areas of Environment, Health, and the Nuclear Fuel Cycle, and an exploration of the landmark scientific infrastructure supporting this broad spectrum of research. ANSTO researchers and research leaders were on-hand to engage with students and guests and answer their questions, while the ANSTO Discovery Centre hosted a behind-the-scenes virtual tour of ANSTO's OPAL Multipurpose Reactor, Australian Centre for Neutron Scattering, Australian Synchrotron, and Centre for Accelerator Science.

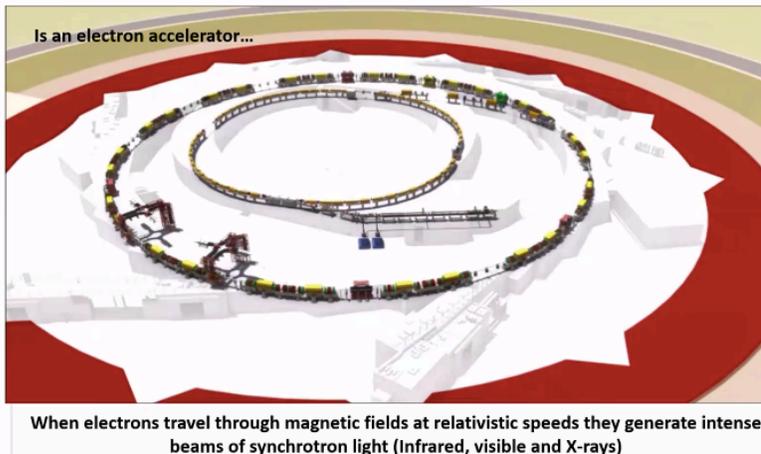
AINSE was proud to coordinate with the Australian Young Generation in Nuclear (AusYGN), the Women in Nuclear (WiN) Australia chapter, the Australasian Nuclear Early Career Researchers and Scientists (ANECR) and the National Museum of Nuclear Science and History in Albuquerque to deliver a series of social events in celebration of Nuclear Science Week throughout the event. These events included an online games night, online trivia afternoon hosted by The Masters of Fun at Great Race Australia, and a fun "2 Minute Thesis"-style competition which challenged new postgraduate students to present an overview of the research in under 2 minutes using only simple graphical tools such as MS Paint. This event was attended by AINSE and ANSTO staff, with AINSE President **Prof. Ian Gentle** and ANSTO Head of Research **Dr. Suzanne Hollins** judging the best presentation on the day.

Students were also able to attend a workshop on "The PhD Experience" from internationally-renowned educator and author **Hugh Kearns**, attend an online science communication workshop to assist them in promoting their ongoing work through AINSE, and hear from past AINSE PGRA recipients about their experiences working with AINSE and ANSTO. On the final day of the program, ANSTO co-supervisors met with their students via Zoom breakout rooms to provide online introductions to their individual research areas, while Michelle Durant hosted a workshop on scholarship applications for 2022 applicants. AINSE staff were also available throughout the morning to answer any final questions from the students.



*Prof. Andrew Peele, Group Executive, ANSTO Nuclear Science and Technology, presents students with an overview of ANSTO's OPAL Multipurpose reactor at the beginning of the 2021 AINSE Postgraduate O'Week.*

## The Australian Synchrotron



*Prof. Mike James, Head of Science at ANSTO's Australian Synchrotron, provides students with an overview of the workings of the Australian Synchrotron at ANSTO's Clayton campus.*

- 8) Social Media impact and impressions:** Social Media has increased in content and importance as a communications tool to share ideas, build excitement and create relationships both professional and personally in our work and world. In recognition of the prominence and importance of social media as an outreach and connection tool, the International Steering Committee wishes to express gratitude to the following people that worked tirelessly to move information in real-time during NSW to maximize the content reach and inspire many new followers to participate in presentations and learning.
- a. The International Steering Committee wishes to thank a larger group of supporters that assisted in the push for greater impact through Social Media.
  - b. Social Media analytics and impact report for 2021 (all sites included) .  
The impact of social media on communications is undeniable and impressive. Each year has shown an increase in interest and participation in the numerous platforms that are used during the events. Below are analytics for Instagram and twitter that show the scale of communication reach during the 2021 event time period. Nuclear Science Week Steering Committee would like to thank all of those that posted, liked, reposted and commented on the pages and content areas about the events that took place.

## Media Impressions Report 2021

Pitch	Outlet	Traffic	Medium	Reporter/ Interviewer
NSW awards NASA with 60 year award	<a href="https://www.spglobal.com/">https://www.spglobal.com/</a>	site has 20.3 Million monthly	digital/print	Steven Dolley - Director of Nuclear Control Inst.
NSW awards NASA with 60 year award	KTRC - AM Talk 1260   103.7 FM		radio	Program Director/Host Richard Eeds
NSW awards NASA with 60 year award	Power Electronics News	470K monthly	digital/print	Editor, Maurizio Di Paolo Emilio
NSW awards NASA with 60 year award	<a href="http://www.worldatlarge.news">www.worldatlarge.news</a>		digital/print	Andrew Corbley, Editor
NSW awards NASA with 60 year award	Independent - Energy Live News	no stats - UK	digital/print	
NSW awards NASA with 60 year award	Better Business Planet - future Net-Zero	232K monthly	Digital/print/podcast	Kamile Baranaukaite, Operations Director
NSW awards NASA with 60 year award	Better Business Planet - future Net-Zero	70K monthly	Digital/print/podcast	Sumit Bose, Editor
NSW awards NASA with 60 year award	Bill Bunkley Show   570AM & 910AM, 100.3FM & 102.1FM-	serves AM FM entire Tampa Bay area	radio	Brian Eki, Producer
NSW awards NASA with 60 year award	MRS Bulletin   Home (springer.com)	1.7 M	digital/print	Boris Dyatkin, writer
Green Energy pitch	Homepage   BizClick Media	low at 2K monthly	digital/print	Helen Adams
Green Energy pitch	Operator Qualification Training and Compliance - Energy Worldnet	31K monthly	digital/print	Steve Hodgson, Editor
NSW Event kick off pitch	voanews.com	42 M per month	digital/print	Peter Clotley, broadcaster
NSW Event kick off pitch	Bloomberg Energy	over 5 M	digital/print	Stephen Lee, reporter
<b>Published media</b>				
KTRC - AM Talk 1260	<a href="https://santafe.com/podcast/richard-eeds-show-september-23-2021/">https://santafe.com/podcast/richard-eeds-show-september-23-2021/</a>			
Voice of America (26:12)	<a href="https://www.voanews.com">Nightline Africa (voanews.com)</a>			
MRS Bulletin report	<a href="https://link.springer.com/article/10.1557%2F43577-021-00239-5">https://link.springer.com/article/10.1557%2F43577-021-00239-5</a>		PDF: <a href="https://docs.google.com/document/d/1kAzXLSJqZQ8ay8TnlKos3RTkr_p2iSMxDZnFzPWIQ/edit">https://docs.google.com/document/d/1kAzXLSJqZQ8ay8TnlKos3RTkr_p2iSMxDZnFzPWIQ/edit</a>	



## SOCIAL MEDIA REPORT 2021

*Based on data from September 1 - October 31, 2021*



 **+94 Followers**  
3,542 Followers

**122** Posts  
**11,932** Engagements  
**2,798** Post Link Clicks  
**289,164** Impressions  
**3,542** Audience

 **+163 Followers**  
1,116 Followers

**117** Posts  
**1,120** Engagements  
**54,925** Impressions  
**1,636** Audience

 **+154 Followers**  
2,493 Followers

**105** Posts  
**2,023** Engagements  
**92,311** Impressions  
**71** Link Clicks  
**2,493** Audience

**Facebook Ads**

**18,584** Engagements  
**132,191** Reach

**#NuclearScienceWeek**  
**#NuclearSciWeek**

 **3,272** Posts  
**10,242** Engagements  
**5,165,522** Reach  
**15,107,493** Impressions

### TOTALS

*Based on data from September 1 - October 31, 2021*

<b>43,901</b> Engagements	<b>5,578</b> Post Link Clicks	<b>15,543,893</b> Impressions
<b>18,411</b> Video Views	<b>+411</b> Audience Growth	<b>5,297,713</b> Reach
		<b>7,671</b> Total Audience

###