

National Nuclear Security Administration
Graduate Fellowship Program

2021–2022 ANNUAL REPORT



CLASS OF 2021–2022

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Acronyms

ALCP	Aspiring Leader Certificate Program
DNN	Defense Nuclear Nonproliferation
DOE	Department of Energy
DOS	Department of State
DTRA	Defense Threat Reduction Agency
MSI	Minority-Serving Institution
NGFP	NNSA Graduate Fellowship Program
NNSA	National Nuclear Security Administration
NSE	Nuclear Security Enterprise
PNNL	Pacific Northwest National Laboratory
R&D	Research and Development

Welcome: A Message from NNSA Leadership



Jennifer Kline
Chief Learning Officer
National Nuclear
Security Administration

At the Department of Energy (DOE) National Nuclear Security Administration (NNSA), our people are our number one asset, and we are committed to developing an inclusive professional workforce to protect our nation. The NNSA Graduate Fellowship Program (NGFP) recruits, hires, and retains the next generation of diverse and talented, high-potential professionals to maintain the NNSA mission.

For over 25 years, we have been building future NNSA and national security leaders. Since its humble beginnings of three fellows to today's 60 fellows per year, NGFP has become an institutional talent pipeline and leadership continuum for the Nuclear Security Enterprise (NSE).

In this report, you will read about the Class of 2021–2022. The cohort featured 58 fellows from 35 leading universities who served in program, functional, and field offices across our organization, the Department of State (DOS), and the Defense Threat Reduction Agency (DTRA). To recruit this team of diverse future leaders, we connected with universities, including minority-serving institutions (MSIs), student organizations, and affinity groups, to foster an inclusive, engaged, and highly skilled workforce for our nation's security. While still virtual, our recruiters connected with nearly 80 university partners in more than 90 information sessions to recruit this diverse and talented pool of candidates.

During their one-year assignments, the fellows learned from experts from across the NSE and made valuable programmatic contributions in some of our key efforts, including the following:

- Providing technical and policy expertise to deliver programmatic mission impact to our offices and international stakeholders;

- Assisting with critical decision and readiness reviews to advance key projects;
- Advancing innovative approaches and technologies to tackle issues of national importance;
- Supporting the development of the Stockpile Stewardship Management Plan (SSMP); and
- Seeking mentorship and career advice from experts across the NSE.

This year, we were excited to see some of our fellows participate in in-person engagements, including international travel to connect with our global partners. Meanwhile, our class maintained productive virtual operations, connecting with our offices remotely and attending virtual trainings and professional development events. Upon completing their fellowships in June 2022, more than a third of the fellows joined our NNSA team as federal employees, and a majority of the total class remained within the NSE and National Security Sector (DOS, DTRA, etc.). This remains a positive trend in our programmatic outputs, with more than 85% of our 650-plus alumni having exited our fellowship into positions with ties to national security. That is our commitment to the mission!

We hope you find this year's report an informative snapshot of how NGFP pursues our valuable mission to build future leaders for nuclear security. Through this program, we help keep our top asset—our people—as cutting-edge as our technical solutions. Our fellows' commitment to grow and serve as future leaders reinvigorates our enterprise with agility and diversity. I would like to thank you and all our participants for your support and commitment to serve and uphold the values of this long-standing program.

Executive Summary

For over 25 years, NGFP has hired highly motivated graduate and doctoral students to grow as future leaders for NNSA. This annual report showcases activities for the Class of 2021–2022, from outreach in spring of 2020 through assignments that ended in June 2022.

Recruitment. Recruitment reflected an enhanced focus on relationships with MSIs to recruit a diverse cohort of students. From a pool of over 260 applicants, NNSA, DOS, and DTRA personnel selected more than 140 candidates and conducted nearly 400 virtual interviews in just two weeks.

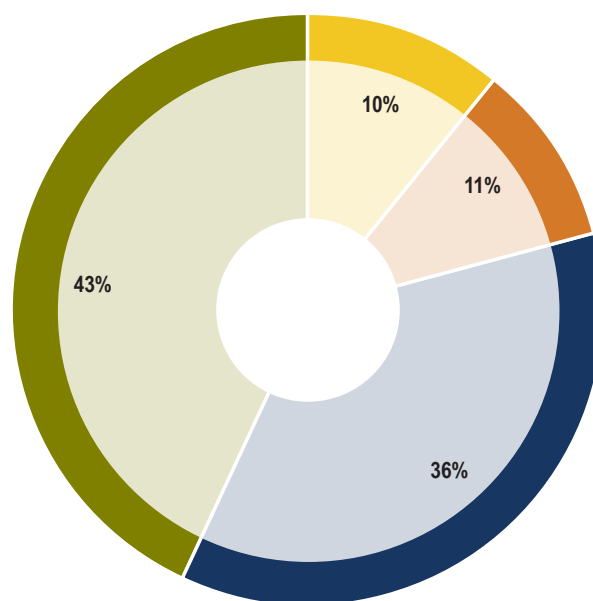
Hiring. The cohort featured 58 master's and doctoral-level students with diverse technical and policy backgrounds from 35 different universities. Detailed fellow biographies are available at the end of this report.

Mission Impact. The fellows were placed with 12 different NNSA program, functional, and field offices, plus DTRA and DOS. There, they gained hands-on experience contributing to technical and policy mission needs, including the following:

- Supporting technical exchanges, strategic initiatives, and collaboration with NNSA's national security stakeholders both locally and abroad;
 - Developing important communications for NNSA leaders including briefing materials, press releases, and correspondence;
 - Participating in working groups for cybersecurity, robotics and autonomous solutions, learning management, and technology transfer;
 - Joining the NNSA Diversity, Equity, Inclusion, and Accessibility (DEIA) efforts;
 - Providing technical assistance and oversight support for sites like the Y-12 National Security Complex; and
 - Aiding in life-cycle cost estimates, technical assessments, and acquisition and project management tasks.
- **Leadership and Professional Development.** Fellows connected virtually with national security counterparts around the world for training, networking, and professional development.

- **Lasting Commitment.** The majority of the fellows accepted positions with NNSA, the NSE, and the National Security Sector. The Alumni Spotlight at the end of this report also highlights notable alumni who have gone on to serve NNSA, national security, and STEM (science, technology, engineering, and mathematics) missions.

Class of 2021–2022
Post-Fellowship Employment



■ Nuclear Security Enterprise ■ NNSA ■ Other ■ National Security Sector

Class of 2021–2022 Post-Fellowship Employment. In this graph, NNSA represents federal hires; Nuclear Security Enterprise represents fellows hired by DOE, national laboratories, and DOE/NNSA contractors; National Security Sector represents fellows who accepted employment with other national security stakeholders such as DOS or DTRA; and Other represents fellows who returned to academia or whose employment was unavailable at the time of publication.

To learn more about NGFP or to view this report online, visit our website:

<http://www.pnnl.gov/projects/NGFP>

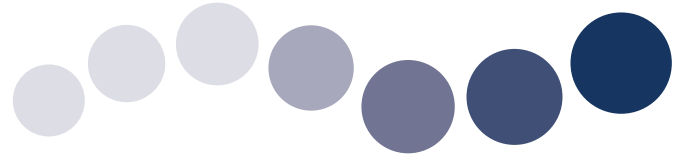
Overview: A Focus on Future Leaders

Background

NGFP is a centerpiece to NNSA's succession planning and future leadership strategy. Pacific Northwest National Laboratory (PNNL) administers the program, leveraging its expertise in recruiting next-generation talent for national security missions.

As a model program within NNSA, NGFP identifies and develops exceptional future leaders through a best-in-class program management approach designed to:

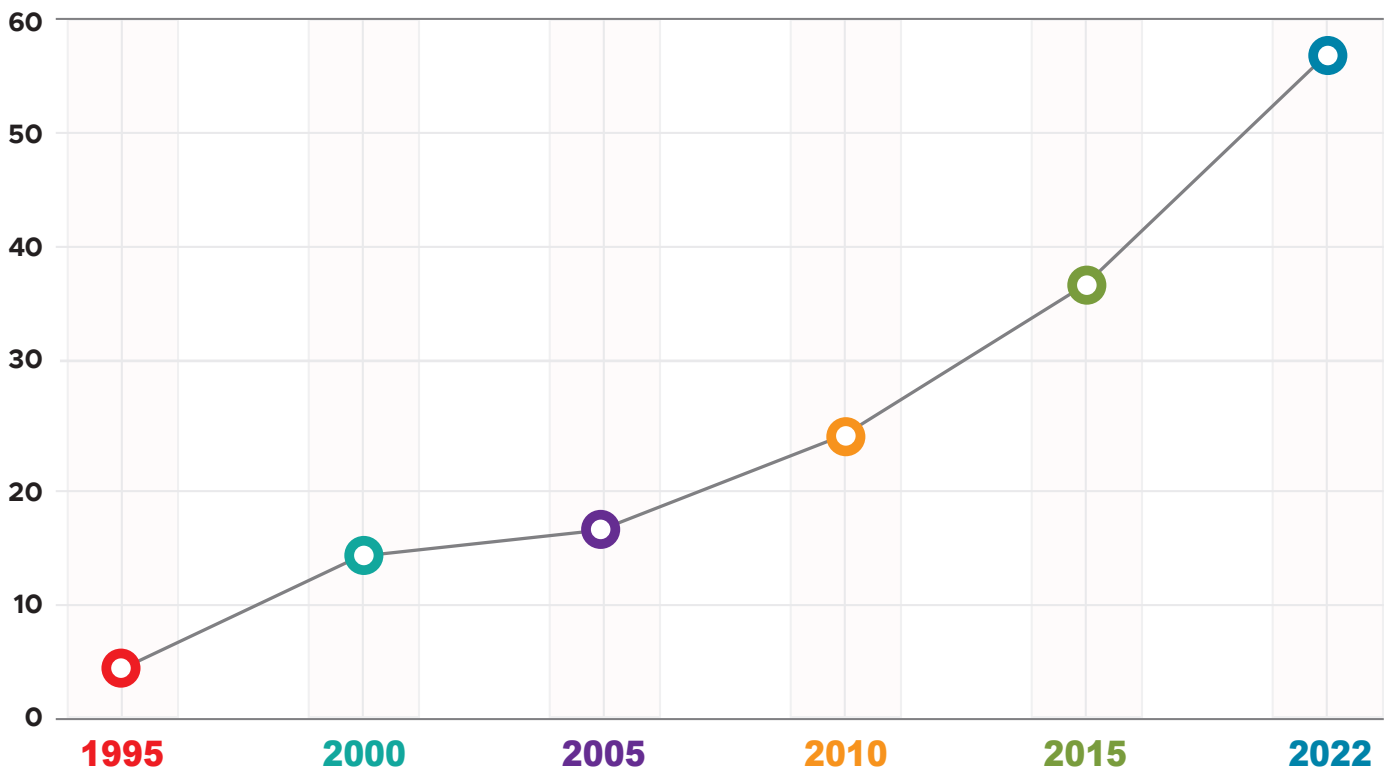
- Recruit exceptional graduate and doctoral students from universities nationwide;
- Transform and develop students into future leaders to advance NNSA and national security missions; and
- Provide an agile approach to meet dynamic NNSA needs.



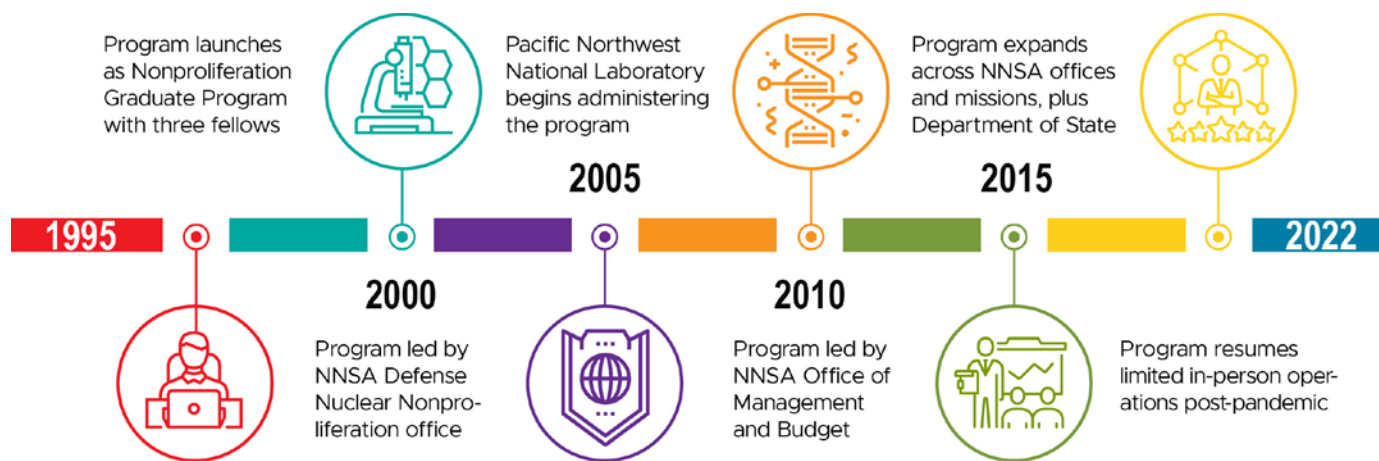
Evolution

In the program's more than 25 years of operations, the demand for fellows has evolved with NNSA's increasing need for leading-edge talent in diverse mission spaces. The program has grown from three fellows in 1995 to 58 fellows completing the program in 2022.

Launched originally to serve NNSA's Defense Nuclear Nonproliferation (DNN) mission, the program now spans the NSE, placing fellows within DNN; Defense Programs; Counterterrorism and Counterproliferation; Safety, Infrastructure, and Operations; NNSA's site offices; and the DOS.



NGFP Class Size at Completion of the Fellowship.



History of NGFP.

Program Management

The annual training, networking, and development agenda offers a standard suite of opportunities, including the Aspiring Leader Certificate Program (ALCP) provided to all fellows, as well as unique fellow- or

office-specific trainings. Each year, fellows continue to find exciting new ways to build their skillsets to best serve their office and individual development goals.



Mission

NGFP identifies and develops the next generation of exceptional national security leaders to achieve NNSA's mission: Strengthening our nation through nuclear security.



Vision

NGFP aims to be the U.S. government's model program for developing and retaining top-level national security leadership talent.



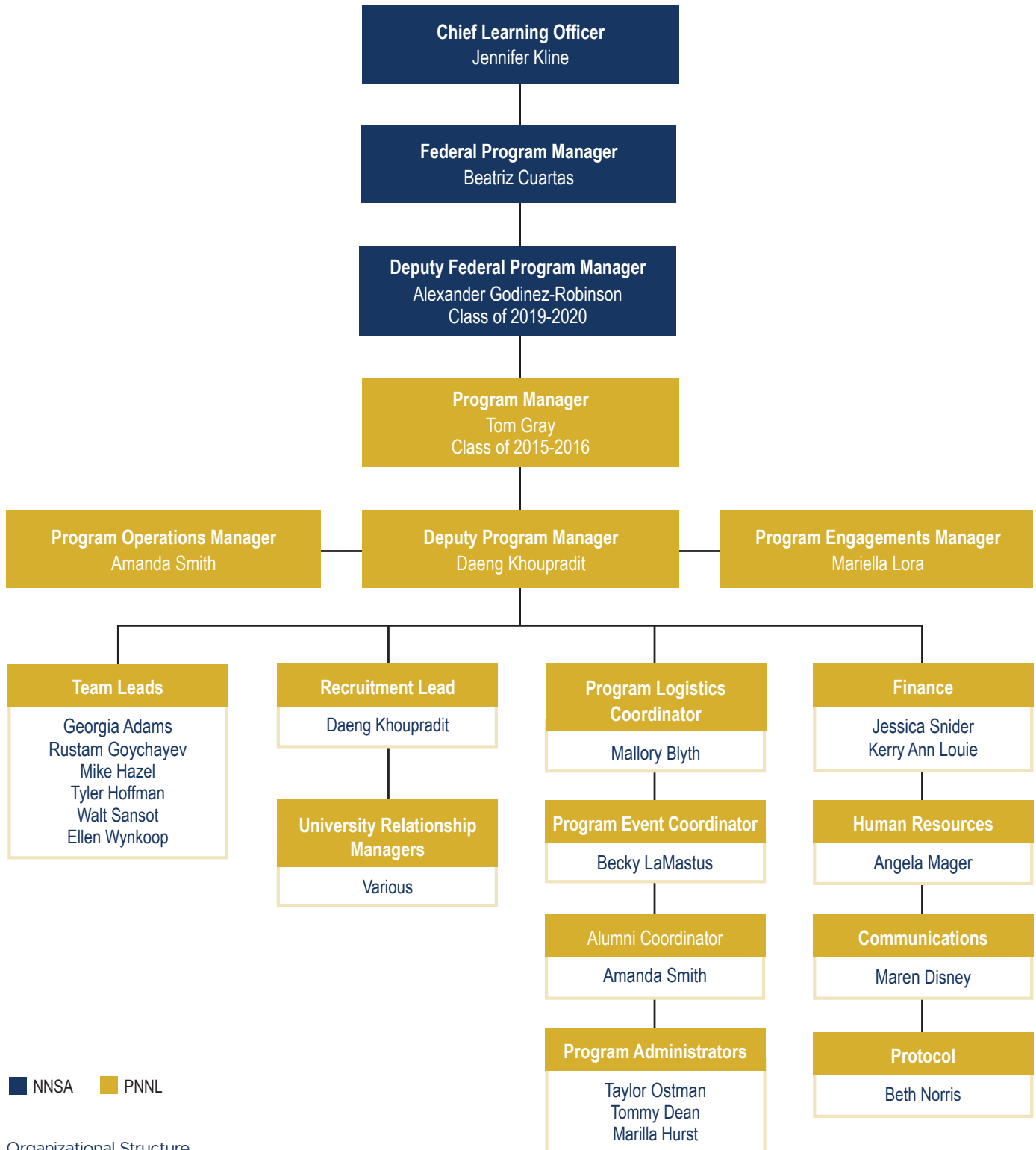
Impact

During their one-year assignments, fellows gain unmatched experience through:

- Real-world immersion in national security, technology, and policy;
- Relationships with leading national security experts;
- Hands-on experience in NNSA; and
- Partnerships around the world.

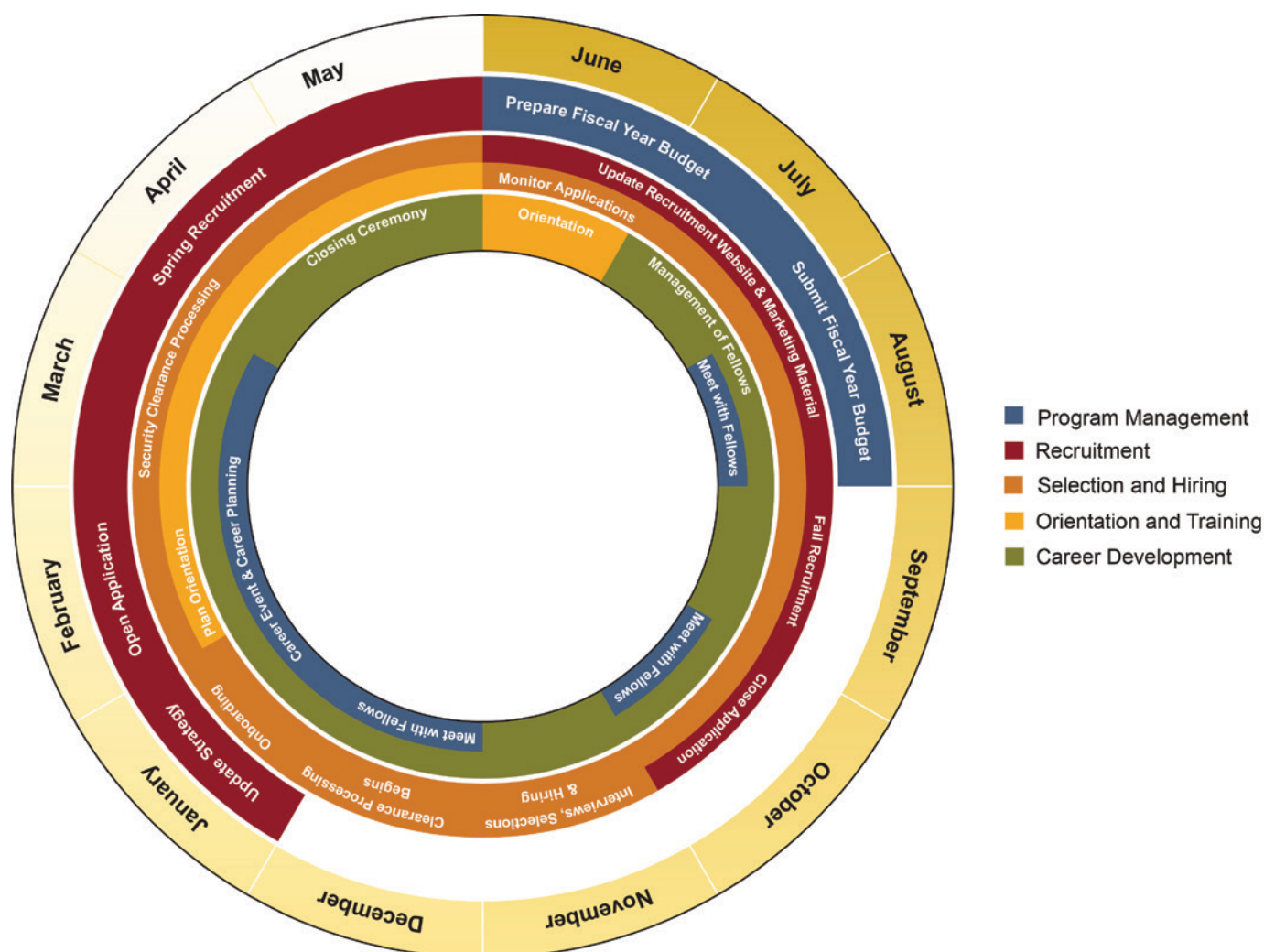
Organization

NGFP is managed by NNSA's Office of Management and Budget (blue boxes) and administered by PNNL (gold boxes), with roles shown in the organizational chart.



Life Cycle

NGFP's annual life cycle involves simultaneous planning, administering, and implementing three different fellowship classes: administering the **current class** of fellows, recruiting the **next class**, and planning for the **future class**.



“The NGFP fellowship provided me the opportunity to connect with leaders across the nuclear enterprise to learn about its diverse and engaging missions. I now see the holistic security ecosystem, from innovation and design management to deterrence and security planning apparatuses, needed for our growing nuclear-driven future.”

—Jesse Altum, NA-213 Nuclear Smuggling Detection and Deterrence

Responsibilities

The NNSA NGFP Federal Program Manager and PNNL NGFP Program Manager share a unified, best-in-class approach based on a shared vision and framework organized into five program elements, as shown below.

Program Responsibilities

Program Management	Overseeing all aspects of the program, including the budget, strategy, stakeholder engagement, implementation, evaluation, issue resolution, improvements, and reporting.
Recruitment	Developing and implementing an outreach strategy to meet program objectives. This includes conducting an annual NNSA fellow needs assessment, partnering with universities and professional associations for outreach, working closely with prospective candidates to facilitate the application process, and maintaining the online application system.
Selection and Hiring	Preparing applications, coordinating interviews, onboarding fellows, and processing fellows' security clearance applications.
Orientation	Conducting an extensive orientation to prepare fellows for their assignments and roles in the federal environment.
Career Development	Introducing fellows to career growth opportunities through interactive sessions with professionals in the nuclear security field.

“The fellowship has been a remarkable introduction to the national security space. It has facilitated interactions with top management, scientists, and engineers. This experience has extended my vision and future opportunities.”

—Julio Aparicio, *NA-10.1 Office of Strategic Partnerships Programs*

Methodology: Recruiting Next-Generation Talent

Despite the pandemic, NGFP maintained continuity of operations with universities virtually to connect with eligible students interested in nuclear security technology and policy careers.

Recruitment

For the Class of 2021–2022, NGFP sought to recruit a quality pool of candidates for a targeted class size of 65 fellows. Before the onset of the global pandemic in early 2020, University Relationship Managers (URMs) held in-person information sessions with nine university partners. Following the transition to virtual outreach, URMs went on to execute 92 virtual events with 79 university partners, including 12 MSIs.

To help expand outreach, diversity, and inclusion efforts, URMs engaged with university faculty and staff and leveraged student organizations and affinity groups such as

the Society for Hispanic Professional Engineers, the Society of Women Engineers, and the National Society of Black Engineers. NGFP staff also participated in the American Nuclear Society Student Conference, the National Society for Black Engineers Annual Conference, and Women of Color Advancing Peace and Security Conference.

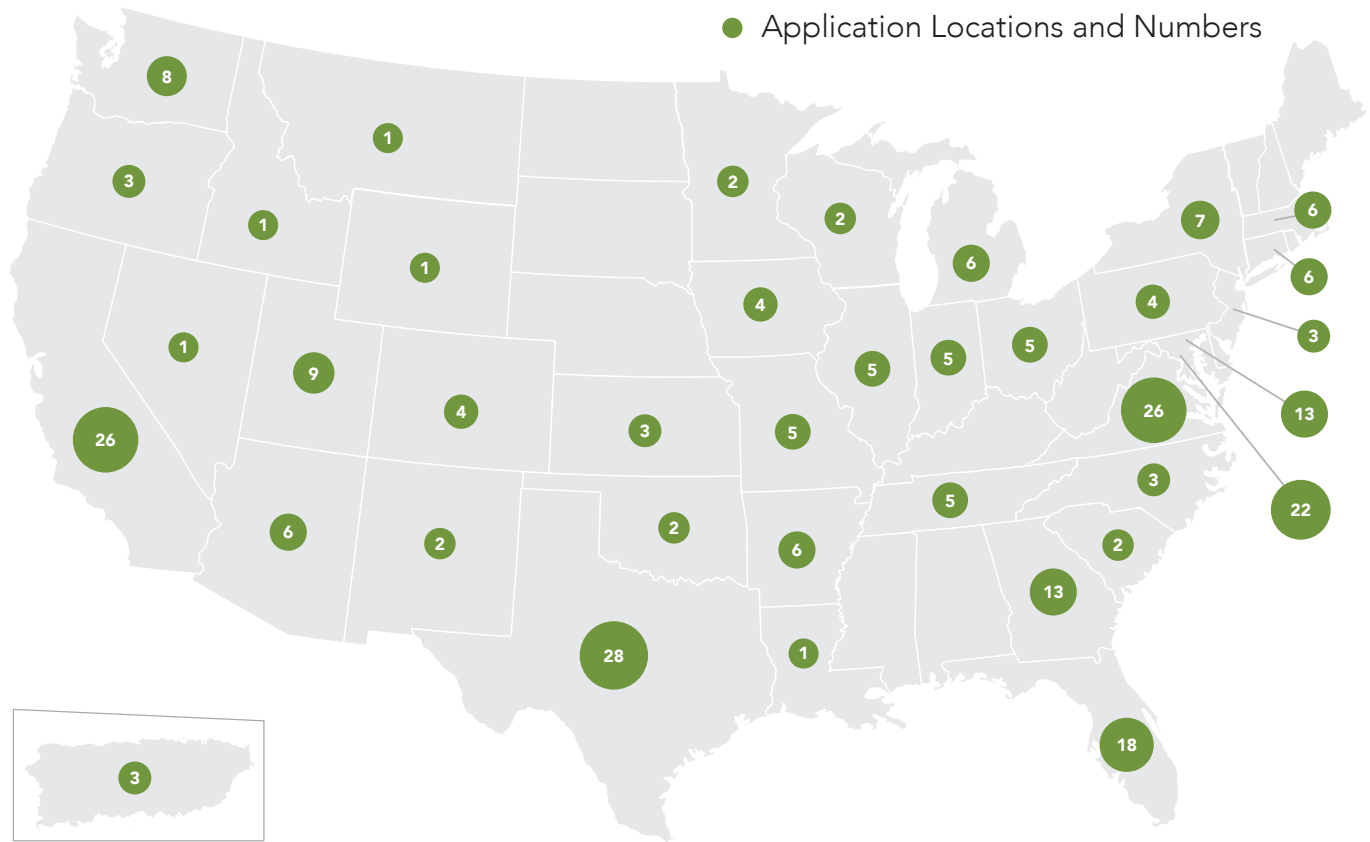
Recruitment information sessions and events occurred during the spring and fall semesters and included six virtual information sessions (three per season) accessible to all students. The recruitment team advertised the fellowship through a variety of online university job boards, resulting in over 400 university postings on Handshake. In addition, six virtual information sessions were hosted (three per semester) to promote the fellowship to students from non-partner universities and to respond to questions from interested applicants.

Join Our Recruitment Team!

Would you like to help promote NGFP to your alma mater or organization? Contact ngfp@pnnl.gov for more information, including marketing materials to share with students. You can also tune into student videos available on YouTube to learn more about the fellow experience.

“This fellowship broadened my knowledge of nuclear and radiological topics and gave me the opportunity to see how this knowledge is applied to real-world incident response scenarios.”

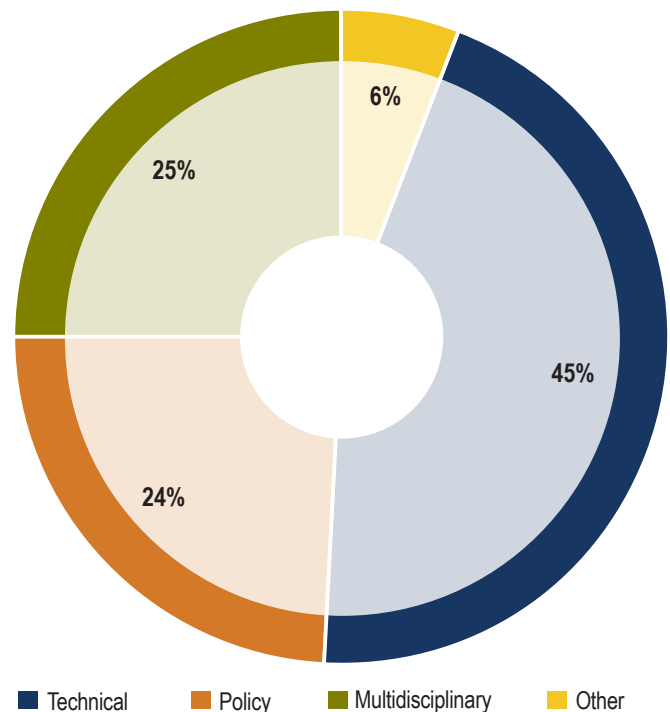
—Anna Armstrong, *NA-84 Office of Nuclear Incident Response*



Applicants

More than 260 students completed applications—that is an increase of more than 50 from the previous year. The greatest number of applications came from states near an NNSA or DOE office or laboratory, including the Washington DC area, Texas, and California.

Overall, applicant diversity increased fairly evenly, thanks in part to a greater recruitment emphasis on MSIs. Approximately 24% of applicants self-identified as an underrepresented minority and 43% as female. Applicant backgrounds also showed a notable shift in applicants with a multidisciplinary background. Technical students comprised the largest percentage of the applicant pool, with 41% of applicants holding technical (STEM) degrees. Policy-focused applicants (political science, public/international policy, and related degrees) comprised the next largest percentage of the applicant pool at 26%. Multidisciplinary applicants (those with a master's in either a technical or policy degree and a different undergraduate degree type) totaled 25% of the applicant pool—quadruple last year's turnout. The Other category included degrees that NGFP accepts but does not target, such as Juris Doctor.



Applicants' Academic Backgrounds.

Candidate Selections

Ultimately, NNSA, DOS, and DTRA personnel selected 143 applicants for almost 400 interviews held over the course of two weeks. Offers were extended to candidates in December for positions that began in June 2021.

Commitment to Diversity, Inclusion, Equity, and Accessibility

In recruiting the Class of 2021–2022, NGFP remained committed to building a diverse, engaged, and highly skilled workforce in STEM, policy, and project management fields fit to serve NNSA's complex nuclear security missions.

The program evolved its strategy to reach more diverse student populations and build its reputation and relationships in new communities, professional societies, and student groups. This effort focused on fostering relationships with MSIs to build awareness of the fellowship in communities that were historically overlooked in the program's outreach and building stronger relationships with academic advisors and students. Additionally, during their fellowships, several fellows became involved in NNSA's DEIA efforts. For example, fellows Michelle E. Vega and Alexandra Housh volunteered for the NNSA's DEIA strategy team and contributed to the development of a Mentee and Mentor Guide for a DEIA Mentorship Program.

“Working with the NA-122.3 office has been a great experience learning what goes into keeping our country safe with the stockpile firsthand.”

—Zachary Norton, *NA-122.3 Office of Air-Delivered Stockpile Sustainment*

“The fellowship provided me the opportunity to expand my knowledge of the national security enterprise while working with a fantastic group of people in Defense Programs. This experience will be invaluable throughout my career.”

—Katelyn Bennett, *NA-19 Office of Production Modernization and NA-192 Office of Tritium and Domestic Uranium*

“I am grateful for the fellowship's attention to growing nuclear security professionals. It gave me the opportunity to explore a future within the Nuclear Security Enterprise while working substantively on meaningful nonproliferation projects.”

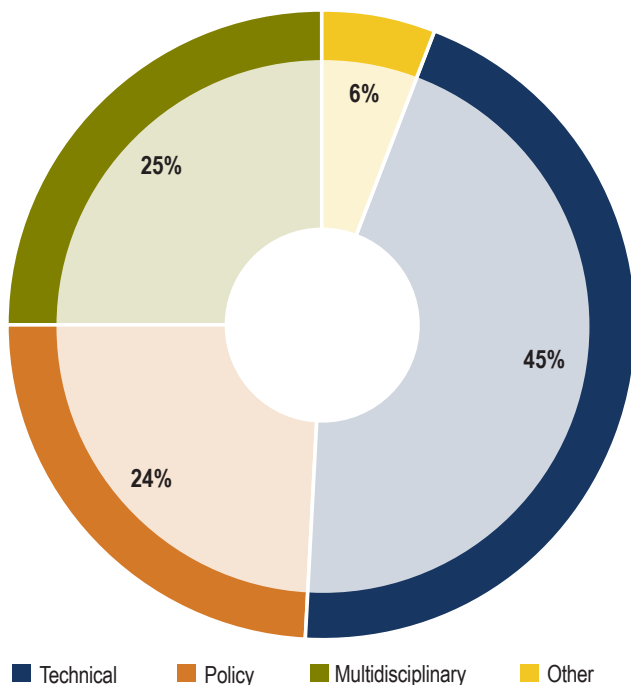
—Samantha Bowers, *NA-244 Office of Nonproliferation Policy*

Results: Delivering Quality Mission Support

Through a proven recruitment, interview, and selection process, NNSA, DOS, and DTRA hiring managers hand-selected the Class of 2021–2022.

Highlights from the fellows selected for the Class of 2021–2022 included the following:

- Graduate degrees completed or in pursuit at 35 universities with advanced degrees spanning the technology and policy spectrum, including 13 doctoral candidates.
- Assignments spanning 12 different program, functional, and field offices across NNSA, plus DTRA and DOS.
- Language skills in Arabic, German, Japanese, Mandarin, Russian, and Spanish.
- Previous experience with the Departments of Defense, Energy, Labor, and State; Federal Bureau of Investigation; International Atomic Energy Agency (IAEA); U.S. Air Force Research Laboratory; U.S. Embassies of Beijing, Jakarta, Mexico City, and Oslo; U.S. Northern Command; U.S. Secret Service; and U.S. Senate; as well as the Brookhaven, Lawrence Berkeley, Lawrence Livermore, Los Alamos, Pacific Northwest, Oak Ridge, and Sandia national laboratories.



Fellows' Academic Backgrounds.

Fellow Universities

The majority of the incoming Class of 2021–2022 had a technical background and approximately a quarter of the fellows had a multidisciplinary background, which, similar to the applicant pool, was a significant increase from the previous year's class.

The table below highlights fellows' universities and the number of fellows hired from each. Partner universities are shown in bold; MSIs are italicized and home to approximately 22% of the fellows in this class.

UNIVERSITY	FELLOWS
<i>Alabama A&M University</i>	1
<i>Ana G. Mendez University</i>	1
<i>Arizona State University</i>	1
<i>Brigham Young University</i>	5
<i>Case Western Reserve University</i>	1
<i>Clemson University</i>	1
<i>Florida International University</i>	2
<i>George Washington University</i>	2
<i>Georgetown University</i>	5
<i>Georgia Institute of Technology</i>	1
<i>Georgia State University</i>	1
<i>Johns Hopkins University</i>	2
<i>London School of Economics and Political Science</i>	1
<i>Louisiana State University</i>	1
<i>Michigan Technological University</i>	1
<i>Middlebury Institute of International Studies</i>	1
<i>Northwestern University</i>	1
<i>Ohio State University</i>	1
<i>Polytechnic University of Puerto Rico</i>	1
<i>Portland State University</i>	1
<i>San Jose State University</i>	1
<i>Texas A&M University</i>	4
<i>Troy University</i>	1
<i>University of California, San Diego</i>	2
<i>University of Denver</i>	3
<i>University of Florida</i>	1
<i>University of Massachusetts, Amherst</i>	1
<i>University of Missouri</i>	1
<i>University of New Hampshire</i>	1
<i>University of Notre Dame</i>	4
<i>University of Puerto Rico</i>	1
<i>University of Tennessee - Knoxville</i>	1
<i>University of Texas at Dallas</i>	1
<i>University of Texas at El Paso</i>	3
<i>University of Virginia</i>	2

Of the fellows hired, a majority originated from partner universities. This further highlights the value of NGFP's continued relationships with faculty, advisors, staff, and students, and the importance of information sessions to educate and prepare applicants for program requirements, interviews, and selection.

Leadership and Professional Development

While ongoing pandemic-related restrictions meant many activities remained virtual, fellows continued to deliver meaningful programmatic contributions to their offices across the NNSA enterprise, including virtual learning and networking events and even some in-person events, trainings, and international meetings with their offices. Fellows also used their allotted travel and training funds to participate in opportunities aligned to their individual development goals and fellowship assignments.

Orientation

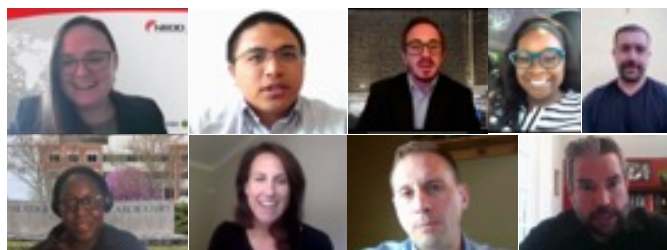
The Class of 2021–2022 came aboard in a virtual orientation June 14–25, 2021. Orientation was held over a series of half-day sessions to best accommodate the online environment.

During the first week, fellows learned about general policies, procedures, and expectations of the fellowship and heard from featured guest speakers including former NGFP Federal Program Manager Jenny Kline, PNNL Laboratory Director Steve Ashby, and PNNL National Security Directorate Associate Laboratory Director Deb Gracio. The second week featured former NNSA Chief Learning Officer Julie Spyres and representatives from across the NNSA enterprise, DOS, and DTRA to introduce fellows to the NSE.

During the Class of 2021–2022 orientation, several alumni participated in a series of panels sharing highlights and lessons learned from their fellowship experiences. Sessions welcomed the following alumni:

- Recent Fellowship Perspectives: Erin Morrissey (Class of 2020–2021), Jacob Tuia (Class of 2020–2021), and Marc Wonders (Class of 2020–2021)

- Mid-Career Alumni Perspectives: Tracey-Ann Wellington (Class of 2015–2016), Staci Brown (Class of 2014–2015), and Andy Hallock (Class of 2009–2010)
- Careers within the NSE: Gisele Irola (Class of 2013–2014), Doug Dyer (Class of 2004–2005), and William Braniff (Class of 2006–2007)



Fellows heard from several alumni during their orientation.

Trainings, Workshops, and Conferences

In the face of ongoing travel restrictions, fellows used their allotted traveling and training funds to find ways to better serve their office, learn new skillsets and foreign languages, attend virtual conferences, and pursue certifications. Highlights from the year include support to or virtual attendance at:

- Institute of Nuclear Materials Management and European Nuclear Education Network Joint Annual Meeting
- IAEA General Conference
- Project on Nuclear Issues 2021 Fall Conference
- Virginia Tech School of Public and International Affairs National Security Executive Leadership Program
- DTRA Defense Nuclear Weapon School Nuclear Weapons Overview Course
- School of Public and International Affairs Executive Leadership Certificate
- European Research Reactor Conference
- SuperComputing Conference and ISC High Performance Conference
- Policy and Technical Fundamentals of International Safeguards Workshop

- Fort Thunder Virtual Tabletop Exercise
- Department of Commerce Fundamentals of Cost Estimation and Analysis training
- Trainings available on NNSA's Learning Nucleus and LinkedIn Learning

National Security Enterprise Lecture Series

In the Fall, fellows attended the National Security Enterprise Lecture Series, a multi-week virtual professional development series showcasing topics and stakeholders spanning the national security technology and policy realm. Sessions included:

- Congress 101 with former PNNL Federal Affairs Director Josh Shiode
- Federal Budget with James Windle, Class of 2002–2003 alum and PNNL Director of Funding, Contracts, and Performance
- Office of Naval Research Global Overview with Dr. Marcus Tepaske
- DOS Nuclear Risk Reduction Center Overview with Jody Daniel
- Careers in the State Department Panel with NGFP Team Leads Tyler Hoffman and Daniel Jackson and former Foreign Service Officer Patrick Fischer
- Virtual tours of the Remote Sensing Laboratory and DTRA

Aspiring Leader Certificate Program

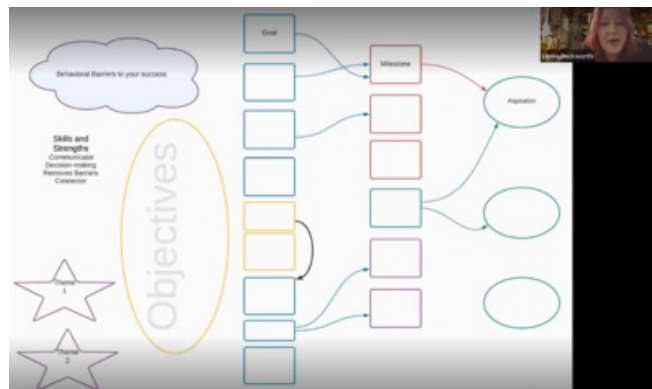
Fellows participated in the ALCP, a program that spans the length of the fellowship, covering topics such as self-awareness, teamwork, business management strategies and key workplace leadership principles, and courses on interpersonal skills, collaboration, effective communication, and employee engagement. The program comprised a combination of virtual live and self-paced courses that helped fellows identify their own leadership approach as well as shadowing of NNSA personnel to help fellows gain exposure to the organization's various roles and responsibilities. The program also featured an alumni panel featuring Jessica Halse, Assistant Deputy Administrator for the Office of Material Management and Minimization (NA-23); Michele Dash-Pauls, Deputy Director for the Office of Nuclear Export Controls (NA-242); and John Michele, Senior Advisor for the Office of Production Modernization (NA-19).

Publishing Workshop

Fellows attended the PNNL National Security Professional Leadership Publishing Workshop, a four-part series highlighting PNNL tools and best practices for publishing in the national security mission space. The workshop included sessions on the publishing life cycle, research, writing, and a panel where NGFP's own Tom Gray, joined by PNNL Research Analyst Amanda Sayre, shared best practices for publishing.

Career Consultation

In early 2022, in preparation for their post-fellowship career journey, the Class of 2021–2022 fellows participated in a series of career development events. Activities included one-on-one consultations on their resumés, interview skills, and LinkedIn profiles and participation in career mapping, which uses an agile process to guide fellows through experiential exploration of their career needs, desires, and aspirations.



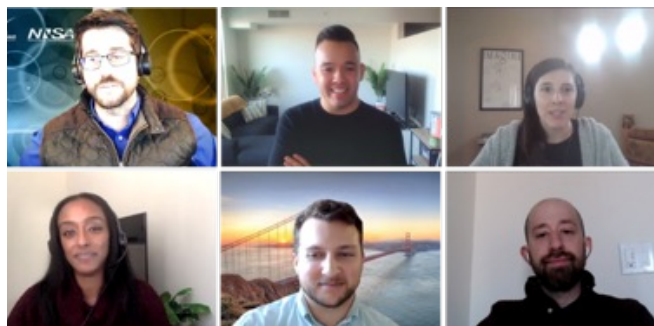
Fellows participated in interactive career mapping to prepare for their post-fellowship journey.

Career Development Workshop

The career development agenda also included the annual NGFP Career Development Workshop, where leaders from across the NSE shared their experiences and career advice for succeeding in this field. The event featured panels with several alumni, including:

- Choosing Your Path in the NSE with Alexander Godinez-Robinson (Class of 2019–2020, moderator), Savannah Blalock (Class of 2018–2019), Jere Freeh (Class of 2015–2016), Lenka Koller (Class of 2010–2011), and Ryan Coogan (Class of 2020–2021)

- How to Get the Most from a Career Fair with Samra Wolde-Tensae (Class of 2020–2021) and Matt Shalloo (Class of 2020–2021)
- Experience in Negotiating a Federal Offer with Tom Gray (Class of 2015–2016, moderator), Alexander Godinez-Robinson (Class of 2019–2020), Margaret Butzen (Class of 2020–2021), and Gabriel Sandler (Class of 2019–2020)



The NGFP career events hosted several alumni to share career advice with fellows.

Virtual Career Fair

The career events culminated in the NGFP Virtual Career Fair, which welcomed representatives from federal government, contractors, national laboratories, and nongovernmental organizations to connect with fellows about potential employment opportunities. The event connected fellows with over 100 representatives

from 29 employers across the NSE. Fellows made 353 connections during the fair, including 173 audio/video chats.

Closing Ceremony

To honor the Class of 2021–2022, the program held a virtual closing ceremony that welcomed 215 participants. Keynote speakers included Frank Rose, NNSA Principal Deputy Administrator; Marcus Lea, NNSA Deputy Associate Administrator for Management; and Jana Fankhauser, PNNL Principal Advisor, Nuclear Nonproliferation and Security Sector. During the event, fellows spoke about their experience in the program and shared posters and videos showcasing their assignments across the enterprise.



A virtual closing ceremony honored the completion of the Class of 2021–2022.

“This fellowship provided me with the opportunity to steer my professional development in the direction I saw fit. In addition to the leadership training provided to my cohort, I had full support to take training custom to my career path.”

—Rusty Dauzat, NA-APM-1.3 Y-12 Acquisition and Project Management Office

“This fellowship gave me amazing insight into leadership and nuclear security. Working at a national laboratory gave me an understanding of how safeguards and security are handled on major projects.”

—Aaron Cavanaugh, NA-APM-1.5 Los Alamos Project Management Office

Mission Impact: Fellows Making a Difference

The following are highlights from fellows' assignments. For more information, see the fellows' posters from the closing ceremony that are available online at <https://bit.ly/3uysvdp>.

Fellow Highlights

Jesse Altum, NA-213 Nuclear Smuggling Detection and Deterrence, focused on law enforcement, nuclear forensics, prosecution, managing a country portfolio, and supporting multilateral planning for IAEA side events.



Altum visited Sandia National Laboratories in Albuquerque, NM, for an international partner meeting and field testing.

Julio Aparicio, NA-10.1 Office of Strategic Partnerships Programs, helped develop the Technology Transfer at NNSA 2022 Calendar—an essential communication tool that promotes NA-10.1's mission and the NNSA's commitment to technology transfer activities.



Aparicio helped produce the Technology Transfer at NNSA 2022 Calendar.

Anna Armstrong, NA-84 Office of Nuclear Incident Response, supported the Federal Emergency Management Agency Nuclear Incident Response Team program on projects to enhance response capabilities for nuclear and radiological incidents.



Armstrong supported the Nuclear Emergency Support Team, which encompasses all DOE/NNSA radiological and nuclear incident response functions.

Amrit Bal, NA-LL Defense Nuclear Nonproliferation Livermore Field Office, worked on projects with the Global Material Security team with a focus on international nuclear security and insider threat mitigation.



Bal presented draft v0.3 of the International Insider Threat Mitigation Lexicon at the Virtual Steering Committee Meeting for the Advanced INFCIRC/908 International Working Group.

Katelyn Bennett, NA-19 Office of Production Modernization and NA-192 Office of Tritium and Domestic Uranium Enrichment, supported the NA-19 Front Office along with the development of programmatic requirements, milestones, and deliverables to develop domestic uranium enrichment centrifuge technology in NA-192.

“This fellowship has given me a new perspective on what federal service means.”

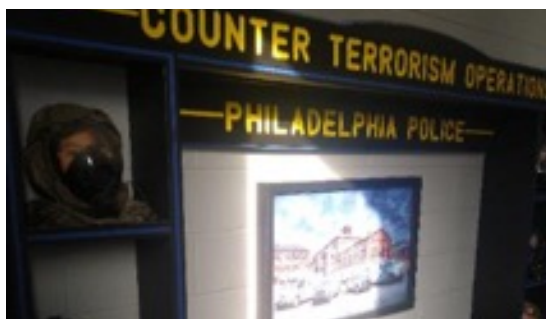
—Taylor Poole, NA-84 Office of Nuclear Incident Response

Samantha Bowers, NA-244 Office of Nonproliferation Policy, interfaced closely with inter- and intra-agency partners to develop the strategic direction for her program and implement policy analyses on emerging nonproliferation challenges.



Bowers supported the Policy Analysis and Outreach program, which supports strategic development and oversight at national laboratories like Argonne National Laboratory (pictured).

Chris Byrd, NA-212 Office of Radiological Security, provided quantitative decision analysis, data analysis, and general outreach and summary support for the RadSecure 100 Initiative, which promotes increased radiological security in 100 major metropolitan areas across the country.



Byrd visited the Philadelphia Police Department and saw the results of partnership with the Office of Radiological Security.

Aaron Cavanaugh, NA-APM-1.5 Los Alamos Project Management Office, worked on projects with a large focus on electrical power and cybersecurity, including helping with reports on wireless security, controlled information, and Earned Value Management Systems for control of federal projects.



Cavanaugh worked on projects for the Los Alamos Project Management Office, which supports the Los Alamos National Laboratory.

Jordan Caylor, NA-NV Nevada Field Office, supported site-directed research and development missions and developed a seismic data processing toolbox for the Nevada National Security Site.



Satellite photo of craters at the Nevada National Security Site, for which Caylor helped develop a seismic data processing toolbox.

“This fellowship provided me with firsthand knowledge, project management skills, and experience in the Nuclear Security Enterprise that I will carry with me throughout my career in national security.”

—Rachel Combs, NA-195 Lithium Modernization

Anamika Chourasia, NA-LA Los Alamos Field Office, supported a management self-assessment of the Los Alamos Field Office Quality Assurance Program (QAP); her work resulted in restructuring and updating the QAP in accordance with the DOE Order 414.1D, Quality Assurance, and current NA-LA organization processes supporting oversight and operations.



Chourasia exploring the history of Los Alamos National Laboratory at the Bradbury Science Museum. Her work supported the NNSA and DOE missions at the Los Alamos Field Office.

Becky Christofferson, NA-195 DU Secondary Stage Production Office of Depleted Uranium Modernization, started a business case study into the potential insertion of a developing technology that will help form the overall NA-195 depleted uranium manufacturing strategy.

Rachel Combs, NA-195 Lithium Modernization, supported the broader front office in tracking tasks and activities and assisted projects such as the FY 2023 SSMP and an in-depth policy review, briefing, and market analysis on commercial deuterium capabilities.



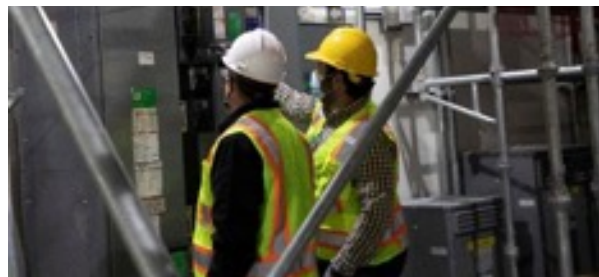
Building 9204-2 at the Y-12 National Security Complex, currently used for lithium processing. Combs supported various tasks and projects for the NA-195 Lithium Modernization office.

Erin Connolly, NA-243 Office of Nuclear Verification, focused on multilateral cooperation, including the International Partnership for Nuclear Disarmament Verification, which facilitates collaboration between nuclear and non-nuclear weapons states to develop technical solutions to nuclear disarmament verification challenges.



Connolly (center) and colleagues tour Canadian Nuclear Laboratories as part of a joint exercise with the Office of Nuclear Verification Plutonium Verification Team.

Rusty Dauzat, NA-APM-1.3 Y-12 Acquisition and Project Management Office, updated internal office procedures to ensure DOE Order compliance and conducted oversight of systems under construction for the Uranium Processing Facility to maintain contractual and procedural compliance.

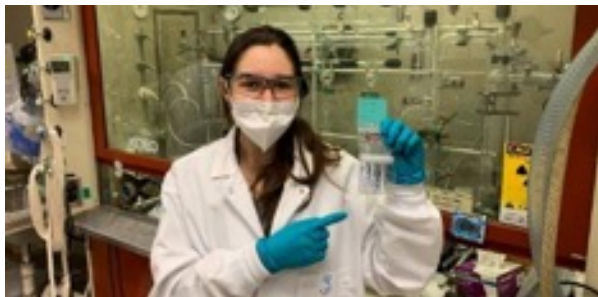


Dauzat conducted multiple oversight activities of systems under construction for the Uranium Processing Facility.

“The fellowship rewarded me with a new ending, a prosperous future in the works for the American people I serve, and the nuclear energy culture I support.”

—Janet M. Forestier-Babilonia, NA-SN Sandia Field Office

Silvina A. Di Pietro, NA-LL Livermore Field Office, supported the Material Science Division's Chemistry of Nuclear Materials technical group, working alongside radiochemists, physicists, and material scientists to explore novel ways of synthesizing and producing actinide components.



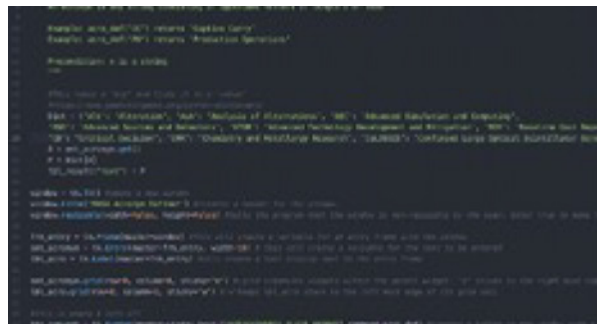
Di Pietro holding three nanoparticle samples treated with an organic polymer at Lawrence Livermore National Laboratory's Material Science Division synthesis laboratory.

Zach Diamond, NA-10.2 Office of International Programs, worked on projects that supported operation of the U.S.-UK Mutual Defense Agreement, including improvements related to report filing and meeting tracking, leading meetings with nuclear enterprise laboratories and sites to collect feedback on administrative arrangements and communication obstacles, and assisting research projects that shed light on the history and context of the agreement.



Diamond worked on projects that supported the smooth operation of the U.S.-UK Mutual Defense Agreement and, in turn, the larger goals of NNSA Defense Programs.

John Docter, NA-121.2 Production Operations, helped author the FY 2022 Program Execution Plan, created a novel status tracking system, worked with Stockpile Management to model electronic product acquisition processes, and coded a software program to define acronyms to help with onboarding employees.



Acronyms can be an issue for any new employee—Dochter was tasked by his office to create a software program to address this issue.

Jenna Faith, NA-22 Defense Nuclear Nonproliferation Research and Development, was involved with field experiments in the Nuclear Test Detection and Weaponization Development portfolios; her roles included supporting the relocation working group to determine the best locations for analyzing earthquake events and creating overview posters displayed and used for distinguished visitor days.



Faith and the Rock Valley Direct Comparison research group on a site visit to the Nevada National Security Site to survey drilling locations.

“This fellowship gave me a front-row seat to the world of nuclear security and mission sustainment. Working with Los Alamos National Laboratory and the Field Office gave me a deeper understanding of how the NNSA mission is enabled and executed.”

—Anamika Chourasia, NA-LA Los Alamos Field Office

Janet M. Forestier-Babilonia, NA-SN Sandia Field Office, engaged in a variety of environmental practices, processes, and techniques to enhance the safety and security of facility operations; tasks included supporting the office on quality improvement and the promotion of site environmental awareness on waste management, radiological terrestrial surveillance, and air quality programs.



Left: Forestier-Babilonia demonstrates the use of a Geiger counter in Albuquerque Academy. Right: Forestier-Babilonia poses with Sandia Field Office Environmental Engineering co-workers during a networking activity.

Hezael Gonzalez Millan, NA-APM-20 Office of Enterprise Project Management, supported the Pantex Plant in the areas of high-explosive science and engineering and high-explosives synthesis, formulation, and production and gained experience in reviewing contractor deliverables for acceptable content, observing and documenting construction progress, and participating in issue resolution and problem-solving.



Gonzalez (red hard hat) at the Firewater Pump and Tank Design-Build Request for Proposal Pre-bid Site Walk.

Alejandra González-Torres, DTRA FO-NE Nuclear Enterprise Front Office, became part of the Nuclear Security and Surety team and learned about DTRA's many roles and responsibilities within the U.S. Nuclear Weapons Program.

Solomon Greene, NA-10 Office of Defense Programs, supported the NA-10 front office as an action officer, working with the programs and subject matter experts to review and develop materials supporting Defense Programs and NNSA leadership, including coordinating activities, events, and information between NNSA offices, the interagency, Congress, and other stakeholders.



Greene produced a communications plan for the NA-10 office's B61-12 milestone announcement.

Christina Hedgepeth, NA-234 Nonproliferation Construction and Program Analysis, worked on various projects supporting the Material Management and Minimization (M3) Material Disposition program, including risk assessment and program management processes and the M3 life-cycle cost estimate for the Plutonium Disposition project.

Alexandra Housh, NA-MB-92 Office of Analysis and Evaluation, helped coordinate the Datathon, an intensive multi-day event where analysts focused on a single project from start to finish, inspired by hackathons in the programming space.

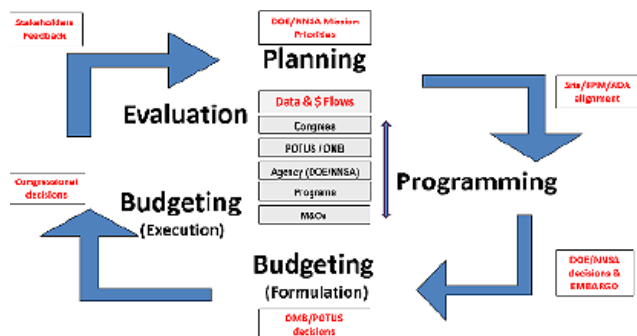


Housh helped pilot Datathon, highlighting idea building within the NA-MB-92 office.

“The fellowship has allowed me to see the interagency in action. I saw how different lines of effort all coalesce to serve the same mission.”

—Rachel Combs, NA-195 Lithium Modernization

Gregory Jack, NA-MB-812 Weapons Activities Resource Managers Matrix, edited budget narratives for Defense Programs and handled updates from the statistical table, the master budget submission document, and updates to NNSA narratives for both DNN and Weapons Activities programs.



Jack gained exposure to NNSA's Planning, Programming, Budgeting, and Evaluation process.

Victor Jones, NA-EA-10 Congressional Affairs, produced multiple weekly reports for the Administrator and her team detailing NNSA's interaction with Congress and created read-ahead material for the Administrator to help her prepare for interactions with Congress.

Virginia Kerr, NA-241 Office of International Nuclear Safeguards, supported a team of subject matter experts in designing educational materials used to train nuclear safeguards professionals in over 50 countries each year, including by liaising with U.S. national laboratory experts, synthesizing archived material, and tracking the production of new training products.

Corinne Kuebler, NA-122.2 Ballistic Missile Weapons Division, briefed NNSA Stockpile Management leadership and over 200 participants on the programmatic status of the W78 system during the FY 2021 Program Execution Summit.



Kuebler joined the Intercontinental Ballistic Missile team in observing a U.S. Air Force training exercise at Kirtland Air Force Base.

Elia Lichtenstein, NA-122.4 Weapon Security and Control, coordinated with the NA-115 Office of Technology Maturation to develop a catalog of surety technologies. The final product will increase the situational awareness of the national laboratories and NNSA offices regarding current use control projects across the NSE.



Lichtenstein at the National Museum of Nuclear Science and History.

Wells R. Magleby, NA-532 Office of Nuclear Material Integration, led an Integrated Project Team formed to assess issues associated with the procurement of SAVY nuclear material containers across the DOE/NNSA Complex. His report focused on the demand assessment process, how it affects container production, and the relationship between contract timetables and potential supply vulnerabilities.

Tyler McDaniel, NA-242 Office of Nuclear Export Controls, participated in interagency Operating Committee meetings where different agencies discuss and debate the merits of export control licenses. He helped analyze information provided by other agencies to aid his office in decision-making on next steps for export licenses.



Sean McGuinness, NA-182 Office of Program Management Support, worked on a variety of projects affecting several different areas of the enterprise, including supporting efforts to update aging published documents, verify and validate new publications, maintain non-document resources, and audit and review currently in-force resources.

Audrey Nguyen, NA-531 Office of Packaging and Transportation, worked on review teams for quality assurance plans for different NNSA sites, assisted on a team bringing a new design to the Nuclear Regulatory Commission for approval, and led a project to examine and modify records-keeping efforts.



A screenshot of part of a flowchart for use in the records report Nguyen supported.

Zachary Norton, NA-122.3 Office of Air-Delivered Stockpile Sustainment, worked with the Kansas City National Security Campus to clear storage of excess materials by removing a hold that was no longer necessary. This helped the stockpile by freeing up space for other parts and systems.

Yoojin Park, NA-24 Office of Nonproliferation and Arms Control, prepared briefing materials for senior-level NNSA leadership and developed messaging and products for Congress and the interagency, including coordinating 500-plus action items, correspondence between principals and international counterparts, and requests for information.



Park prepared high-level briefing materials, messaging, and products for the Office of Nonproliferation and Arms Control.

Samuel Perry, NA-113 Office of Experimental Sciences, supported programs developing testbeds for the upcoming subcritical experiment series, including verifying the funding of essential components and moderating workshops and meetings between headquarters and site managers to determine the funding for the testbed components.



From left, Perry (NA-113), Becky Lewis (NA-113), and Heather Lee Anne Owens (NA-11) at the U1a complex at the Nevada National Security Site.

Abby Pokraka, NA-23 Office of Material Management and Minimization, coordinated her office's deliverables for the 2021 IAEA General Conference. This included reviewing cooperative activities between NA-23 programs and international counterparts and preparing background and talking points for the Secretary and Administrator's bilateral meetings.



Pokraka coordinated her office's deliverables for the 2021 IAEA General Conference.

“I dream of the day I am working for the NNSA enterprise; this opportunity is a gateway toward a future understanding of the overall mission of the NNSA enterprise.”

—Arturo Rodriguez, NA-194 Office of Non-Nuclear Capabilities Modernization

Taylor Poole, NA-84 Office of Nuclear Incident Response, identified a technology platform that meets the needs of internal and external customers and developed a strategy document to acquire the platform and a vision for its design and implementation. These documents lay the groundwork to conduct analysis more efficiently, reduce errors, and pursue new methods.



A post-WWII plane designed to transport nuclear bombs. Exhibit at the National Museum of Nuclear Science and History in Albuquerque, NM.

Trey Reilly, NA-10 Defense Programs, collaborated with a team of analysts from across the NSE to analyze national and international security trends to inform future NNSA policy and strategy for the Administrator's Policy Office.



Reilly's work supported projects from across the enterprise, such as the Aerial Measuring System, which is a rapidly deployable capability that can respond to nuclear incidents and accidents in the United States and overseas.

Arturo Rodriguez, NA-194 Office of Non-Nuclear Capabilities Modernization, studied the Environmental Testing Facilities throughout the NNSA enterprise in preparation for creating a final list of prioritized and budget-constrained recapitalization facilities to support the modernization efforts of NA-194.



Rodriguez studied Environmental Testing Facilities, such as Saturn, Sandia's Z machine.

Elisabeth Scully, NA-10 Deputy Administrative Action Group, had the opportunity to access all different sides of Defense Programs and served as the lead on various portfolios throughout the year. She ultimately became the lead of the NA-19 portfolio and was the main point of contact between the program office and External Affairs.



A Sandia National Laboratories engineer adjusts a microphone for an acoustic test on a B61. Scully's work helped enable activities like this for Defense Programs.

“As an NGFP fellow, you have many opportunities to grow and develop skills and relationships. I have learned so much and it feels great to be able to work in an area of my genuine interest and contribute to the mission of the NNSA.”

—Alexandra Housh, NA-MB-92 Office of Analysis and Evaluation

Kelley Shaw, DOS-CTR Office of Cooperative Threat Reduction, served as a program advisor supporting Foundational Infrastructure for Responsible Use of Small Modular Reactor Technology partner countries. She worked with foreign partners to help develop capacity in the areas of energy security and nonproliferation.



Shaw supported her office and the Foundational Infrastructure for Responsible Use of Small Modular Reactor Technology program, a presidential initiative announced by the White House in April 2021.

Charles Smythe, NA-211 Office of International Nuclear Security, coordinated Café Nuclear—a four-part series that examines various components of nuclear security. The series hosted sessions on security considerations for advanced reactors, cyber self-assessment of nuclear facilities, response force strategies for nuclear theft and sabotage of facilities, and balancing transport security at international border crossings.



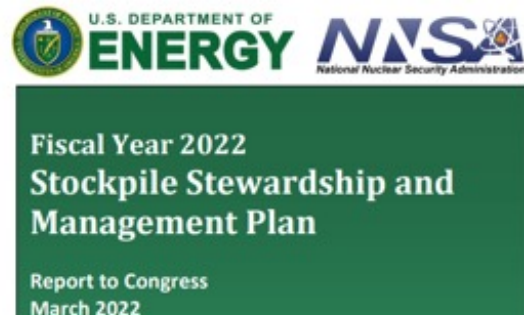
Smythe coordinated and executed a regional nuclear security series that included participants from North, South, and Central America.

Noah A. Stevens, NA-1.1 Office of Policy and Strategic Planning, worked alongside the NA-1.1 strategic planning team to produce the 2022 NNSA Strategic Vision, led junior staff-level efforts for coordination of NNSA's input and review of the 2022 Nuclear Posture Review, and helped develop the new Administrator's Strategy Forum.



Stevens helped develop the new Administrator's Strategy Forum, shown here.

Jared Thurgood, NA-183 Office of Strategic Planning and Analysis, assisted with integrating information for several chapters of the SSMP and contributed to the development of the NSE Industrial Base framework used to monitor the current status of the industrial base and help inform leadership of industrial base issues.



Thurgood integrated information for several chapters of the SSMP published and delivered to Congress.

“NNSA is a machine with millions of moving parts, the most important of which are the people. It is incredible to be a part of so many dedicated people working toward a common goal.”

—Jordan Caylor, NA-NV Nevada Field Office

Jameson Tockstein, NA-115 Office of Engineering and Technology Maturation, updated the Demonstrator Initiative Execution Plan and Governance Board charter to bring them in line with NA-115's priorities and mission statement.



Tockstein's work aided NA-115 with documents that will enable the future vision of NNSA engineering technology maturation, like that for the HOT Shot 6 rocket shown here, for years to come.

Matt Tomarchio, NA-212 Office of Radiological Security, worked with foreign government ministries to enhance global security of radiological materials. His key projects were planning, coordinating, and contributing to regional security summits throughout Latin America, the Caribbean, and Asia, and working on radioactive source security and removals.



Tomarchio's work with the Office of Radiological Security assisted with radioactive source security and removal.

Samuel Uba, NA-22 Defense Nuclear Nonproliferation Research and Development, was involved in venture project planning and white paper reviews for the arms control monitoring and verification testbed scoping studies, helped manage a project on laboratory analysis for improved remote sensing of proliferation activities, and undertook a technical project with radionuclide measurements and analysis to review and provide comparative analysis on atmospheric analytes data.



Uba at the Research and Development Engineering Mk-18A Program Mock-up Facility.

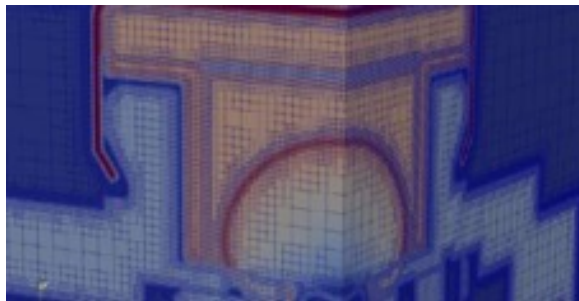
Victoria Vardanega, NA-231 Office of Conversion, supported the PRO-X program, which seeks to help domestic and international partners design new research reactors and facilities that reduce the production of dangerous nuclear material while optimizing reactor performance.

Michelle E. Vega Rodriguez, NA-122.1 Stockpile Management Services Office, contributed to assessments of multiple planning and change control processes for improvement opportunities. These assessments revealed opportunities for standardization, clarity, and optimization and for improving current site capabilities more dynamically and technologically.

“This fellowship gave me the opportunity I have been searching for to get my start in the national security space. I am absolutely thrilled to start building my career and see where it takes me.”

—Zach Diamond, NA-10.2 Office of International Programs

Carlos Verdoza, NA-114 Office of Advanced Simulation and Computing, worked on a white paper for Data Warehousing that addresses what would be required to set up and support an interoperable and accessible data warehouse containing simulation, experimental, and test and evaluation data that would allow artificial-intelligence-enabled capabilities to be fully utilized within all NNSA laboratories.



Verdoza worked on a white paper exploring opportunities for artificial-intelligence-enabled capabilities to be fully utilized within all the NNSA laboratories.

Natalie Wieber, NA-115 Office of Engineering and Technology Maturation, worked on a database for collecting and organizing project details. The tool streamlines communication between headquarters and sites, enables accountability within the program, optimizes data collection, and supports the program's newly proactive strategic plan.

Tyler J. Williams, NA-195 Secondary Stage Production Modernization, assisted with project tracking and management and the evaluation of projects at both the early development and project execution stages, including providing input to projects undergoing significant technical challenges, developing funding plans for a new project, and taking on a project interfacing with vendors to identify the challenges of working with the NNSA and strategies to resolve them.



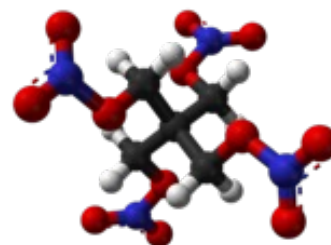
Williams' work supported process relocations and upgrades within the NA-195 mission scope.

Ashley Wiser, NA-232 Office of Nuclear Material Removal, supported procurement of a novel, mobile melt-processing facility designed to downblend and prepare inventories of weapons-usable nuclear material for long-term or permanent storage. She worked closely with Norwegian counterparts who will be the first foreign partner to utilize this system in the coming years.



Wiser with Remove office members outside the U.S. Embassy in Oslo, Norway.

Matthew York, NA-193 Office of High Explosives and Energetics, created a road map of the production process of detonators manufactured at Los Alamos National Laboratory, including collaborating with design agency personnel to understand the infrastructure, organizational structure, and supply chains involved in detonator production and the challenges facing the process.



York's work took a deep dive into explosive and energetic materials and technology used in the nuclear stockpile's modernization programs.

“The fellowship gave me the opportunity to continue evolving my technical capabilities and provided valuable experience in the government sector.”

—Silvina A. Di Pietro, *NA-LL Livermore Field Office*

Robert Zedric, NA-12 Stockpile Management, supported senior leaders in Stockpile Management by hosting meetings, processing and routing incoming requests for action, and garnering insight into program effectiveness by interviewing engineers and managers and analyzing trends in process data.



Zedric's work assisted in enabling stockpile management and modernization activities, like this flight test for a Life Extension Program.

Zachary Zoller, NA-192 Tritium and Domestic Uranium Enrichment, supported general management functions such as development of the SSMP, multiple management briefs, and NA-10 leadership's program management review.



Bennett and Zoller supported NA-192, the office responsible for producing tritium and supplying unobligated low-enriched uranium to support national security needs.

“This fellowship helped open the door for my career within the Nuclear Security Enterprise and inspired my interest in federal service.”

—Jameson Tockstein, *NA-115 Office of Engineering and Technology Maturation*

“During my fellowship, I learned about how the U.S. Department of State seeks to prevent proliferator states and terror groups from developing weapons of mass destruction and delivery systems that could threaten the U.S. homeland and U.S. interests abroad.”

—Kelley Shaw, *DOS-CTR Office of Cooperative Threat Reduction*

“The fellowship was the door to learn from experts in the area. Working at the Defense Threat Reduction Agency provided me with skills and an experience that I will have for the rest of my career.”

—Alejandra González-Torres, *DTRA FO-NE Nuclear Enterprise Front Office*

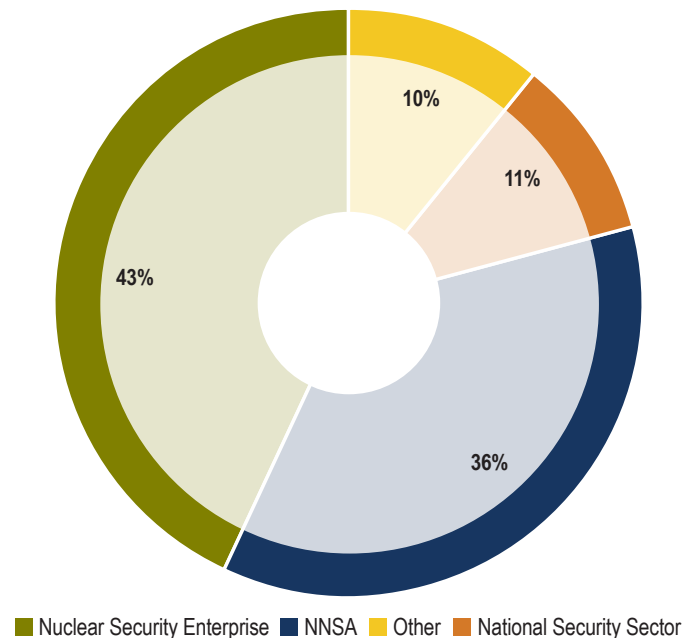
Conclusion: Future Leaders for National Security

In 2021–2022, NGFP remained a premier program for bringing passionate and talented graduate-level students into the NNSA and the NSE. To date, over 85% of alumni have secured employment with ties to national security after their fellowship.

Where Are They Now

After completing their assignments, approximately 90% of the Class of 2021–2022 accepted positions where they continue to support the global security mission within government, industry, private sector, or academia. The following list indicates the fellows' status as of the summer of 2022.

Class of 2021–2022
Post-Fellowship Employment



NNSA

- Julio Aparicio, NA-10.1
- Aaron Cavanaugh, NA-LAFO
- Jordan Caylor, NA-LA
- Rusty Dauzat, NA-LA
- Janet Forestier-Babilonia, NA-SN
- Hezael Gonzalez Millan, NA-122.2
- Solomon Greene, NA-12
- Christina Hedgepeth, NA-50
- Alexandra Housh, NA-MB-92
- Gregory Jack, NA-MB-41
- Victor Jones, NA-CI
- Corinne Kuebler, NA-122.2
- Elia Lichtenstein, NA-122.4
- Wells Magleby, NA-532
- Tyler McDaniel, NA-MB-18
- Sean McGuinness, NA-182
- Samuel Perry, NA-LAFO
- Abby Pokraka, NA-23
- Noah Stevens, NA-1.1
- Jared Thurgood, NA-531
- Zachary Zoller, NA-1

National Security Sector

- Anamika Chourasia, Raytheon Technologies
- John Doctor, Systems Planning and Analysis, Inc., DTRA Joint Science and Technology Office
- Zachary Norton, Northrop Grumman
- Elisabeth Scully, Department of Defense
- Matthew Tomarchio, Cyber Risk Practices, Deloitte

Other

- Alejandra González Torres, Not available at publication
- Arturo Rodriguez, The University of Texas at El Paso
- Kelley Shaw, Not available at publication
- Michelle Vega Rodriguez, Accenture LLC
- Carlos Verdoza, Comet Plasma Control Technologies
- Natalie Wieber, Not available at publication



Nuclear Security Enterprise

- Jesse Altum, Project Enhancement Corporation, NA-10
- Anna Armstrong, Los Alamos National Laboratory
- Amrit Bal, Sandia National Laboratories
- Katelyn Bennett, Leidos, NA-192
- Samantha Bowers, Systematic Management Services, Inc., NA-212
- Christopher Byrd, MELE Associates, NA-24
- Becky Christofferson, Leidos, NA-195
- Rachel Combs, Global Engineering and Technology, Inc.
- Erin Connolly, MELE Associates, NA-243
- Zachary Diamond, MELE Associates, Inc., NA-82
- Silvina Di Pietro, Lawrence Livermore National Laboratory
- Jenna Faith, Los Alamos National Laboratory
- Virginia Kerr, MELE Associates, NA 241
- Audrey Nguyen, Sandia National Laboratories - New Mexico
- Yoojin Park, MELE Associates, NA-24
- Taylor Poole, Project Enhancement Corporation, NA-84
- Raymond Reilly, Sandia National Laboratories
- Charles Smythe, Sandia National Laboratories
- Jameson Tockstein, MELE Associates, NA-83
- Samuel Uba, Savannah River National Laboratory
- Victoria Vardanega, Systematic Management Services, Inc., NA-212
- Tyler Williams, Leidos, NA-195
- Ashley Wiser, MELE Associates, NA-24
- Matthew York, Savannah River National Laboratory
- Robert Zedric, Sandia National Laboratories

Alumni Spotlight

It's often said that NGFP alumni are everywhere in the national security network—recently that was true in Brussels! Five NGFP alumni, along with PNNL's Leesa Duckworth, supported the **International Partnership for Nuclear Disarmament Verification JUNEX tabletop disarmament verification** exercise. The exercise, hosted by the Belgium Ministry of Foreign Affairs, stressed the importance of robust verification to successful nuclear disarmament.

The alumni in attendance spanned more than a decade in the program and their career paths are equally broad and span the enterprise (photo from left to right):

- **Scott Roecker** (Class of 2003–2004), Vice President for Nuclear Materials Security at Nuclear Threat Initiative
- **Bonnie Canion** (Class of 2015–2016), Research Scientist, Lawrence Livermore National Laboratory
- **Jessica Bufford** (Class of 2013–2014), Program Officer, Materials Risk Management at Nuclear Threat Initiative
- **Erin Connolly** (Class of 2021–2022), contractor to NNSA Office of Nuclear Verification
- **Dr. Alicia Swift** (Class of 2012–2013), Director Nonproliferation and Arms Control, Y-12 National Security Complex
- **Victoria Sanchez, PhD** (Class of 2018–2019), Foreign Affairs Specialist, DOS
- **Marissa Moore** (Class of 2016–2017), Foreign Affairs Specialist, NNSA (not pictured)

“It was a great example to see so many former fellows come together from careers around the world to convene on such a valuable exercise. This is a great example of how being a fellow opens the door to opportunities to work in vital global security spaces,” said Leesa, former NGFP Team Lead and professional development specialist who also attended the event.

Celebrating Women in Nonproliferation. Taylor Hart-McGonigle (Class of 2019–2020) was featured in the NNSA's **Women in Nonproliferation Series**. The series celebrates the contributions and accomplishments of amazing women whose expertise ensures that NNSA successfully meets the challenge of its crucial mission.

Taylor, a foreign affairs specialist, is leading the Office of International Nuclear Security's Nuclear Security Women (NSW) initiative. The initiative promotes the role and visibility of women across all aspects of nuclear security, supports a diverse range of professional development opportunities to understand gaps to success, and increases female representation in the field of nuclear security worldwide.

“It has been extremely rewarding to represent those values on behalf of the program and a privilege to have the opportunity to meet and work with such incredible women in the field from across the world,” Taylor said.

Taylor is joined in the initiative by Class of 2009–2010 alum **Lindsey Gehrig**, a PNNL research analyst and Nonproliferation and Arms Control sector lead. Lindsey is the NSW laboratory lead, coordinating engagement with national laboratory partners, including Pacific Northwest, Los Alamos, Sandia, and Oak Ridge national laboratories.



“With this initiative we recognize that a more diverse and inclusive nuclear security workforce will lead to greater effectiveness in meeting today’s nuclear security challenges and produce more resilience and sustainability in the nuclear security field,” Lindsey said.

The NSW outreach does not stop there—the team is also building out its ally network, including Class of 2017–2018 alum Matt Moliterno, who is now with Oak Ridge National Laboratory. Altogether, the initiative is welcome to all those interested in joining the NSW mission. To learn more, contact Taylor (taylor.hart-mcgonigle@nnsa.doe.gov) or Lindsey (lindsey.gehrig@pnnl.gov).

Networking for the Next Generation. Angely Martinez (Class of 2020–2021) was selected for the **Eurasia Foundation Young Professionals Network** Class of 2022. The program identifies young professionals who share the foundation’s commitment to international engagement across the region and connects them with more established professionals from a variety of fields.

“I am very excited to be part of this cohort and participate in discussions exploring developments in the Eurasia region. I hope this opportunity will increase my knowledge of the region and broaden my network of peers in the DC area,” said Angely.

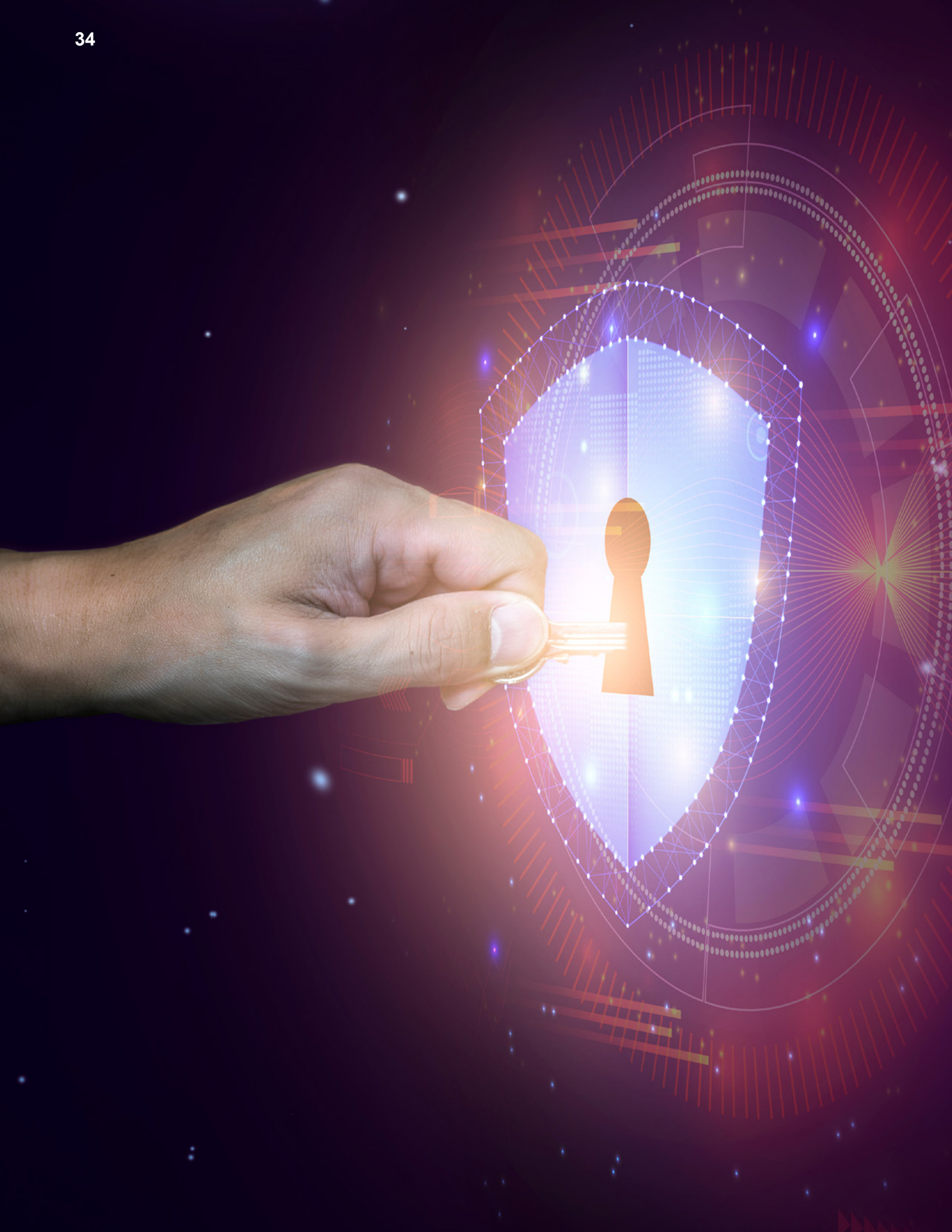
Advancing Academic Programs and Opportunities. Fellow **Samuel Perry** (Class of 2021–2022) attended the **2022 Stewardship Science Academic Programs Symposium** and moderated a panel discussing potential fellowships for students funded through the NNSA’s Academic Programs grants and centers. The panel featured alumni **Alexander Godinez-Robinson** (Class of 2019–2020) and **Tom Gray** (Class of 2015–2016). The symposium also featured a presentation from **David Etim** (Class of 2016–2017) on the Predictive Science Academic Alliances Program.

During her fellowship, Angely supported the DOS Office of Cooperative Threat Reduction. Upon completing her fellowship in June 2021, Angely joined the office as a Program Officer responsible for training foreign partners on WMD threats. Angely has a PhD and Master of Arts in political science from Syracuse University.

The symposium provides participants an opportunity to make important connections with laboratory personnel and fellow students, exchange research progress, and interact with the scientific communities encompassed by program. During his fellowship, Samuel provided a range of support to NNSA’s Academic Programs including developing content and feedback for the in-progress website and compiling a list of qualified reviewers for proposals.

“Through my support of Academic Programs, I learned a great deal about how the NNSA funds research at universities and fosters the development of the next generation of scientists. I was pleased to contribute to their efforts, as having previously been a teacher and mentor myself I believe in ensuring students have the resources to perform cutting-edge research. I also have a greater appreciation of the responsibility NNSA has taken upon itself to develop a pool of future technical experts that may one day support the national mission,” said Samuel.





Continuous Improvement

NGFP endeavors to enhance its program management approach and deliver a productive experience for fellows and the offices they serve. NGFP maintains numerous touch-points between fellows, their supervisors, and PNNL, including a thorough onboarding, mid-year and year-end surveys, and lessons learned sessions to elicit and address opportunities for continuous improvement.

An ongoing program focus is recruitment. The program continuously aspires to attract a diverse applicant pool and foster an equally diverse and inclusive workplace. In 2021–2022, this effort entailed enhancing university partnerships to better reach underrepresented minority students. While virtual efforts to connect with more STEM and multidisciplinary students have been effective, targeting students with multidisciplinary backgrounds will continue to be more intentional to further balance the applicant pool. Future recruitment will prioritize engaging underrepresented minority students from various MSI partner universities (including Historically Black Colleges and Universities and Hispanic-Serving Institutions). The program looks forward to advancing its relationships with MSIs to build awareness of the fellowship, connecting with organizations in the NSE that promote diversity and inclusion, and providing more opportunities for current and former fellows to share their experiences.

In its ongoing effort to evolve and enable a productive experience for fellows and the offices they serve, the program is always open to building new relationships with new nuclear and national security leaders, universities, student organizations, and industry partners. If you are interested in learning how you can engage with NGFP, contact ngfp@pnnl.gov.

Looking Forward

As the Class of 2021–2022 departed on its post-fellowship journey, the Class of 2022–2023 came aboard in June 2022—in person for the first time in two years! The cohort comprises 60 fellows supporting 13 DOE/NNSA organizations and field offices and the DOS. The fellows hail from 42 universities nationwide with backgrounds spanning the technical and policy realms, from nuclear engineering and physics to public policy and international security. These fellows were hand selected from a pool of more than 210 applications, from which nearly 140 candidates were picked to participate in approximately 400 virtual interviews with 50-plus NNSA program and site offices and the DOS. Stay tuned for more about this cohort in the 2022–2023 annual report!

**NGFP Class
of 2021–2022**

By the Numbers



260+

APPLICANTS

140+

CANDIDATES

~400

INTERVIEWS

12DIFFERENT PROGRAM,
FUNCTIONAL, AND FIELD
OFFICES SUPPORTED
(PLUS DTRA AND STATE)**58**FELLOW
GRADUATES**35**

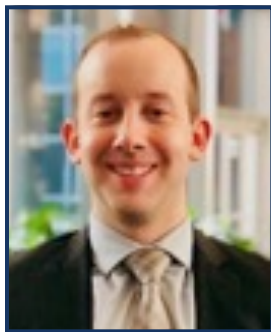
UNIVERSITIES REPRESENTED

41%FELLOWS WITH
TECHNICAL BACKGROUND**26%**FELLOWS WITH
POLICY BACKGROUND**25%**FELLOWS WITH
MULTIDISCIPLINARY
BACKGROUND**36%**FELLOWS ACCEPTED FEDERAL
POSITIONS WITH NNSA**90%**FELLOWS WITH POSITIONS
TIED TO NATIONAL SECURITY**650+**

ALUMNI

Appendix: Fellow Biographies





Jesse M. Altum

NA-213 Office of Nuclear Smuggling Detection and Deterrence – Washington, DC

Experience

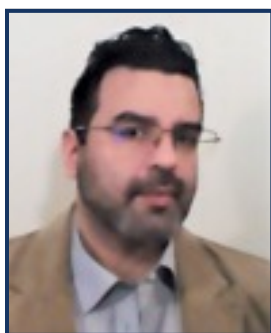
- Senior Consultant and Data Scientist, Strategic Innovation Group, Booz Allen Hamilton
- Program Analyst, Consular Affairs, Department of State
- Honors Intern, Internal Advisory Group, Federal Bureau of Investigation
- Graduate Research Assistant, Nuclear Security Working Group
- National Crime Information Center Agent / Court Liaison, Denver Police Department

Accomplishments

- Served as a project manager for international law enforcement data analysis, quality, and integrity for the U.S. government, developing strategy and methodologies to improve long-term program performance and developing new secretary-level analysis programs.
- Authored graduate thesis for the Stimson Center on the future of Indian and Pakistani nuclear relations and the impact of U.S. foreign policy on the regional balance of power while leading the design and implementation of in-country research to develop primary resources.
- Conducted research and implementation of non-state actor and insider threat capabilities, methodologies, and psychological drivers to identify exploitation and intervention techniques for program implementation and further multidisciplinary research.
- Researched domestic nuclear terrorism prevention and deterrence methods and federal projects to coordinate multiagency projects and priorities and design policy approaches to promote international nuclear material security and controls.
- Managed a \$3 million budget and represented 25,000 students as undergraduate student body president, managing state-level legislative affairs, three \$100+ million building construction projects, a team of 25+ direct reports staff members, and external university communications.
- Completed the Nuclear Nonproliferation Safeguards and Security program with Brookhaven National Laboratory and continued research in nonproliferation techniques and artificial intelligence assistance to improve and advance analysis of verification applications.
- Studied abroad in Aksum, Ethiopia, and led the development of a university student exchange program and compliance of necessary performance metrics for Aksum University while working with international research teams to advance multi-national research sharing agreements.

Education

- Master of Arts, International Security Policy Studies, The George Washington University
- Bachelor of Arts, Political Science and Economics, Metropolitan State University of Denver



Julio A. Aparicio

NA-10.1 Office of Strategic Partnership Programs – Washington, DC

Experience

- Research Assistant, University of Massachusetts Amherst
- Graduate Teaching Assistant, University of Massachusetts Amherst
- Materials Engineer, Gaumard Scientific

Accomplishments

- Conducted research of a soft sensor that measures pressure and shear for medical applications.
- Designed and developed various soft sensor prototypes in conjunction with an industry sponsor.
- Designed and manufactured medical simulation products.
- Developed manufacturing procedures for multiple products.
- Trained new engineering personnel and production technicians.

Education

- Doctor of Philosophy, Mechanical Engineering, University of Massachusetts, Amherst (in progress)
- Master of Science, Mechanical Engineering, Florida International University
- Bachelor of Science, Mechanical Engineering, Florida International University



Anna Armstrong

NA-84 HQ Office of Nuclear Incident Response— Washington, DC

Experience

- Graduate Assistant Researcher, Center for Nuclear Security Science and Policy Initiatives, Texas A&M University
- Research Intern, International Safeguards Group, Oak Ridge National Laboratory
- Undergraduate Researcher, Department of Nuclear Engineering, Texas A&M University
- Intern, Washington Field Office, U.S. Secret Service
- Intern, Office of Senator Daniel K. Inouye, U.S. Senate

Accomplishments

- Completed graduate coursework focused on nonproliferation, safeguards, intelligence, and national security policy as a student at Texas A&M in the Department of Nuclear Engineering and at the Bush School of Government and Public Service.
- Served as a graduate assistant researcher in the Center for Nuclear Security Science and Policy Initiatives to investigate and develop safeguards approaches for molten salt reactors in collaboration with Oak Ridge National Laboratory.
- Conducted research on international safeguards and molten salt reactor radiation transport modeling and fuel burnup simulation as a research intern at Oak Ridge National Laboratory.
- Participated in undergraduate research at Texas A&M focused on radiation detection and nonproliferation.
- Interned with the late Senator Daniel Inouye of Hawaii on Capitol Hill and with the U.S. Secret Service in Washington DC.

Education

- Master of Science, Nuclear Engineering, Texas A&M University
- Bachelor of Science, Nuclear Engineering, Texas A&M University



Amrit Bal

NA-LL Defense Nuclear Nonproliferation Livermore Field Office — Livermore, CA

Experience

- Graduate Student Researcher, Scripps Institution of Oceanography
- Air Force Research Laboratory Space Scholar, Kirtland Air Force Base

Accomplishments

- Simulated seismic wave propagation and ground motions of earthquakes in the Kathmandu Basin by modeling a complex 3D sedimentary basin geometry with strong topography contrasts using SeisSol on SuperMUC-NG.
- Performed numerical simulations of seismic wave propagation to determine the viability of distributed acoustics sensing networks for seismic source monitoring in the Air Force Research Laboratory Space Scholar Program.
- Generated geodynamic models to determine how sediments influence subduction processes using the Lithosphere and Mantle Evolution Model on the XSEDE Comet Cluster in the Scripps Undergraduate Research Fellowship and Geodynamics of the Lithosphere and Deep Earth Program.
- Served in the office of Representative Kip Kendrick in Missouri House of Representatives through the University of Missouri Civic Leaders Internship Program.
- Awarded the National Science Foundation Graduate Research Fellowship, the Missouri Bright Flight Scholarship, and the Mizzou Excellence Award.

Education

- Master of Science, Earth Science, University of California San Diego
- Bachelor of Science, Physics, University of Missouri

“This fellowship provided me unique insight into the dynamics between laboratories, international communities, and headquarters.”

—Amrit Bal, NA-LL Defense Nuclear Nonproliferation Livermore Field Office



Katelyn M. Bennett

NA-19 Office of Production Modernization and NA-192 Office of Tritium and Domestic Uranium Enrichment – Washington, DC

Experience

- Graduate Research Assistant, Bredesen Center, University of Tennessee
- Graduate Research Assistant, Medical, Industrial, and Research Isotopes Group at Oak Ridge National Laboratory
- Post Bachelors Research Intern, Nuclear Materials Processing Group, Oak Ridge National Laboratory
- Undergraduate Student Researcher, Institute for Nuclear Security, Howard H. Baker Jr. Center for Public Policy

Accomplishments

- Researched the development of monolithic resin alternatives to traditional ion exchange resins for actinide and lanthanide separations.
- Performed a californium production off-gas mitigation study at the Radiochemical Engineering Development Center that developed and evaluated a prototype acid fume scrubber designed for use in a hot cell.
- Used ion chromatography and valence adjustments for high-purity, selective separations of americium, plutonium, and uranium.
- Proposed a separation method for two long-lived fission products previously irradiated targets in conjunction with the anticipated target dissolution at Oak Ridge National Laboratory and Savannah River National Laboratory.
- Co-hosted the 2019 Millennial Nuclear Caucus at Y-12 National Security Complex hosted by the Department of Energy, served as mentoring committee director of Pipeline: Vols for Women in STEM, and served as an officer of the Institute for Nuclear Materials Management student chapter.
- Earned a graduate certificate in Nuclear Security Science and Analysis.
- Attended various conferences including the Actinide Separation Conference, Institute of Nuclear Materials Management Annual Meeting, Women in Nuclear Region II Conference, and the Symposium on Separation Science and Technology for Energy Applications.

Education

- Doctor of Philosophy, Energy Science and Engineering, University of Tennessee (in progress)
- Master of Science, Nuclear Engineering, University of Tennessee
- Bachelor of Science, Chemistry and Kinesiology, University of Tennessee



Samantha J. Bowers

NA-244 Office of Nonproliferation Policy – Washington, DC

Experience

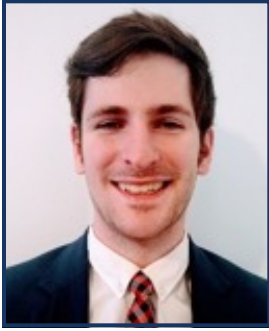
- Senior Associate, Financial Operations, Government Executive Media Group
- Associate Editor for the Indo-Pacific, Georgetown Security Studies Review
- Executive Assistant, Government Executive Media Group
- Executive Assistant, Building & Grounds, The Supreme Council
- Intern, U.S.-Japan Council

Accomplishments

- Managed the Georgetown Security Studies Review's general publication processes for submissions relating to the Indo-Pacific, which includes approving columns, assuring quality of writing, argument, and sources, and final editing and publication.
- Authored several graduate research papers that explore the nexus between Japan and nuclear security, including Japan's missile defense options, Japan's potential for an offensive naval force with consideration to the current and future security outlook, and U.S. options for reducing base burden on Okinawa.
- Selected as an alternate for the Department of State's Critical Language Scholarship for 2021 Japanese.
- Selected to participate in several U.S.-Japan emerging leadership conferences.
- As a senior associate of financial operations, tracked \$25+ million per year in internal financials, including revenue allocations, inventory, and revenue pacing.

Education

- Master of Arts, Security Studies, Georgetown University
- Bachelor of Arts, International Studies and Japanese, American University



Chris Byrd

NA-212 Office of Radiological Security – Washington, DC

Experience

- Consultant, Grantwell Nonprofit Consulting
- Intern, Utah Governor's Office of Economic Development
- Research Assistant, Brigham Young University
- German Teacher, Brigham Young University

Accomplishments

- Co-authored report analyzing legality of unmanned autonomous systems.
- Ran a local leadership program for underprivileged youth based on historical case studies and security sector examples.
- Managed grant program providing \$298,000 in emergency COVID-19 relief to 317 rural businesses.
- Designed online undergraduate courses and authored 40+ assignments and modules.
- Translated, interpreted, and tutored German across various organizations and industries.

Education

- Master of Public Administration, Federal/State Government, Marriott School of Business
- Bachelor of Arts, Political Science, Brigham Young University



Aaron Cavanaugh

NA-APM-1.5 Los Alamos Project Management Office – Los Alamos, NM

Experience

- Procurement and IT Coordinator, Portland State University
- Research and Data Analyst, Portland State University
- Program Support Specialist, Bonneville Power Administration

Accomplishments

- Provided technical services and project coordination to clients on North American Electric Reliability Corporation Critical Infrastructure Protection.
- Conducted InfoSec research in U.S. Federal Cybersecurity standards.
- Completed a linear regression research project for graduate admissions.
- Participated in the Omega Rho Honor Society.
- CompTIA A+ certified.

Education

- Master of Science, Engineering and Technology Management, Portland State University
- Master of Business Administration, Concordia University

“Working with the Office of Radiological Security gave me an opportunity to see how my work could make an immediate and direct impact on national security and the safety of facilities and people nationwide.”

—Chris Byrd, NA-212 Office of Radiological Security



Jordan R. Caylor

NA-NV Office of Mission and Infrastructure – Las Vegas, NV

Experience

- Research Assistant, The University of Texas at El Paso
- Teaching Assistant, The University of Texas at El Paso
- Masters Intern, Pacific Northwest National Laboratory
- Tutor/Mentor, Americorps
- Undergraduate Research Assistant, Southern Illinois University

Accomplishments

- Helped develop and implement the first phase of a test designed to simulate microbiological-driven deterioration on nuclear waste glass.
- Researched the subsurface ‘plumbing’ system of Old Faithful Geyser using active source seismic techniques and inverse modeling.
- Earned a graduate certificate in Geographic Information Sciences.
- Published an essay on the future of energy use and how it relates to employment for earth scientists through the journal The Professional Geologist.
- Attended the short course Communicating Geohazards and worked with earth scientists and journalists to address challenges of effectively communicating science to a broad public audience.
- Won second place for an oral presentation given at the 2020 annual earth/environmental research showcase at The University of Texas at El Paso.
- Volunteered more than 900 hours with Lewis Elementary School in Carbondale, IL through Americorps.

Education

- Doctor of Philosophy, Geological Sciences, The University of Texas at El Paso (in progress)
- Master of Science, Geophysics, The University of Texas at El Paso
- Bachelor of Science, Geology, Southern Illinois University



Anamika Chourasia

NA-LA Los Alamos Field Office, Quality Assurance/Program Integration – Los Alamos, NM

Experience

- Graduate Research Assistant, The University of Texas at Dallas
- Product Development Intern, Nano Vision Corp.
- Research Assistant, Commerce, Texas A&M University

Accomplishments

- Designed novel medical devices to detect bacteria and fungi within hospitals’ heating, ventilation, and air conditioning systems.
- Assembled a support system using CAD modeling to insert fiber wires into the cortex for cancer treatment.
- Engineered an at-home medical device to measure the vitamin content in blood and analyzed quantitative results of newly designed laboratory experiments for proof of concept.
- Implemented a program coded in Python to calculate the speed and angle of incline of a treadmill used for physical therapy.
- Initiated and led a team in building a postnatal incubator with bili lights for third-world countries.
- Engineered a portable heart monitor and submitted design proposals to national competitions; won first place in the Engineering World Health Competition and third place in the National Institutes of Health National Competition.

Education

- Master of Science, Biomedical Engineering, The University of Texas at Dallas
- Bachelor of Science, Biomedical Engineering, The University of Texas at Austin



Becky Christofferson

NA-195 Office of Secondary Stage Production Modernization, Depleted Uranium Program – Washington, DC

Experience

- Graduate Student Researcher and Teaching Assistant, University of California, San Diego
- Server, Dante
- Reporting Intern, Impact Initiatives
- Mechanical Engineer, WHS Engineering
- Mechanical Engineer, TES Engineering

Accomplishments

- Co-authored a technical paper, “Aid to North Korea: A Survey of Open-Source Data,” for the North Korean Review online journal.
- Assisted with the compiling of a database with relevant aspects of regional organizations with authoritarian members.
- Reviewed and edited reports on humanitarian conditions in conflict zones using quantitative results of on-the-ground surveys provided by in-country team partners.
- Created a spreadsheet to calculate satellite parameters around a central body for the book Space Mission Engineering: The New SMAD.
- Created a 48-person, 12-country international law simulation focused on Arctic policy for the class International Law and Regulation.

Education

- Master of Arts, International Politics, University of California, San Diego (in progress)
- Bachelor of Arts, International Relations and History, Cleveland State University
- Bachelor of Science, Astronautical Engineering, University of Southern California



Rachel B. Combs

NA-195 Office of Secondary Stage Production Modernization, Lithium Program – Washington, DC

Experience

- Intern, NORAD and U.S. Northern Command
- Intern, U.S. Army War College
- English Teaching Assistant, Fulbright U.S. Student Program

Accomplishments

- Completed coursework and internships in homeland security and defense, emergency management, intelligence collection and analysis, and data analysis and visualization in R and Stata.
- Developed publications on Arctic security cooperation events for dissemination to top military and civilian leadership.
- Co-authored qualitative study on civil-military relations in three western democratic militaries, focusing specifically on the German Bundeswehr during a summer internship with the U.S. Army War College.
- Assisted in developing publications focusing on great power competition in the Arctic and adversarial influence operations in U.S. North American allied nations.
- Completed a Fulbright English Teaching Assistantship from 2018-2019 at a business vocational high school in Germany, teaching English language skills and American culture and society, and facilitating intercultural cooperation.
- Studied abroad in Germany focusing on public policy and worked in Germany for one year; advanced proficiency in German.

Education

- Master of Arts, International Security, Josef Korbel School of International Studies, University of Denver
- Bachelor of Arts, Political Science and German Language and Literature, The University of Alabama

“Working with the NA-195 office gave me a crash course in the challenges facing the modernization of our nuclear weapons capabilities.”

—Becky Christofferson, *NA-195 DU Secondary Stage Production Office of Depleted Uranium Modernization*



Erin Connolly

NA-243 Office of Nuclear Verification – Washington, DC

Experience

- Associate Program Director, Girl Security
- Research Assistant, Center for Arms Control and Non-Proliferation
- Intern, Center for Arms Control and Non-Proliferation and Council for A Livable World
- Translation Intern, L'Institut International des Droits de l'Homme (Strasbourg, France)

Accomplishments

- Created three-part nuclear weapons policy module for high school students and teachers to be used by partners in 15+ states.
- Supported and managed national security workshops with domestic and international partners for girls and gender minorities aged 14-26 on topics including predictive analysis, wargaming, and disinformation.
- Published through outlets including NATO, Teen Vogue, the Bulletin of the Atomic Scientist, Inkstick Media, and the University of Pennsylvania Law School, Center for Ethics and Rule of Law.
- Co-founded a next-generation education initiative with a colleague at the Brookings Institution to educate high school students on nuclear weapons policy in order to increase engagement in the public discourse. The article received 2018 Leonard M. Rieser Award from the Bulletin of Atomic Scientists.
- Presented on the danger of dirty bombs due to radiological sources in hospitals at the Center for Strategic and International Studies (CSIS) Project on Nuclear Issues December 2017 conference. Presentation was selected for the CSIS Capstone Conference at U.S. Strategic Command in April 2018 and CSIS Capstone Conference. U.S. Strategic Command and the CSIS Project on Nuclear Issues journal publication.

Education

- Master of Arts, Global Affairs and International Peace, University of Notre Dame
- Bachelor of Arts, International Studies and French, College of the Holy Cross



Rusty Joseph Dauzat

NA-APM-1.3 Uranium Processing Facility Project Office – Oak Ridge, TN

Experience

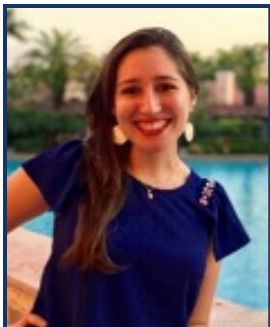
- District Engineering Manager, CETCO Energy Services
- Lead Process Engineer, Worley Parsons
- Operations Engineer, BASF
- Lead Offshore Operations Engineer, BHP Billiton
- Operations Engineer, BP

Accomplishments

- Developed and managed the first in-house process engineering group for an oil and gas services company, eliminating the cost of outsourcing all process engineering efforts by executing turn-key design packages internally.
- Developed process engineering scope packages for five divisions of a company integrated into the energy services industry.
- Served as the liaison among all STEM, planning, scheduling, and regulatory disciplines required to install, start up, and operate a multibillion-dollar Deepwater Gulf of Mexico oil and gas production facility.
- Conducted risk assessment/risk management and consequence analysis studies for projects in the chemicals, polymers, and oil and gas industries; mitigated safety, health, and environmental risks through engineered solutions.
- Innovatively engineered a solution to meet new emission reporting requirements enforced by the Bureau of Safety and Environmental Enforcement agency, measuring low-pressure and low-velocity gas stream emissions from critical equipment used by deepwater oil and gas facilities.
- Designed and implemented a solution to an industry-wide problem associated with a complex reactive distillation process by utilizing company intellectual property, internal and external expert knowledge, and publicly published data.
- Mentored intern and entry-level chemical engineers, teaching them to apply core engineering fundamentals and theory to real-world engineering problems in the chemicals, polymer, and oil and gas industries.

Education

- Master of Business Administration, Louisiana State University
- Bachelor of Science, Chemical Engineering, Louisiana State University



Silvina A. Di Pietro

NA-LL Defense Programs Livermore Field Office – Livermore, CA

Experience

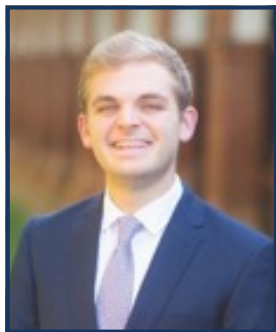
- Department of Energy Fellow and Graduate Research Assistant, Applied Research Center, Florida International University
- Glenn T. Seaborg Institute Graduate Intern, Lawrence Livermore National Laboratory
- Alternate Sponsored Fellow Intern, Pacific Northwest National Laboratory
- Interim Science Teacher, International Studies, Charter Middle School
- Chemistry Learning Assistant, Chemistry Department, Florida International University

Accomplishments

- Assisted with the largest environmental cleanup in the world by researching the ammonia gas remediation technology for the Department of Energy Hanford Site.
- Conducted graduate research focused on batch experiments while learning and implementing characterization techniques to clays and Hanford Site sediments.
- Completed three rigorous 10-week summer internships at Pacific Northwest and Lawrence Livermore national laboratories.
- Two first-author, two in preparation, and multiple collaborative scientific manuscript publications in the field of radionuclide remediation and clay science.
- Competitively selected for the two-week Neutron and X-ray Scattering 2020 summer school virtually held at Argonne and Oak Ridge national laboratories to learn the use of major neutron and X-ray facilities and receive tutorials on the principles of scattering theory and methods.
- Selected as the 2021 U.S. Delegate to the International Younger Chemists Network by the International Union of Pure and Applied Chemistry (IUPAC) national committee to represent the United States at the 2021 IUPAC and World Chemistry Congress.
- Selected for the prestigious 2022 CAS Future Leaders Program, a leadership training for elite PhD students and postdoctoral chemistry scholars from around the world.
- Awarded the Innovations in Nuclear Technology R&D Award by the Department of Energy's Office of Nuclear Technology and Roy G. Post Foundation Graduate Award by the Waste Management Symposia.

Education

- Doctor of Philosophy, Chemistry, Environmental Chemistry track, Florida International University
- Master of Science, Chemistry, Environmental Chemistry track, Florida International University
- Bachelor of Science, Chemistry, Florida International University



Zach Diamond

NA-10.2 Office of International Programs, Office of Defense Programs – Washington, DC

Experience

- Field Organizer, Dr. Cameron Webb for Congress
- Public Affairs Intern, Department of State, U.S. Embassy Beijing
- Intern, University of Virginia Center for Politics
- Research Assistant, Hebrew University
- Intern, Office of the U.S. Trade Representative

Accomplishments

- Managed field operations in five counties for the highly competitive general election in Virginia's 5th Congressional District while overcoming COVID-19-related obstacles.
- Collected and evaluated data on space-related agreements between China, the United States, and a group of Latin American countries to determine trends of cooperation and create a report that included research, findings, and a recommendation.
- Authored and edited content for social media campaigns that were published by U.S. Embassy Beijing platforms.
- Created a report on the U.S.-Japan alliance with a particular focus on Japan's reliance on the U.S. nuclear umbrella.
- Created an overview of the South China Sea territorial dispute and reports on China's relations with the countries of the Gulf Cooperation Council.
- Received the Bocock and Hitz Public Service Fellowship.

Education

- Master of Public Policy, The Frank Batten School of Leadership and Public Policy, University of Virginia
- Bachelor of Arts, Foreign Affairs and East Asian Studies, University of Virginia



John Docter

NA-121.2 Office of Stockpile Production Integration, Production Operations Division – Washington, DC

Experience

- Graduate Research Manager, Northwestern University
- Graduate Student Researcher, Northwestern University

Accomplishments

- Awarded a National Science Foundation grant to live in South Africa and research wastewater conversion to chemical products and clean water.
- Awarded the highest presentation score for the Northwestern industrial board research fair.
- Researched microbial electrolysis cells for clean energy production.
- Researched microbial bioreactors for municipal wastewater mitigation and product recovery.

Education

- Master of Science, Biotechnology and Sustainability, Northwestern University
- Bachelor of Science, Zoology and Environmental Science, University of Wisconsin – Madison



Jenna L. Faith

NA-22 Defense Nuclear Nonproliferation Research and Development – Washington, DC

Experience

- Teaching Assistant, Geology for Engineers, The University of Texas at El Paso
- Research Assistant, The University of Texas at El Paso

Accomplishments

- Obtained a graduate certification in Applied and Computational Mathematics, which included using MATLAB, Python, R, and Mathematica.
- Led fieldwork to deploy a 24-seismic node survey that was maintained for 14 months to study the seismicity and structure in the Pecos, Texas region.
- Created codes to implement a machine learning algorithm, called PhaseNet, that quickly and accurately analyzed seismic data.
- Received first place oral presentation at The University of Texas at El Paso's annual department colloquium.
- Presented research at various conferences including Seismological Society of America, American Geophysical Union, and Geological Society of America.
- Received the department's most prestigious scholarship, the Cearley Graduate Scholarship in Geological Sciences.
- Studied abroad for one semester at the University College Cork in Cork, Ireland.

Education

- Doctor of Philosophy, Geological Sciences, The University of Texas at El Paso (in progress)
- Bachelor of Science, Geology, Juniata College

“This fellowship allowed me to learn more about the nuclear enterprise, grow my network, and be involved with research being conducted at the national laboratories. I was offered the unique opportunity to engage in multiple field experiments and tours at the Nevada National Security Site, which would not have happened if not for this fellowship.”

—Jenna Faith, *NA-22 Defense Nuclear Nonproliferation Research and Development*



Janet M. Forestier-Babilonia

NA-SN Sandia Field Office – Albuquerque, NM

Experience

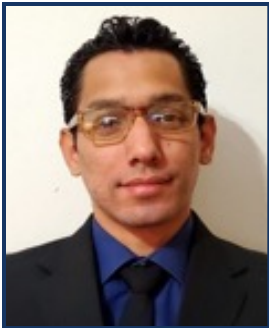
- Student Intern, Puerto Rico Public Health Trust
- Scientific Investigation Assistant, Department of Environmental Health, University of Puerto Rico, Medical Sciences Campus
- Technical Consultant and Professional Services, Community Foundation of Puerto Rico

Accomplishments

- Published work in the January 2021 Marine Pollution Bulletin Journal, Volume 164, DOI: 112010, as the first major work on microplastic pollution in beaches of Puerto Rico.
- Currently contributing research for the National Institute of Standards and Technology on disaster failure studies related to Hurricane Maria.
- Presented to the American Geophysical Union 2020 Fall Meeting on early warning of synoptic air quality events to improve health and well-being in the greater Caribbean Region, focused on Saharan Dust events and diesel particulate matter detrimental effects.
- Researched the effect of climate change on the quality of life of Puerto Rican coastal communities, focusing on resiliency initiatives, green infrastructure, and erosion studies for action plans toward their security.
- Developed a pilot project assessing three methodologies to address marine litter and marine debris public health concerns in coastal areas of Puerto Rico, which was chosen to be presented at the XVIII Latin America Congress of Ocean Sciences (COLACMAR in Spanish) in Mar de Plata, Argentina.
- Acknowledged for key values of discipline, physical prowess, and mental capacity as an outstanding cadet in the Reserve Officer Training Corps, a valuable Puerto Rican federation athlete, and a continuous high academic performer.
- Acquired ongoing certifications on Select Agents, Biosecurity and Bioterrorism, and Water Quality Monitoring for national security purposes.

Education

- Master of Science, Environmental Health, University of Puerto Rico, Medical Sciences Campus
- Bachelor of Science, Biomedical Sciences, University of Puerto Rico, Aguadilla Precinct



Hezael Gonzalez Millan

NA-APM-20 Office of Enterprise Project Management – Amarillo, TX

Experience

- Teacher Assistant, Ana G. Méndez University, Gurabo Campus
- Dredge Intern, Weeks Marine, Inc.
- Inspector II (Federal Emergency Management Agency contractor), WSP Inspection Services
- Specialist I at Infotech Aerospace Service Inc, CTS
- Manufacturing Engineer, UTC Aerospace Systems, CTS

Accomplishments

- Mentored 30+ industrial engineering students per semester as a teaching assistant at Ana G. Méndez University and served as a math tutor at the University of Puerto Rico under the Title V program.
- Interned at Weeks Marine, Inc. where the project location coordinates plotting process was improved and reduced from 3 hours to 15 minutes; fast-learned basics on running boats and bulldozers.
- Worked as a team member on the design and manufacturing of the Solar Car University of Puerto Rico, Mayagüez.
- Helped in the reconstruction of Puerto Rico after Hurricane Maria, working alongside the Federal Emergency Management Agency as an inspector, quality control manager, guide, and translator.
- Certified as Medtronic's machinist, 30-hour General Industry Safety and Health, Project Management Essentials, and Lean Six Sigma White Belt.
- Member of Tau Beta Pi, Golden Key Honor Society, Sigma Alpha Epsilon, Institute of Industrial Systems and Engineers.
- Born and raised in Puerto Rico where Spanish is the primary language.

Education

- Master of Science, Engineering Management, Ana G. Méndez University, Gurabo Campus (in progress)
- Bachelor of Science, Mechanical Engineering, University of Puerto Rico, Mayagüez Campus



Alejandra González Torres

DTRA Defense Threat Reduction Agency, Nuclear Enterprise Front Office – Fort Belvoir, VA

Experience

- Intern, Embassy of Mexico
- Intern, Department of State of Puerto Rico
- Intern, CLS Strategies

Accomplishments

- Completed capstone project on the Influence of Chinese Investment on the Development of Renewable Energy Systems in Saudi Arabia and Brazil.
- Facilitated trade information such as permits, tariffs, and documents for stakeholders interested in engaging in trade between Mexico and the United States.
- Provided news analysis, research, and crisis management support for various companies across different industries that included major international news outlets, the energy sector, and nonprofit organizations.

Education

- Master of Arts, Nuclear Policy, The George Washington University
- Bachelor of Arts, Political Science, Universidad de Puerto Rico Recinto de Río Piedras



Solomon Greene

NA-10 Defense Programs, Deputy Administrator's Action Group – Washington, DC

Experience

- Research Associate, Schramm, Williams and Associates, Inc.
- Unconventional Weapons and Technology Research Intern, National Consortium for the Study of Terrorism and Responses to Terrorism
- Central Team Intern, TradeSecure, LLC
- Scholar, Security Leadership Program, Center for International Trade and Security

Accomplishments

- Presented research findings and threat reduction policy recommendations pertaining to security risks at facilities housing radiological and nuclear weapons and materials to security experts at the National Consortium for the Study of Terrorism and Responses to Terrorism.
- Researched over 75 attacks or failed plots in the United States and Western Europe to profile extremist organizations in support of a project analyzing potential radiological and nuclear threats to the United States by non-state actors.
- Selected as a Scholar for the Security Leadership Program focusing on WMD security and strategic trade management; evaluated policy and academic sources to prepare briefs on a broad range of nuclear security issues.
- Worked as a Central Team intern with TradeSecure LLC, acquiring critical insight into export control laws and regulations; researched European and Sub-Saharan African country-specific legislation to maintain Accelerator, a database on trade regulations for over 68 states and used by select Fortune 500 companies.
- Synthesized global resources to create reports that analyze issues including tariffs, sanctions, and trade agreements for distribution to public and private sector entities.
- Prepared briefs, testimonies, and correspondence for distribution to federal legislators and government entities.

Education

- Master of Arts, Security Studies, Georgetown University (in progress)
- Bachelor of Arts, International Affairs, University of Georgia

“The fellowship allowed me to gain invaluable experience, expand my knowledge of nuclear security issues, and interact with a diverse array of talented professionals. It has undoubtedly been instrumental in my career development.”

—Solomon Greene, NA-10 Office of Defense Programs



Christina Hedgepeth

NA-234 Office of Nonproliferation Construction and Program Analysis – Washington, DC

Experience

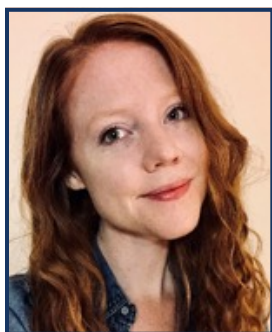
- Graduate Student Career Advisor, Brigham Young University Master of Public Administration Career Services
- Graduate Research Assistant, Brigham Young University Master of Public Administration Career Public Service Lab
- Intern, Silicon Slopes

Accomplishments

- Conducted research on COVID-19 small business initiatives that were presented to Senator Mitt Romney and Congressman Ben McAdams to influence economic development legislation in Utah.
- Evaluated the impact of educational programs for the Mabira Collective organization in Uganda to improve community development initiatives in rural areas.
- Presented research project on the relationship between parental incarceration and adolescent graduation rates at the 2019 Mary Lou Fulton Research Conference.
- Selected to deliver the National Collegiate Athletic Association Division I Student-Athlete Graduation Speech for Brigham Young University's 2019 student-athlete graduation.
- Awarded Student-Athlete Academic Honors for the 2017-2018 track and field season.

Education

- Master of Public Administration, Brigham Young University (in progress)
- Bachelor of Science, Sociology, Brigham Young University



Alexandra B. Housh

NA-MB-92 Office of Analysis and Evaluation – Washington, DC

Experience

- Graduate Research Assistant, University of Missouri
- Visiting Researcher, Pacific Northwest National Laboratory
- Teaching Assistant, Nuclear Chemistry Summer School Program

Accomplishments

- Completed three months of dissertation research in collaboration with Dr. James Moran at Pacific Northwest National Laboratory as an award recipient of the Department of Energy Office of Science Graduate Student Research Award. This work included stable isotope technologies to understand biofuel relevant crops' (switchgrass) nutrient exchange with soil bacteria.
- Attended the International Safeguards Policy and Informational Analysis Intensive Course offered by the Middlebury Institute for International Studies.
- Taught for, and attended, the Department of Energy-funded and American Chemical Society Nuclear Division-sponsored Nuclear Chemistry Summer School Program (San Jose, CA site) focused on introducing talented undergraduate students to the field of nuclear and radiochemistry and career options within the field.
- Explored careers in nuclear security and energy and informed interested undergraduate and graduate students of relevant professional experiences available to them as an officer of the University of Missouri Student Chapter of the Institute for Nuclear Materials Management.
- Participated in student organizing committees for various symposia and conferences hosted through the Plant Sciences Division at the University of Missouri; became well-versed in interdisciplinary, collaborative efforts to organize large groups of meetings.
- Received the University of Missouri Chemistry Department Outstanding Graduate Research Award (2020) and the University of Missouri David E. Troutner Fellowship in Radiochemistry (2020).

Education

- Doctor of Philosophy, Radiochemistry, University of Missouri
- Bachelor of Science, Chemistry and Biology, Heidelberg University

“As a fellow in the NA-234 office, I developed critical skills that have built the foundation for me to further my career in the national security enterprise.”

—Christina Hedgepeth, *NA-234 Nonproliferation Construction and Program Analysis*



Gregory D. Jack

NA-MB-812 Weapons Activities Resource Managers Matrix – Washington, DC

Experience

- Intern, Arizona Governor's Office of Strategic Planning and Budgeting
- Graduate Assistant, Brigham Young University, Quantitative Decision Analysis and Data Visualization
- Intern, U.S. Senate, Senator Orrin Hatch

Accomplishments

- Interned with the Arizona Governor's Office of Strategic Planning and Budgeting, coordinating and deploying strategic planning meetings for 35 cabinet-level agency directors, including the Arizona Department of Homeland Security and the Arizona Department of Emergency and Military Affairs.
- Presented high-impact, low-difficulty recommendations to increase the state credit rating and created self-scoring tools to guide state policy and management decisions for the Arizona Governor's Budget Director and Economic Forecaster.
- Conducted research related to biologic therapeutics and patent thickets to substantiate policy formation and information presented on the U.S. Senate floor.
- Devised a scorecard to rate project proposals and educate sponsors on how to increase the impact of worldwide area-specific charity work, also formatting and editing a 63-page report for area initiative managers of Latter-day Saint Charities to grasp and implement the process of impactful evaluation.
- Trained groups of 8-40 volunteer representatives in culture, language, and skills to enhance service. Collaborated with local leadership to determine individuals' needs and assess current efforts to make volunteer visits purposeful and effective in five German cities.
- Fluent in German language.

Education

- Master of Public Administration, Brigham Young University
- Bachelor of Arts, International Studies, University of Utah
- Bachelor of Arts, German, University of Utah



Victor G. Jones

NA-EA-10 Office of Congressional Affairs – Washington, DC

Experience

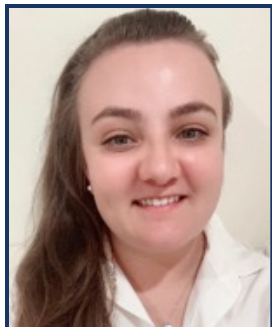
- Loan Specialist, Small Business Administration - Office of Disaster Assistance
- Fellow, Office of Management and Budget - Environment Office
- Planning and Zoning Board Member, City of Smyrna, GA
- Housing and Zoning Consultant, Cobb County Commissioner Jerica Richardson
- Legislative Aide, Georgia House of Representatives - Minority Leader Bob Trammell

Accomplishments

- Conducted critical research on state environmental agencies' funding mechanisms across the United States for the Office of Management and Budget.
- Created a legislative tracking program for Office of Management and Budget that tracks all environmental bills and categorized them according to office specializations.
- Implemented affordable housing initiatives and rental assistance programs in Cobb County, GA.
- Analyzed close to 400 bills in the Georgia House of Representatives and created summaries for the Whip Reports to be dispersed to caucus members.
- Conducted a comprehensive study of work-based learning in Georgia for the Metro-Atlanta Chamber of Commerce comparing the state program to that of three peer states and provided suggestions for improvement.
- Evaluated proposed regulations at the Environmental Protection Agency and provided comments on the impacts of these proposals to Office of Management and Budget and Office of Information and Regulatory Affairs staff.

Education

- Master of Arts, Public Policy, Georgia State University
- Bachelor of Science, Biology, University of Akron



Virginia M. Kerr

NA-241 Office of International Nuclear Safeguards – Washington, DC

Experience

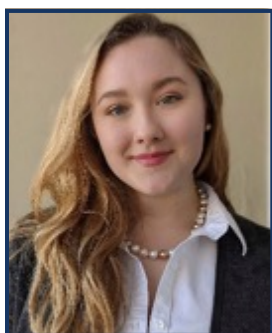
- Graduate Research Assistance, James Martin Center for Nonproliferation Studies
- Safeguards Intern, Lawrence Livermore National Laboratory

Accomplishments

- Contributed to the 2020 Center for Nonproliferation Studies Global Incidents and Trafficking Database and annual report on nuclear and radiological security.
- Presented original research on provisions for victim assistance in the Treaty on the Prohibition of Nuclear Weapons at the Winter 2020 Project on Nuclear Issues Conference.
- Interned at Lawrence Livermore National Laboratory and produced self-directed research on the safeguard provisions in the Treaty on the Prohibition of Nuclear Weapons.
- Completed an international safeguards policy course on the role of the International Atomic Energy Agency and international safeguards in the nuclear nonproliferation regime with Lawrence Livermore National Laboratory.
- Participated in the immersive Nuclear Research Reactor Practicum at the Czech Technical University in Prague on physical implementation of nuclear safeguards.

Education

- Master of Arts, Nonproliferation and Terrorism Studies, Middlebury Institute of International Studies (in progress)
- Bachelor of Arts, International Relations, San Francisco State University



Corinne Kuebler

NA-122.2 Ballistic Missile Weapons Division – Albuquerque, NM

Experience

- Graduate Research Assistant, Department of Civil and Environmental Engineering and Earth Sciences, University of Notre Dame
- Research and Development Chemist, Reaxis, Inc.
- Teaching Assistant, Nuclear Chemistry Summer School, Department of Energy, Brookhaven National Laboratory
- Undergraduate Research Assistant, Department of Chemistry, University of Pittsburgh

Accomplishments

- First-authored two publications and co-authored three peer-reviewed research articles with several others forthcoming; presented research at national and international conferences.
- Participated in the Department of Energy's Nuclear Chemistry Summer School at Brookhaven National Laboratory; served as a teaching assistant for the program the following year.
- Served as a member of the Graduate Student Union's Conference Presentation Grant Committee 2019-2020 at the University of Notre Dame, which awarded ~\$60,000 in grants to students for professional development.
- Received the 2020 Doctoral Harriet Evelyn Wallace Scholarship for women geoscientists from the American Geosciences Institute.
- Volunteered 100+ hours for programs that promote science education within the local community, including outreach to underrepresented students and young women.
- Performed field work abroad in India and Brazil; learned calcium isotope separation techniques at China University of Geosciences to advance both dissertation research and laboratory capabilities.

Education

- Doctor of Philosophy, Civil and Environmental Engineering and Earth Sciences, University of Notre Dame
- Bachelor of Science, Chemistry and Geology, University of Pittsburgh

“My experience as a fellow was a great start to my future career in the Nuclear Security Enterprise. It was rewarding to see the impact I had within my office and on the important mission of maintaining the nuclear deterrent.”

—Corinne Kuebler, NA-122.2 Ballistic Missile Weapons Division



Elia G. Lichtenstein

NA-122.4 Weapon Security and Control Division – Washington, DC

Experience

- Data Scientist, Battelle Memorial Institute
- Contributor, Conflict in the 21st Century
- Researcher, Technical University of Braunschweig

Accomplishments

- Led a team that developed software to identify materials for Department of Homeland Security airport screening applications.
- Investigated new technologies for a military encyclopedia and documented their effect on future warfare.
- Conducted research in Germany on the water droplet-level physics of aircraft icing and vehicle soiling.
- Served on the board of directors of a national historic landmark and implemented programs to modernize operations.
- Served as adjutant on the board of a Revolutionary War reenactment group and engaged in public historical presentation.

Education

- Master of Science, Engineering Management, The Ohio State University (in progress)
- Bachelor of Science, Aeronautical and Astronautical Engineering, Purdue University



Rob Magleby

NA-532 Office of Nuclear Materials Integration — Germantown, MD

Experience

- Public Policy Manager, American Society of Association Executives
- Intern, West Valley City Utah
- Graduate Research Assistant, Master of Public Administration Program, Brigham Young University
- First-Year Counselor, Master of Public Administration Program, Brigham Young University
- Senior Operator, Information Services, Brigham Young University

Accomplishments

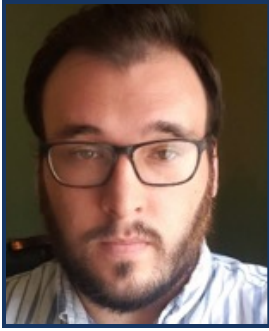
- Proposed and managed a specialized playground installation that simulates a dinosaur fossil excavation for children as part of a city recreation center expansion project.
- Facilitated an airspace exception from the Federal Aviation Administration to allow drone flying at a designated location within the city.
- Completed a cost-benefit analysis as part of a team project for a proposed charter school that would specialize in educating neuro-diverse high-school-aged children.
- Ran a grant-giving application process that evaluated, selected, and dispersed almost \$20,000 in grants as part of a graduate school collaboration with a local philanthropic foundation.
- Developed a program evaluation tool for a local food bank as part of a graduate school team project to help the organization determine long-term program effectiveness.
- Managed the fundraising, communications, and dispersal of almost \$500,000 to the campaigns of over 100 members of Congress over a four-year period as manager of a trade association's political action committee.
- Handled event planning, messaging, and logistics of three 100-person fundraising receptions and one 1,000-person awards dinner, annually for four years.

Education

- Master of Public Administration, Program Management, Marriott School of Business, Brigham Young University
- Bachelor of Arts, Political Science, Brigham Young University

“My time with this office has been an invaluable exercise in the importance of agility and collaboration. I am inspired by the willingness of management and my colleagues to help fellows feel welcome and needed within the NNSA.”

—Wells R. Magleby, NA-532 Office of Nuclear Material Integration



Tyler K. McDaniel

NA-242 Office of Nuclear Export Controls — Washington, DC

Experience

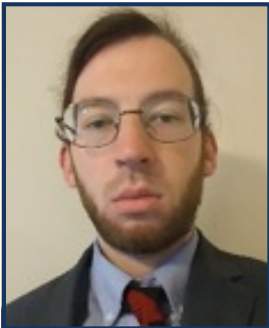
- Management Specialist, U.S. Southern Command
- Research Assistant, Jack D. Gordon Institute for Public Policy, Florida International University
- Intelligence Fellow, Intelligence Community Centers for Academic Excellence, Jack D. Gordon Institute for Public Policy, Florida International University

Accomplishments

- Conducted master's capstone research focused on the threats and risks of artificial general intelligence in the context of policy, security, and law.
- Completed research project as an Intelligence Community Centers for Academic Excellence Intelligence Fellow that evaluated the Chinese cyber espionage threat, specifically trends in Chinese foreign technology acquisition.
- Lead author and moderator of multiple crisis management simulations on security topics with up to 160 participants. Former participants include the director of Miami-Dade Police Department, other department professionals, and Colombian military professionals.
- Completed undergraduate certificates in National Security Studies and Asian Studies.
- Studied five sequential courses of Mandarin.

Education

- Master of Arts, Global Affairs - Security and Globalization, Florida International University
- Bachelor of Arts, History, Florida International University



Sean McGuinness

NA-18 Office of Systems Engineering and Integration — Washington, DC

Experience

- Graduate Student, University of Notre Dame

Accomplishments

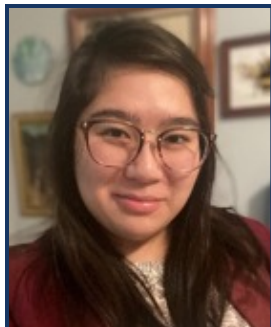
- Researched novel methodologies using heavy-ion reactions for the production of proton-rich medical radionuclei.
- Developed and wrote control and analysis software for a high-throughput ion-beam-analysis facility focused on environmental and consumer goods screening.
- Pioneered use of atmospheric argon gamma-rays for continuous beam monitoring during in-atmosphere ion-beam-analysis measurements.
- Received the Nuclear Science Laboratory Applied Nuclear Fellowship for fall of 2020.

Education

- Doctor of Philosophy, Physics, University of Notre Dame
- Master of Science, Physics, University of Notre Dame
- Bachelor of Science, Mechanical Engineering and Physics, Fairfield University

“This fellowship provided me with an excellent introduction to the Nuclear Security Enterprise. It made clear the variety of possible career options and what my future place in the enterprise might look like.”

—Sean McGuinness, NA-182 Office of Program Management Support



Audrey T. Nguyen

NA-531 Office of Packaging and Transportation – Albuquerque, NM

Experience

- Graduate Researcher, Radiological Engineering, Detection and Dosimetry Laboratory and the Center for Nuclear Security Science and Policy Initiatives, Texas A&M University
- Graduate Teaching Assistant, Nuclear Engineering, Texas A&M University
- Undergraduate Student Researcher, Radiation Material Science Laboratory and Characterization Facility, Texas A&M University
- Radiation Safety Intern, Environmental Health and Safety, UT Health San Antonio

Accomplishments

- Conducted graduate research regarding the dose effects from aerosolized radioactive materials following a particle dispersal event from a nuclear reactor accident.
- Completed coursework to satisfy the requirements for the dual foci of health physics and nuclear security.
- Served as president, secretary, and in a past-president advisory role while being instrumental in helping reinstate the Health Physics Society Student Chapter at Texas A&M University.
- Member of the Health Physics Society National Student Support Committee, further advancing Texas A&M University representation at the national level.
- Conducted undergraduate research regarding the alteration of thermal coefficients for metal materials following irradiation, combining the methods of simulation and active accelerator studies.
- Interned at UT Health San Antonio, learning the role of radiation protection in both academic/research and hospital facilities. Completed a research project and simulation to decide the correct level of shielding needed.
- Participated in the Domestic Nuclear Facilities Experience, which toured facilities in the Texas and New Mexico area, including Sandia National Laboratories, Los Alamos National Laboratory, Urenco, and the Waste Isolation Pilot Plant.

Education

- Master of Engineering, Nuclear Engineering, Texas A&M University
- Bachelor of Science, Radiological Health Engineering, Texas A&M University



Zachary Norton

NA-122.3 Office of Stockpile Sustainment, Air-Delivered Weapons Division – Albuquerque, NM

Experience

- Teaching Assistant, Arizona State University
- Research Aide, Arizona State University

Accomplishments

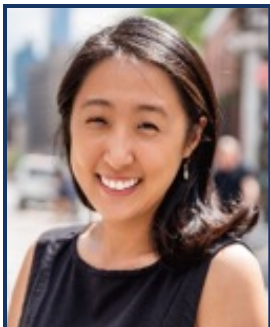
- Designed the process to develop a pill to help with early diagnosis of Gastrointestinal Esophageal Reflux Disorder.
- Won All-American Collegiate Athlete in 2018 for Racquetball.
- Helped run a nonprofit student organization for Jewish student outreach.

Education

- Master of Science, Mechanical Engineering, Arizona State University (in progress)

“The NGFP experience has been a wonderful, informative look into the role the government has in growing and maintaining the U.S. nuclear program. I learned a lot about resource management and packaging regulation and look forward to implementing this in the future.”

—Audrey Nguyen, NA-531 Office of Packaging and Transportation



Yoojin Park

NA-24 Office of Nonproliferation and Arms Control – Washington, DC

Experience

- Nuclear Energy and Nonproliferation Analyst, International Technology and Trade Associates
- Intern, U.S. Embassy Jakarta
- Intern, Department of State
- Communications Director, Young Professionals in Foreign Policy

Accomplishments

- Managed the firm's nuclear energy practice as a lead consultant apprising clients on a wide array of issues pertaining to legislative, regulatory, and industry developments in the U.S. nuclear energy sector.
- Conducted in-depth quantitative and qualitative research for clients to include publication of a comprehensive report on U.S. export policy.
- Led and oversaw the implementation of two bilateral scientific conferences attended by over 100 American and Indonesian scientists and policymakers. Coordinated with both American and Indonesian scientists, drafted speeches for principles, and planned a press conference.
- Researched and prepared a briefing memorandum on U.S. Grand Strategy in Export Control of Southeast Asia.
- Cooperated with subject matter experts to draft communication documents (ranging from official statements, press guidance, and talking points) on behalf of the Department of State's International and Security and Nonproliferation.

Education

- Master of Science, Foreign Service, Georgetown University
- Bachelor of Arts, Political Science, Barnard College, Columbia University



Samuel N. Perry

NA-113 Office of Experimental Science – Washington, DC

Experience

- Graduate Research Assistant, Department of Civil and Environmental Engineering and Earth Sciences, University of Notre Dame
- Co-instructor, Department of Civil and Environmental Engineering and Earth Sciences, University of Notre Dame
- Graduate Teaching Assistant, Department of Civil and Environmental Engineering and Earth Sciences, University of Notre Dame
- Undergraduate Research Assistant, School of Earth Sciences, The Ohio State University
- Undergraduate Teaching Assistant, School of Earth Sciences, The Ohio State University

Accomplishments

- Researched the material, crystallographic, and thermodynamic properties of actinide minerals and synthetic phases to better understand the relationship between the crystal structure and the stability of actinide materials.
- Developed a novel method of removing uranium from water by capturing uranyl metal-oxide peroxide nanoclusters with pillared layered compounds based on the mineral hydroxalcalite.
- Compiled a publicly accessible online database of the crystal, chemical, and material properties of all published uranium minerals, including their type localities.
- Developed and taught (for four years) a lecture on the history and current state of nuclear science for first- and second-year undergraduate engineering students at the University of Notre Dame.
- Co-instructed Environmental Mineralogy in the Autumn semester of 2019 in the Department of Civil and Environmental Engineering and Earth Sciences at the University of Notre Dame.
- Collaborated with multiple scientific institutions such as the Carnegie Institute for Science and the Museums Victoria; contributed as co-author or first author to 13 publications and gave 15 oral and poster presentations at meetings and conferences.
- Mentored three high school students and three undergraduate students on reading scientific literature, performing laboratory experiments with actinides, and using scientific instruments for analysis.

Education

- Doctor of Philosophy, Uranium Mineralogy and Geochemistry, University of Notre Dame (in progress)
- Bachelor of Science, Geology, The Ohio State University



Abby Pokraka

NA-23 Office of Material Management and Minimization – Washington, DC

Experience

- Program Coordinator, Center for Arms Control and Non-Proliferation
- Policy Intern, Center for Arms Control and Non-Proliferation
- Undergraduate Research Assistant, University of New Hampshire

Accomplishments

- Planned and implemented over 30 congressional briefing events for Hill staff and over 10 briefing events for Members of Congress, which included scheduling, speaker identification and invitation, deconfliction with other events, attendee list maintenance and invitations, securing and coordinating co-hosts, event material production, location and catering logistics, and attendee follow-up.
- Produced fact sheets, op-eds, and policy briefs on China, chemical and biological weapons, nuclear testing, and South Asia.
- Completed a graduate thesis that assessed the role international regimes have on nuclear disarmament using the Comprehensive Nuclear-Test-Ban Treaty as a case study.
- Planned and executed a public conference on managing global nuclear threats for over 150 participants.
- Conducted research and policy analysis on issues including U.S.-Russian strategic stability, regional proliferation threats, multilateral arms control, global nuclear modernization, nuclear security, and missile defense.
- Selected to participate in Wilton Park's Nuclear Non-Proliferation: Preparing for the 2020 NPT Review Conference and the Naval Academy Foreign Affairs Conference.

Education

- Master of Arts, Political Science, University of New Hampshire
- Bachelor of Arts, Political Science, University of New Hampshire



Taylor M. Poole

NA-84 Office of Nuclear Incident Response – Washington, DC

Experience

- Technical Lead, Arctic Infrastructure Inventory, Polar Institute, Wilson Center
- Research Assistant for Nuclear Statecraft, Sam Nunn School of International Affairs, Georgia Institute of Technology
- Student Assistant, Daisy Alliance for Nonproliferation
- Research Assistant for Russian Cross-Domain Statecraft, Sam Nunn School of International Affairs, Georgia Institute of Technology

Accomplishments

- Developed a methodological approach to data collection at the Polar Institute, increasing the overall volume of records in the Arctic Infrastructure Inventory from 900 to 8,000+.
- Prototyped a novel coding schema to explore proliferation risks associated with Russia's increasing market share in the global nuclear energy trade. Managed the analysis and coding of 50+ Russian-language documents, framing policy recommendations for security dialogue with NATO, UN, and EURATOM staff.
- Collected and analyzed 2,000+ Russian- and English-language academic articles on economic sanctions, especially those impacting nuclear trade. Adapted natural language processing tools to examine differences in discourse between Russian and Western scholars. Produced findings in two publications.
- Organized logistics for the Daisy Alliance's Annual International Diplomacy Conference. Supervised a free-play simulation exercise to educate 60+ students on a Middle East nuclear-weapon-free zone.
- Earned a Boren Scholarship from the National Security Education Program. Spent nine months at Russian and Latvian educational institutions studying hybrid warfare, nuclear deterrence, and the Russian language.
- Proficient in Russian. Earned a score of L3 on the American Council on Teaching of Foreign Language / Interagency Language Roundtable Oral Language Proficiency test. Named Outstanding Senior in Russian (2020) by faculty at Georgia Tech.

Education

- Master of Science, International Security, Georgia Institute of Technology
- Bachelor of Science, International Affairs, Applied Linguistics and Intercultural Studies (Russian), Georgia Institute of Technology



Trey Reilly

NA-19 Production Modernization Front Office Executive Support/Budget Matrix Support – Washington, DC

Experience

- COVID-19 Testing Coordinator and Product Manager/Product Owner, Colorado Department of Public Health and Environment
- Finance Manager, Liberty Toyota
- Graduate Intern, NORAD and U.S. Northern Command
- Ranger and EMT, Larimer County Department of Natural Resources
- Congressional Leadership Associate, U.S. House of Representatives, 5th District of Colorado

Accomplishments

- Managed a \$58 million program portfolio of various federally allocated antigen and molecular COVID-19 tests for Colorado, including managing the statewide at-school rapid antigen testing program—sending over 850,000 tests to individual schools and districts.
- Oversaw the development of Colorado's at-home COVID-19 test kit ordering portal as the product owner—enabling hundreds of thousands of free tests to be delivered directly to the homes of legislators, educators, retail workers, and other public-facing employees across Colorado.
- Supported NORAD and U.S. Northern Command by conducting research and analyses on adversarial information operations as well as homeland defense and homeland security threats—which were utilized for development of the Joint Concept for Homeland Defense.
- Conducted law enforcement patrols on land and water, including homeland security areas, and concurrently responded to medical emergencies as an emergency medical technician and incident commander.
- Volunteered in Larimer County for over six years as a Search and Rescue Leader, Search and Rescue Instructor, Firefighter/EMT, Public Safety Diver, and Threat Liaison Officer with Colorado's Fusion Center.
- Novice/intermediate language ability in Spanish and Russian.

Education

- Master of Arts, International Security and Homeland Security, Josef Korbel School of International Studies, University of Denver
- Bachelor of Arts, Political Science – Global Politics and Policy, Colorado State University
- Bachelor of Arts, Sociology – Criminology and Criminal Justice, Colorado State University



Arturo Rodriguez

NA-194 Office of Non-Nuclear Capabilities Modernization – Washington, DC

Experience

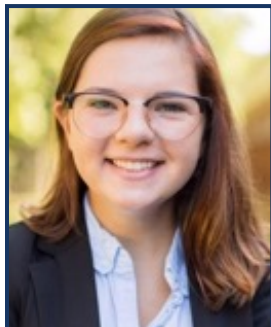
- Scholar, Air Force Research Laboratory
- Research Intern, Sandia National Laboratories
- Research Intern, Johns Hopkins University Applied Physics Laboratory
- Research Assistant, The University of Texas at El Paso
- High School Researcher, The University of Texas at Arlington

Accomplishments

- Add a new capability to an Air Force Research Laboratory screen phase code to produce intermittent instances in the power spectrum density equations / the medium encountered in atmospheric turbulence.
- Performed verification and validation tests on a Qstar ablation model in SPARC, generated meshes and performed an aerodynamic analysis of a supersonic bullet, helped develop and debug code with automatic mesh generation capabilities for re-entry vehicles, and performed an aero-thermal analysis of a sphere-ogive vehicle on an ascent and descent trajectory for Sandia National Laboratories Aerosciences Department.
- Simulated a secondary propulsion unit and post-processed the results using Tecplot, created an overlapping mesh using Pointwise for a secondary propulsion unit, and used MATLAB to visualize and calculate wave frequencies in the ocean for the Johns Hopkins University Applied Physics Laboratory Oceanic, Atmospheric, and Remote Sensing Sciences Group.
- Studied the behavior of different turbulence models for helium plume combustion and urban dispersion, created different meshes in Cubit and evaluated their convergence, and post-processed and learned how to validate the results using Python for the Sandia National Laboratories Fire Science and Technology Department.
- Coordinated 16+ STEM world-leading professionals to speak every Friday for The University of Texas at El Paso Department of Mechanical Engineering.

Education

- Doctor of Philosophy, Mechanical Engineering, The University of Texas at El Paso (in progress)
- Bachelor of Science, Mechanical Engineering, The University of Texas at El Paso



Elisabeth A. Scully

NA-10 Defense Programs, Deputy Administrator's Action Group – Washington, DC

Experience

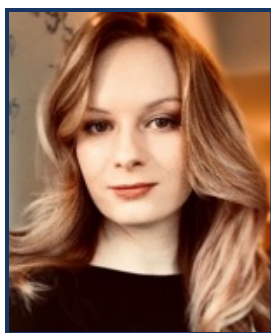
- Team Lead, Department of Defense
- Research Assistant, National Security Policy Center
- Client Development and Outreach Chair, Formative Change Group Consulting
- Research Assistant, Religion, Politics, and Conflict Program at University of Virginia

Accomplishments

- Published thesis, "Out of Sight, Out of Mind: How Newspaper Genocide Coverage is Shaped by Misinformation and Racial Stereotypes," in Fall 2020 edition of Virginia International Journal.
- Researched strategy project for U.S. Africa Command on how to counter the effects of the Chinese Belt and Road Initiative in Africa.
- Received Leadership Scholars Program scholarship, worth \$9,700 toward immersion in Washington DC's public and private sectors.
- Developed a cybersecurity strategy project for the U.S. Marine Corps.
- Developed a streamlined platform to inform the Department of Defense of civilian casualties.

Education

- Master of Public Policy (with focus in National Security), University of Virginia
- Bachelor of Arts, Global Studies Security and Justice, University of Virginia



Kelley Shaw

DOS ISN/CTR Department of State Office of Cooperative Threat Reduction – Washington, DC

Experience

- Intern, U.S. Mission to the North Atlantic Treaty Organization (NATO), Office of the Defense Advisor
- Intern, U.S. Mission to the Organization for Security and Cooperation in Europe (OSCE), Political Section
- Associate Editor for National Security and the Military, Georgetown Security Studies Review
- Six years of experience in the private sector supporting various organizations and clients

Accomplishments

- Received a Letter of Appreciation from the Secretary of Defense Representative, Europe, for contributions made to the U.S. Mission to NATO as an intern.
- Received Letter of Recommendation from the U.S. Ambassador to the OSCE for contributions made as an intern to the U.S. mission to the OSCE.
- Completed the 2018 Nuclear Nonproliferation, Safeguards, and Security in the 21st Century summer course at the Brookhaven National Laboratory. The two-week summer course provided a foundation of nuclear security topics, the Nuclear Non-Proliferation Treaty, and the International Atomic Energy Agency safeguards system.
- Completed a graduate certificate in Nuclear Deterrence from the Harvard University Extension School.

Education

- Master of Arts, Security Studies, Technology and Security Concentration, Edmund A. Walsh School of Foreign Service, Georgetown University
- Graduate Certificate, Nuclear Deterrence, Harvard University, Extension
- Bachelor of Arts, Law, Economics and Public Policy, University of Washington



Charles Smythe

NA-211 Office of International Nuclear Security – Washington, DC

Experience

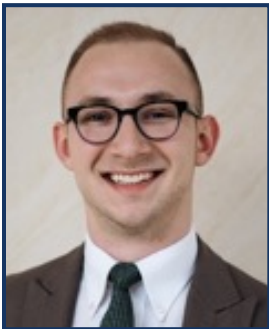
- Intern, Department of Defense, Countering Weapons of Mass Destruction (CWMD) Office
- Squad and Section Leader for Combined Anti-Armor Team, 1st Battalion, 1st Marine Division, U.S. Marine Corps

Accomplishments

- Authored, designed, and coordinated the publication of a quarterly newsletter for the Proliferation Security Initiative.
- Aided the Director for Transnational Threats Team in developing an implementation plan for the Office of the Under Secretary of Defense for Policy CWMD Prioritization Effort, which ensured that priorities and missions were implemented and acted upon throughout the Department of Defense CWMD enterprise.
- Published peer-reviewed research projects, “Misperceptions and the Cult of the Cyber Offensive” with the Yale Journal of International Affairs in 2020 and “The North Korean Nuclear Crisis: What Options Do We Really Have?” with University of Wisconsin Madison’s Journal of Undergraduate International Studies in 2018.
- Awarded the Navy and Marine Corps Achievement Medal with “V” device for Valor during combat operations in Trek Nawa, Helmand Province, Afghanistan in 2012 in support of Operation Enduring Freedom.
- Selected as a Fellow with the Hertog Foundation and the Institute for the Study of War for courses on Chinese and Russian Grand Strategy, North Korean nuclear strategy, and War Studies.

Education

- Master of Arts, Security Studies and International Security, Georgetown University (in progress)
- Bachelor of Science, Political Science and Asian Studies, Missouri State University



Noah A. Stevens

NA-1.1 Office of Policy and Strategic Planning – Washington, DC

Experience

- Graduate Research Assistant, Texas A&M University
- Political-Economic Trainee, U.S. Embassy Oslo, Department of State
- Foreign Service Trainee, Bureau of Near Eastern Affairs, Department of State

Accomplishments

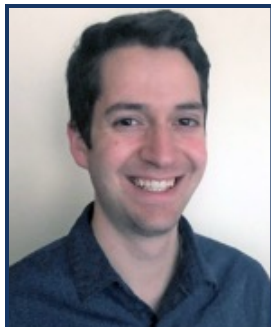
- Planned and executed long-term research and analytical projects related to U.S. defense and military policy and nuclear deterrence.
- Tracked political developments with an emphasis on transatlantic security to include forecasting and analyzing NATO defense spending data during the 2018 NATO Summit.
- Participated in briefings and démarches at various ministries and developed briefing materials and remarks for officers, the Political-Economic Counselor, the U.S. Ambassador to Norway, and other executive staff.
- Managed and executed high-level international delegation visits focused on counter-ISIL operations, cultural heritage preservation, and international policing for individuals within the U.S. national security community.
- Participated in the International Universities Arabic Debating Championships in Doha, Qatar, in 2019.
- Served as a Student Affiliate of the Albritton Center for Grand Strategy at the George H.W. Bush School of Government.
- Completed various certifications through the Center for Nuclear Security Science and Policy Initiatives at Texas A&M University

Education

- Master of Arts, International Affairs (U.S. Defense Policy and Nuclear Security), George H. W. Bush School of Government and Public Service, Texas A&M University
- Bachelor of Arts, International Affairs, Western Kentucky University
- Bachelor of Arts, Arabic Language and Middle East Studies, Western Kentucky University

“The fellowship provided me ample opportunities to meet and work with international counterparts on various components of nuclear security. This was truly a rewarding experience that I will carry with me for the rest of my life.”

—Charles Smythe, NA-211 Office of International Nuclear Security



Jared M. Thurgood

NA-183 Office of Strategic Planning and Analysis – Washington, DC

Experience

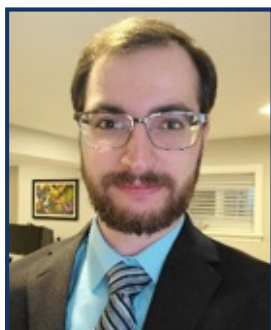
- Graduate Research Assistant, Brigham Young University
- Research and Development Intern, Sandia National Laboratories
- Research Assistant, The University of New Mexico

Accomplishments

- Researched a polarizable molecular dynamics potential to model molten salts for property prediction.
- Published a research paper in the Journal of Nuclear Materials on the temperature profiles of TRISO particles in nuclear fuel pebbles.
- Tested, analyzed, and modeled the effects of stress on composite materials for marine and hydrokinetic applications.
- Completed two-year service mission for The Church of Jesus Christ of Latter-day Saints and assumed many leadership roles and projects.
- Earned Eagle Scout Award and led a wildlife reservoir restoration project in the Jemez Mountains.

Education

- Master of Science, Chemical Engineering, Brigham Young University (in progress)
- Bachelor of Science, Nuclear Engineering, The University of New Mexico



Jameson Tockstein

NA-115 Office of Engineering and Technology Maturation – Washington, DC

Experience

- Graduate Research Assistant, University of Florida
- Post Baccalaureate, Los Alamos National Laboratory
- Science Undergraduate Laboratory Intern, Los Alamos National Laboratory
- Undergraduate Researcher, Wayne State University

Accomplishments

- Performed machine learning data analysis at Los Alamos National Laboratory for noninvasive thermal mass-flow meter for nuclear nonproliferation at gas centrifuge enrichment plants.
- Performed research and development for smart nuclear infrastructure with the Microsoft HoloLens and MCNP 6.2 integration for glovebox workers at Los Alamos National Laboratory.
- Researched and performed radiometric dating analysis for Eastern Bering Sea snow crab for the National Oceanic and Atmospheric Administration at the University of Florida.
- Conducted mechanical vibration data collection and analysis for prototype artwork shipping containers at Los Alamos National Laboratory.
- Completed trainings and certifications for criticality safety with MCNP 6.2 and Department of Energy radiological source user and radiological worker II.
- Completed the Los Alamos National Laboratory: Sciences of Signatures Advanced Studies Institute program while investigating treaty verification for artificial intelligence.

Education

- Master of Science, Nuclear Engineering, University of Florida
- Bachelor of Science, Physics (Engineering and Applied), Wayne State University

“This fellowship has been an eye-opening experience for me. It has been very rewarding to see all the offices, sites, and programs that are part of the Nuclear Security Enterprise and how they work interconnectedly to achieve NNSA’s mission.”

—Jared Thurgood, NA-183 Office of Strategic Planning and Analysis



Matt Tomarchio

NA-212 International Office of Radiological Security – Washington, DC

Experience

- Investment Research Analyst, Terranet Ventures
- Vice President, CENEX Geopolitical Simulations
- Regional Sales Manager, AllyHealth
- Regional Political Director, U.S. Senate Campaign
- Business Systems Analyst, J.P. Morgan Chase

Accomplishments

- Performed due diligence for firms looking to invest in the quantum computing and autonomous vehicles industries.
- Organized and ran a geopolitical war game dealing with energy and humanitarian security issues.
- Built a nationwide network of partners to sell innovative healthcare solutions to large employers.
- Led political activity in support of a U.S. Senate Campaign across five counties in Oregon.
- Performed penetration testing on customer-facing fintech applications as a member of an ethical hacking team.

Education

- Master of Arts, International Security, University of Denver (in progress)
- Bachelor of Arts, Communications Arts and Sciences, Business, Pennsylvania State University



Samuel Uba

NA-22 Defense Nuclear Nonproliferation Research and Development – Washington, DC

Experience

- Research Faculty, Hampton University
- Graduate Assistant, Alabama A&M University

Accomplishments

- Gave research presentation at the American Physical Society Spring 2020 event and published research results in the Optical Society of America journal.
- Won paper presentation award at the Alabama Academy of Science 2019.
- Won graduate physics paper presentation at the Emerging Research National 2017.
- Published research articles in Material Research Society, Ferroelectrics, and International Society for Optics and Photonics journals.
- Won graduate physics poster presentation at the Alabama National Science Foundation Established Program to Stimulate Competitive Research meeting 2016.

Education

- Doctor of Philosophy, Applied Physics, Alabama A&M University
- Master of Science, Applied Physics, Alabama A&M University
- Bachelor of Science, Physics, Alabama A&M University

“Through the NGFP, I gained insight on project management and venture planning and broadened my understanding of the Nuclear Security Enterprise and missions. I also learned a great deal about leadership through the Aspiring Leader Certificate Program.”

—Samuel Uba, NA-22 Defense Nuclear Nonproliferation Research and Development



Victoria L. Vardanega

NA-231 Office of Conversion – Washington, DC

Experience

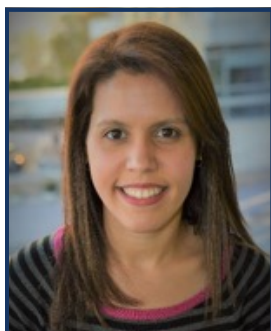
- Intern, Senate Foreign Relations Committee
- Rosenthal Fellow, Department of Labor
- Intern, Department of State
- Resident Director, American Councils for International Education
- Junior Researcher, Fulbright Association

Accomplishments

- Interpreted in Korean for the State Department Program Officer of the National Security Language Initiative for Youth program during a two-day visit that included a visit with the head of education for the Northern Jeolla Province.
- Researched the transformative effects of the internet on South Korean media at a forum and conference during the Fulbright grant period, writing findings in a 10-page paper.
- Analyzed an inefficiency problem for an overwhelmed sanctions license portfolio while working at the Office of Sanctions and Policy Implementation at State, solving the issue by collaborating with office colleagues to cut down the outstanding license requests by half.

Education

- Master of Arts, Korea Studies and International Economics, Johns Hopkins School of Advanced International Studies (in progress)
- Bachelor of Arts, Asian Studies and Economics, Pomona College



Michelle E. Vega Rodriguez

NA-122.1 Stockpile Management Services – Washington, DC

Experience

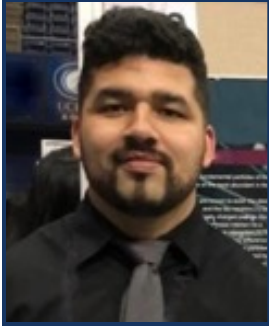
- Graduate Fellow, National Nuclear Security Administration
- Governance Program Manager, Accenture
- Supply Chain Planning Consultant, Accenture
- Functional Design Consultant, Accenture

Accomplishments

- Acted as a project manager for the NA-122.1 Stockpile Management Services Office, performing Green Belt Lean Six Sigma Assessments for multiple programs and processes. Proposed a future design for managing change controls in planning documents with a reduction of 45% of process decisions and 35% of the process steps.
- Active Member of Strategy Working Group 3 for the Diverse, Equitable, Inclusive, and Accessible (DEIA), supporting brainstorming sessions and activities. Co-creator of the DEIA Mentorship Program, resulting in increased executive involvement. Recognized as a contributor for FY 2021 Excellence by the EEO Award for DOE Federal Work Unit.
- Acted as a senior manager for the Retail Integrated Platform, overseeing seven projects with a ~\$54 million value to help retailers maximize business outcomes and enhance their customer experience with 1.5+ million data collection devices in the retail market.
- Acted as vice president for Wholesale PMO Portfolio Senior Vice President Director, overseeing 16 projects with a ~\$100 million value for the sixth-largest U.S. commercial bank, serving ~10 million consumers.
- Led management process for governance reviews and change control boards for 600+ annual IT projects with a value of \$400 million. Directed an internal audit through the life cycle and operated as the major contact for the C-suite level. Utilized Project Management Institute methods for Waterfall and Scaled Agile Framework project reviews. Facilitated partnership with Agile practitioners with leadership, resulted in a ~35% increase of projects reporting progress through established guidelines.
- Led demand and supply planning support team for client's improvement alternatives. Revised ~80-120 Demand Forecast Units monthly for nine supply chains with a value of \$37 billion in goods and services.
- Prime contact of Inventory Management and Stock Positioning and Logistics Reassignment solutions to classify 5 million items. Delivered 95+ test cases, a ~90% consolidated end-to-end solution, identified and remediated 33% of defects found.

Education

- Master of Science, Engineering Management, Polytechnic University, San Juan Campus (in progress)
- Bachelor of Science, Chemical Engineering, University of Puerto Rico, Mayagüez Campus



Carlos Verdoza

NA-114 Advanced Simulation and Computing and Institutional Research and Development – Washington, DC

Experience

- Graduate Researcher, San Jose State University
- Post Baccalaureate Researcher, Lawrence Berkeley National Laboratory
- Teaching Assistant, San Jose State University
- Undergraduate Researcher, University of California - Davis
- Mathematics Tutor, Santa Barbara City College

Accomplishments

- Formulated the theory of the dynamics of entanglement and complexity of the effects of entanglement entropy in quantum statistical mechanics via numerical simulations in Python using numerical Python, mathematical Python, and scientific Python packages.
- Developed and updated Python scripts in git repository to collaborate with fusion science and ion beam technology researchers in properly simulating and predicting behavior of Radio Frequency and Electrostatic Quadrupoles wafers using both hand calculations and Python scripts for maximal energy gain.
- Executed simulations with multiple different parameters in Multiple Electrostatic Quadrupole Array Linear Accelerator structure to predict beam behavior in individual components and whole geometry of the NDCXII particle accelerator structure.
- Recorded thermal analysis of catastrophic breaking in PCB - ASIC circuits that would be applied to both the Department of Energy's Deep Underground Neutrino Experiment at Sanford, South Dakota as well as Enriched Xenon Observatory experiments at Carlsbad, New Mexico.
- Presented epoxy analysis of ASIC Packaging for Cryogenic Conditions for the Deep Underground Neutrino Experiment at the University of California - Davis 29th Annual Undergraduate Research, Scholarship, and Creative Activities Conference and obtained funding for future research via results of epoxy analysis.
- Collaborated with doctoral candidates and physics education professors to research and present "Student Activist Strategies for Creating a Welcoming Physics Culture" at the 29th Physics Education Research Conference.

Education

- Master of Science, Applied Physics, Computational Physics, San Jose State University (in progress)
- Bachelor of Science, Applied Physics, Chemical Physics, University of California - Davis



Natalie Wieber

NA-115 Office of Engineering and Technology Maturation – Washington, DC

Experience

- Graduate Fellow, Michigan Technological University
- Undergraduate Research Assistant, Oak Ridge National Laboratory

Accomplishments

- Researched the correlation between powder feedstock characteristics and binder jet printing parameters.
- Presented binder jet additive manufacturing research at PowderMet 2019 Conference, supported by a National Science Foundation grant.
- Established a student organization aimed at teaching children additive manufacturing technology and computer-aided design.
- Co-authored an article based on research for binder-jet-printed tungsten carbide tools infiltrated with various materials.
- Served as service and social chair of Material Advantage chapter at the University of Tennessee, which included organizing events beneficial to members' professional and academic careers.
- Researched synthetic silicates for use as aggregates in cement used for nuclear reactor infrastructure.
- Researched titanium alloys printed via electron beam additive manufacturing technology.

Education

- Master of Science, Material Science and Engineering, Michigan Technological University
- Bachelor of Science, Material Science and Engineering, University of Tennessee - Knoxville



Tyler J. Williams

NA-195 Office of Secondary Stage Production Modernization, Uranium Program – Washington, DC

Experience

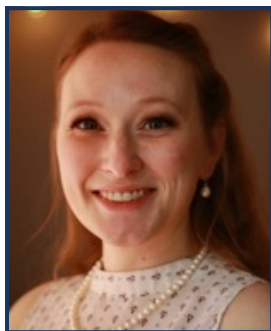
- Graduate Research Assistant, Clemson University
- Laboratory Assistant, West Virginia University
- Undergraduate Research Assistant, West Virginia University

Accomplishments

- Published “Roles of Collisional Dissociation Modalities on Spectral Composition and Isotope Ratio Measurement Performance of the Liquid Sampling - Atmospheric Pressure Glow Discharge/Orbitrap Mass Spectrometer Coupling” in the International Journal of Mass Spectrometry with a particular focus on uranium isotope ratio measurements.
- Total of eight journal publications, five of which are first-author works. One additional work was submitted and is under review, while another first-author work is in preparation for the Journal of Radioanalytical and Nuclear Chemistry.
- Winner of the GE Center for Advanced Manufacturing 3D Design Challenge in the applicability category for the design of a chip-based ionization source for mass spectrometry.
- Patent pending for a multielectrode/multimodal atmospheric pressure glow discharge ionization device.
- Total of 14 conference presentations given at locations including the International Nuclear Materials Management Discovery Workshop and the Interagency Technical Nuclear Forensics Technical Review Conference.
- Participated in research collaborations with Pacific Northwest National Laboratory, Advion Inc., University of California San Diego, Spectroswiss, and the National Institute of Standards and Technology, and Oak Ridge National Laboratory.
- Awards received include Outstanding Laboratory Assistant (West Virginia University), two Outstanding Poster Awards (Winter Conference on Plasma Spectroscopy), and the Mendel Fellowship (Clemson University).

Education

- Doctor of Philosophy, Analytical Chemistry, Clemson University (in progress)
- Bachelor of Science, Chemistry and Forensic and Investigative Sciences, West Virginia University



Ashley L. Wiser

NA-232 Office of Nuclear Material Removal – Washington, DC

Experience

- Flight Commander, Aerial Port Squadron, U.S. Air Force Reserves
- Nuclear and Missile Operations Officer, U.S. Air Force
- Program Manager, Space Communications Squadron, U.S. Air Force
- Research Fellow, Iowa Consortium of Veteran Excellence
- Research Fellow, University of Iowa History Department Honors Program

Accomplishments

- Led 24-member section specializing in airfield operations and aircraft loading, ensuring technical and physical readiness for upcoming 2023 deployment.
- Drafted Malmstrom Air Force Base's 2020 Missileer Occupational Health Study, advising 20th Air Force on best crew operation schedules in response to the 2020 Coronavirus Pandemic—adopted at all three missile bases.
- Completed 135 Minuteman III missions (3,240 hours) at Malmstrom Air Force Base, commanding nuclear intercontinental ballistic missiles (ICBMs). Led nine-member team to execute a real-world retargeting mission for five Minuteman III ICBM missiles to strategic aims.
- Wrote feature article in Space Country newspaper on Vandenberg Air Force Base's cultural heritage preservation mission.
- Directed Vandenberg Air Force Base's Space Communications Squadron's configuration control board, leading 10-member team to guide high-priority communication infrastructure projects for 15 space launch missions, including NASA's 2018 Insight Mars mission.
- Completed intensive, nine-week U.S. Air Force Officer Training School, earning presidential commission into the U.S. Air Force and five-month Minuteman III ICBM weapons system training, earning Academic Achievement Award and certification to execute presidential ICBM nuclear launch orders.

Education

- Master of Science, International Relations, Troy University
- Bachelor of Arts, History; German Minor, University of Iowa



Matthew York

NA-193 High Explosives and Energetics – Washington, DC

Experience

- Teaching Assistant, Case School of Engineering
- Engineering Co-op, Folio Photonics, Inc.
- Research Experience Undergraduate, SUNY Stony Brook University

Accomplishments

- Researched feasibility of 3D-printed metamaterial structures relating to biorobotics and co-authored a research proposal regarding auxetic metamaterial use in biorobotics.
- Designed components for and oversaw manufacturing of technology for use in high-capacity optical-disc storage.
- Researched synthetic nervous system modeling for use in robotics.
- Planned and coordinated manufacturing of automotive engines in collaboration with other students.

Education

- Master of Science, Mechanical Engineering, Case Western Reserve University (in progress)
- Bachelor of Science, Mechanical Engineering, Case Western Reserve University



Robert M. Zedric

NA-12 Office of Stockpile Management Front Office — Washington, DC

Experience

- Intern, International Atomic Energy Agency
- Alternate Sponsored Fellow, Pacific Northwest National Laboratory
- Guest Student, Los Alamos National Laboratory
- Intern, Sandia National Laboratories

Accomplishments

- Received the Nuclear Nonproliferation International Safeguards Graduate Fellowship to pursue a doctorate in nuclear engineering.
- Worked abroad for one year at the International Atomic Energy Agency in Vienna, Austria, and researched the effects of cumulative radiation damage on electronic sensors.
- Served as a firefighter and emergency medical technician for over three years while attending college.
- Held student leadership roles for multiple collegiate professional and recreational organizations, including the Institute of Nuclear Materials Management, Aggie Yacht Club, Texas A&M Argentine Tango Club, and the Missouri S&T Mine Rescue Team.
- Participated in the 2017 and 2018 Nuclear Engineering Student Delegations to advocate for nuclear energy on Capitol Hill.
- Organized day trips among policy-interested engineering students to visit the Texas state capitol and meet with state representatives and officials.
- Represented the International Nuclear Management Academy as a panelist at International Atomic Energy Agency-sponsored events in South Korea and Florida.

Education

- Doctor of Philosophy, Nuclear Engineering, Texas A&M University (in progress)
- Bachelor of Science, Nuclear Engineering, Missouri University of Science and Technology



Zach Zoller

NA-192 Tritium and Domestic Uranium Enrichment — Washington, DC

Experience

- Senior Management Consultant, Deloitte Consulting LLP
- Senior Engineering Consultant, Herren Associates
- Consultant, Booz Allen Hamilton

Accomplishments

- Supported the U.S. Navy's Chief Digital Transformation Officer in the development of the Navy's Digital Transformation strategy. Served as direct executive support researching digital capabilities and developing briefings and white papers for presentation to the Vice Chief of Naval Operations, Admirals, and Rear Admirals.
- Researched and documented enterprise-wide cybersecurity processes for the Chief Information Officer of the Department of State and developed performance metrics and process improvement initiatives.
- Developed a streamlined set of process manuals for the U.S. Air Force Global Strike Command's nuclear maintenance facilities' safety certification capabilities.
- Developed and guided the execution of a five-year strategic plan for the U.S. Naval Sea Systems Command Program Executive Office for Integrated Warfare Systems — Ship Self-Defense Systems.
- Streamlined the full scope of work via process improvement techniques for the U.S. Naval Sea Systems Command Program Executive Office for Integrated Warfare Systems — Ship Self-Defense Systems' combat system development, installation, test, and deployment capabilities.
- Wrote white papers and publications on the artificial intelligence and machine learning capabilities that support the broader U.S. government's countering-WMD mission.
- Conducted facilitated workshops for U.S. Naval Sea Systems Command Program Executive Office for Integrated Warfare Systems — AEGIS Warfare System focused on identifying the most lean test and evaluation requirements for U.S. Navy Cruisers to leave layup and be certified for deployment.

Education

- Master of Arts, Global Security Studies and Intelligence, Johns Hopkins University
- Master of Science, Commerce — Management/Marketing, University of Virginia
- Bachelor of Science, Biology and Philosophy, Washington and Lee University

“This fellowship provided key experience in and context to different areas of the Nuclear Security Enterprise, allowing me to properly prepare, network, and identify where I want to direct my career in nuclear security.”

—Zachary Zoller, *NA-192 Tritium and Domestic Uranium Enrichment*

Learn about the NNSA Graduate Fellowship Program online at
<http://www.pnnl.gov/projects/ngfp>

Program Administered by Pacific Northwest National Laboratory



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