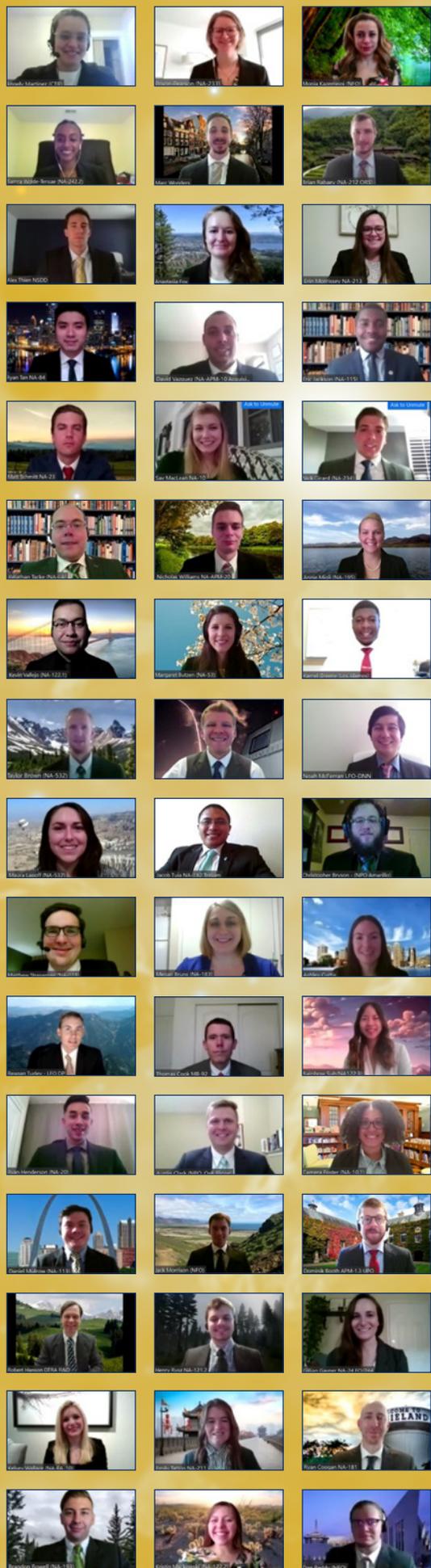


CLASS OF 2020-2021



National Nuclear Security Administration Graduate Fellowship Program

ANNUAL REPORT 2020 2021



U.S. DEPARTMENT OF
ENERGY



**Pacific
Northwest**
NATIONAL LABORATORY

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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

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Welcome: A Message from NNSA Leadership



Julie K. Spyres
Chief Learning Officer,
National Nuclear
Security Administration

At the Department of Energy's (DOE's) National Nuclear Security Administration (NNSA), our people are our number one asset, and we are committed to developing a highly professional and diverse workforce to protect our nation. The NNSA Graduate Fellowship Program (NGFP) recruits, hires, and retains the next generation of talented, high-potential professionals who will continue to contribute to 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 over 60 fellows per year, NGFP has become an institutional talent succession pipeline and leadership continuum for the Nuclear Security Enterprise (NSE). Unique in size, structure, and approach, NGFP is a premiere program for attracting highly motivated graduate students to the complex world of nuclear security.

In this report, you will read about the Class of 2020–2021. NGFP hand-picked 48 fellows from 33 world-class universities to serve 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.

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

- Providing outstanding worldwide operational support to our partners;
- Evaluating the use of new software and other tools to achieve mission objectives;
- Coordinating portfolios and engagements with different international partners;
- Participating in virtual training, networking, and professional development events; and
- Supporting the development of the Stockpile Stewardship Management Plan.

While this year marked an unfortunate continuation of a global pandemic, our team's resilience and agility in operating in the virtual environment remained a testament to the caliber of character our future leaders embody. Online operations did not hinder our fellows' ability to serve and grow as future leaders. Upon completing their fellowships in June 2021, nearly half 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.

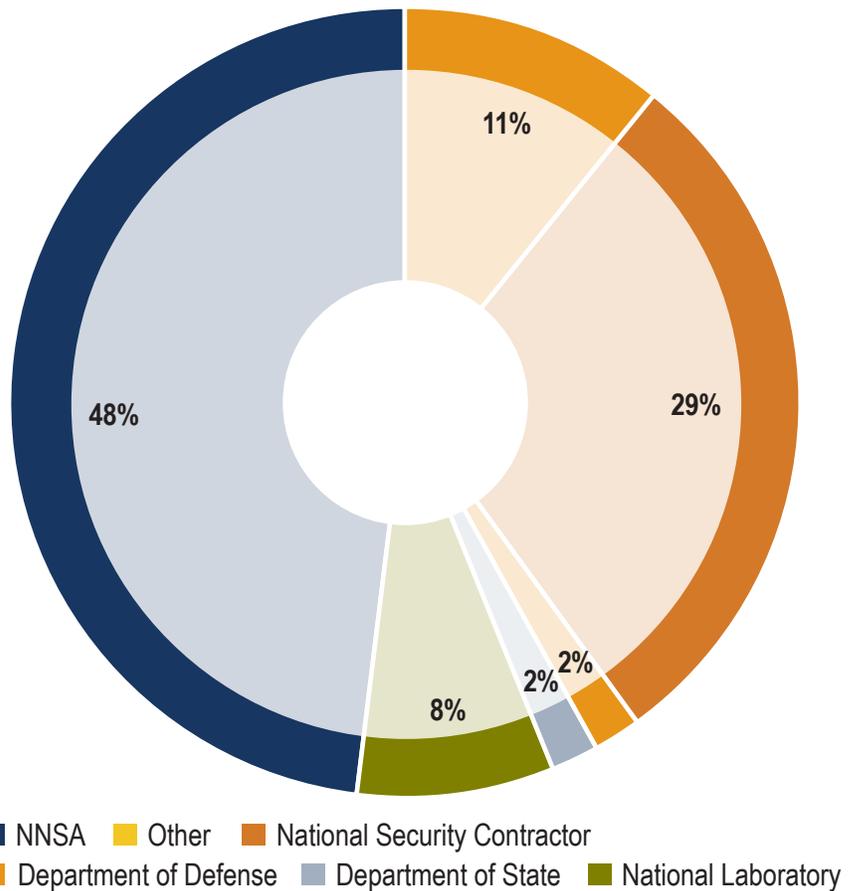
Remotely and in person, our ever-pressing NGFP mission to build future leaders remains purposefully unwavering. The rapidly changing nature and landscape of our work requires that we keep our top asset—our people—as ready and as cutting-edge as our technical solutions. Our fellows' commitment to grow and serve as future leaders revitalizes our enterprise with a generation of agile, diversely skilled professionals. Their timing could not be more meaningful. I would like to thank all our program participants for their commitment to serve and to uphold the values of this long-standing program.

Executive Summary

For over 25 years, NGFP has hired highly motivated graduate students to grow as future leaders for DOE's NNSA. This annual report showcases activities for the Class of 2020–2021, from outreach in spring of 2019 through assignments that ended in June 2021. Highlights include:

- **Recruitment.** Recruitment reflected an enhanced focus on relationships with MSIs to recruit a diverse cohort of students. From a pool of 205 applicants, NNSA, DOS, and DTRA personnel selected 138 candidates for a total of 352 interviews.
- **Hiring.** The graduating cohort comprised 48 master's and doctoral-level students with diverse technical and policy backgrounds from 33 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 efforts advancing emerging technologies, nuclear and radiological security multilateral activities, and interagency coordination;
 - Assisting capacity-building efforts with partner nations on issues of sanctions and illicit financing;
 - Providing technical assistance for experiments and operations;
 - Coordinating deliverables and participating in key events such as a bilateral safeguards and security workshops; and
- Supporting working groups in the areas of robotics and autonomous solutions, space sciences, and programmatic recapitalization.
- **Leadership and Professional Development.** Fellows connected virtually with our national security counterparts around the world for training, networking, and professional development.
- **Lasting Commitment.** Approximately 48% of the class accepted federal offers with NNSA, and an additional 41% accepted positions with ties to national security, including with NNSA subcontractors, DOE, and national laboratories. 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 2020–2021 Post-Fellowship Employment



Upon completing the fellowship program, nearly 90% of the Class of 2020–2021 pursued employment with ties to national security.

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

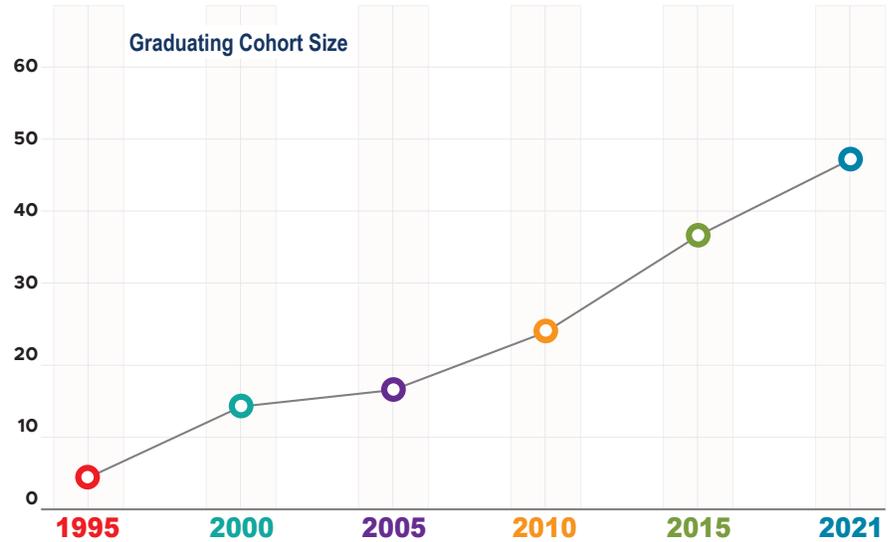
NGFP cultivates future technical leaders in national security.

Background

As a centerpiece of its future leadership strategy, NNSA sponsors and funds NGFP. The program is administered by Pacific Northwest National Laboratory (PNNL), a DOE national laboratory that specializes 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:

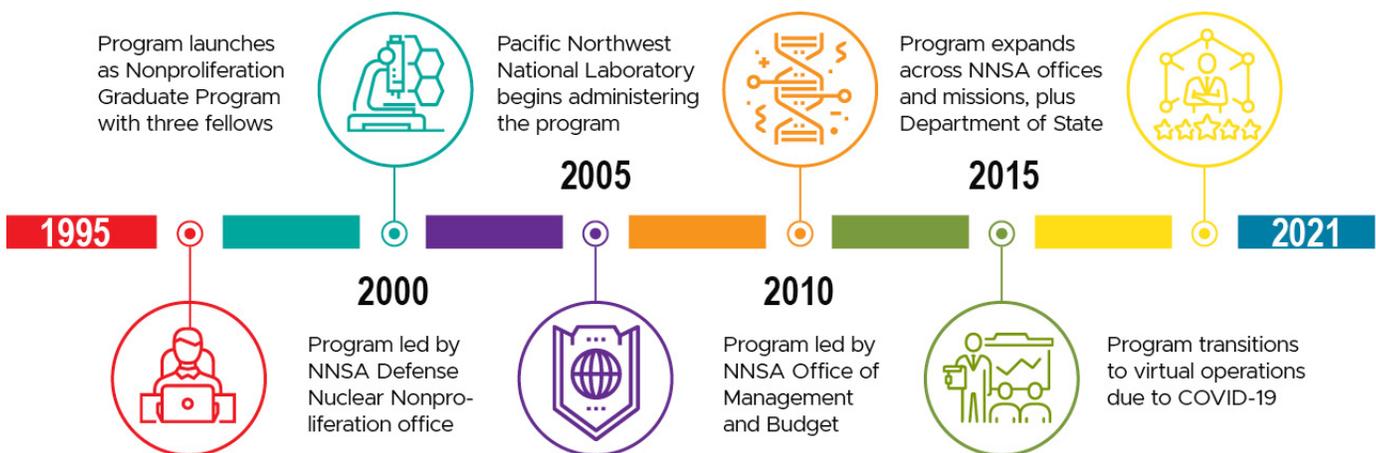
- Recruit exceptional graduate students from universities nationwide,
- Transform and develop students into future leaders to advance NNSA and national security missions, and
- Provide an agile approach to meet dynamic NNSA needs.



Evolution

In over 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 over 60 onboarded in 2021.

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



Program History

Dynamic Program Management

Along with general program growth, fellows' opportunities for professional growth and leadership development

have evolved as well. The annual training, networking, and development agenda has expanded to include 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.



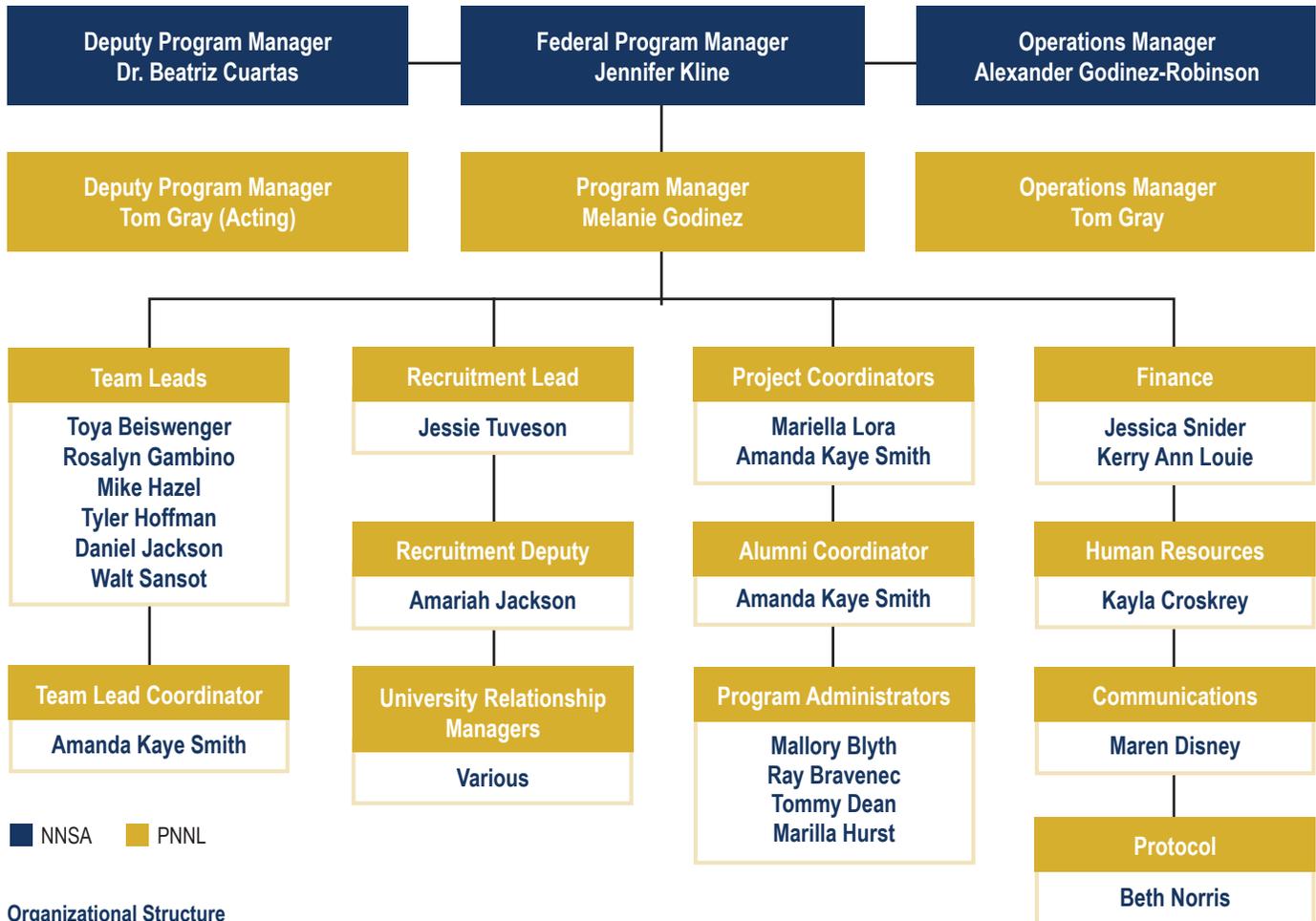
Impact

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
- Partnering around the world.

Organization

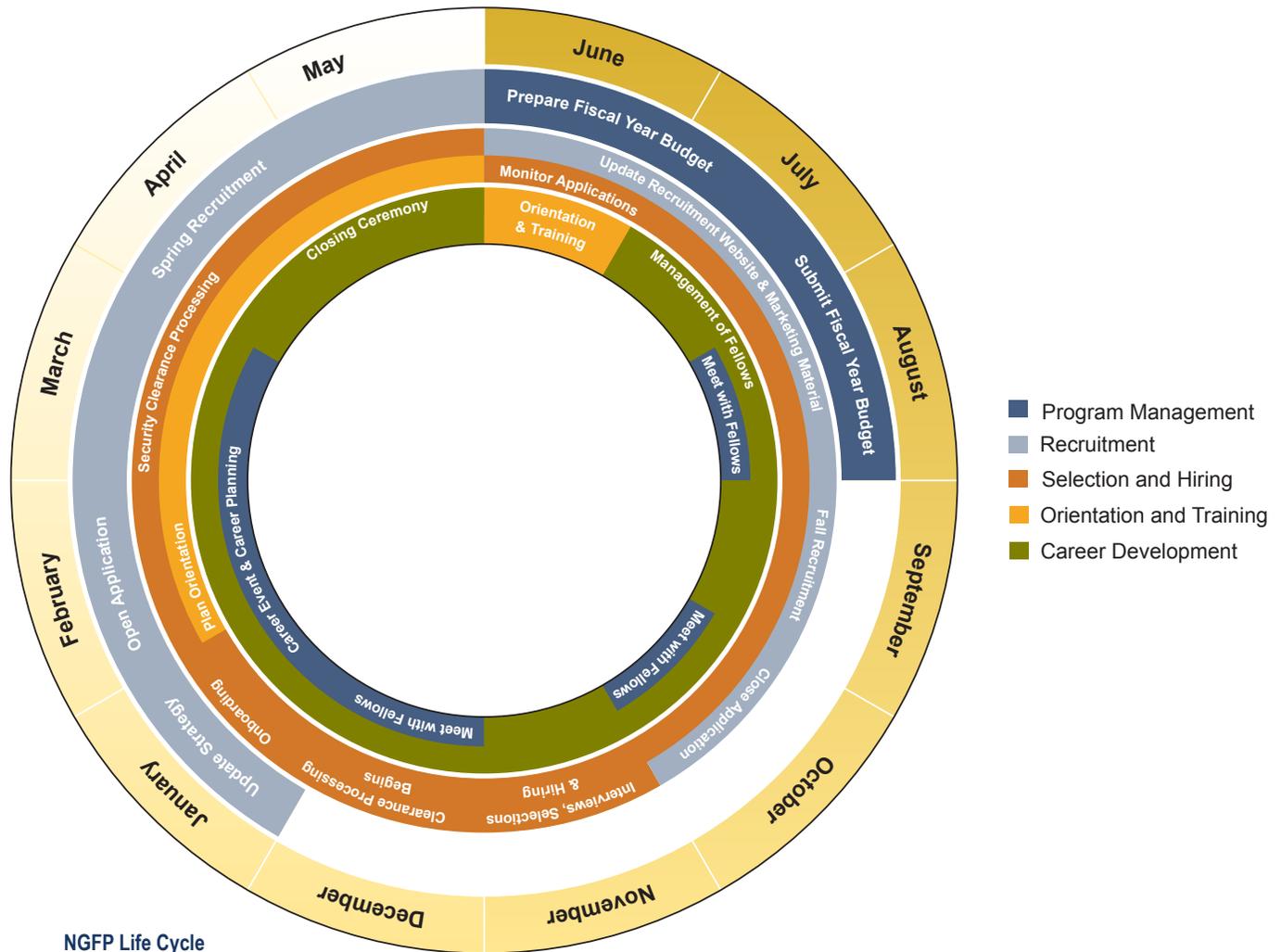
NGFP is managed by NNSA's Office of Management and Budget (blue boxes) and administered by PNNL (gold boxes), with roles shown in the organizational chart.



“Despite being fully remote, the NGFP fellowship was an invaluable opportunity to deepen my understanding of nuclear policy issues, grow my network of peers and mentors, and get my career in national security off the ground.”

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**.



“Like any adventure I’ve had, it is the people who mattered most. I can’t thank the fellowship enough for the people I’ve met and possibilities they’ve helped me see.”

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 beginning fellows' security clearance applications.
Orientation and Training	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.

“With the unequalled exposure to the entirety of the nuclear security enterprise afforded by the NGFP, this year has exposed me to new interests, influenced my career goals, and shown how every person across NNSA is a valued link in the armor of our national security. I am deeply humbled and grateful for the opportunity to advance myself and my country.”

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 2020–2021, NGFP sought to recruit a quality pool of candidates for a targeted class size of 60 fellows. NGFP University Relationship Managers (URMs) executed 86 events with 65 university partners. The recruitment team added 15 new university partners and 10 MSI partners to its partnership cohort. URMs engaged university faculty and staff and leveraged student organizations and affinity groups to boost event attendance. Student groups included, but were not limited to, 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 Institute of Nuclear Materials Management Annual Conference, and the National Society for Black Engineers Annual Conference.

On-campus recruitment information sessions and events occurred during the spring and fall semesters and included general-access and academic-specific presentations, one-on-one meetings, and application discussions with potential applicants, and information briefings with university faculty and staff. 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.

Applicants

The greatest number of applications came from states near locations home to an NNSA or DOE office or laboratory, including the Washington DC area, Texas, and California. Thanks in part to a greater recruitment emphasis

on engaging students in related affinity groups, professional associations, and MSIs, including Historically Black Colleges and Universities and Hispanic-Serving Institutions, the program welcomed an increase in the percentage of Asian, Hispanic or Latino, and Black or African American applicants.

Commitment to Diversity, Inclusion, Equity, and Accessibility

In recruiting the Class of 2020–2021, 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.

Connect with us!

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

Results: Delivering Quality Mission Support

Through a proven recruitment, interview, and selection process, NNSA, DOS, and DTRA hiring managers hand-selected the Class of 2020–2021, which would become the program's first entirely virtual cohort.

Highlights from the fellows selected for the Class of 2020–2021 included the following:

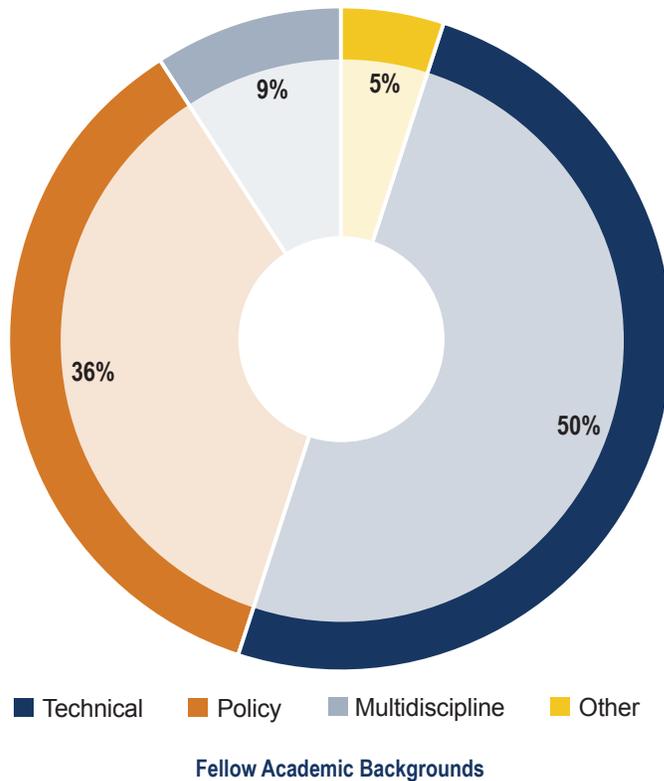
- Graduate degrees completed or in pursuit at 33 universities with advanced degrees spanning the technology and policy spectrum, including 17 doctoral candidates.
- Assignments spanning 12 different program, functional, and field offices across NNSA, plus DTRA and DOS.
- Language skills in Arabic, Farsi, French, Japanese, Korean, Mandarin, Portuguese, Russian, and Spanish.
- Previous experience with the U.S. Department of Homeland Security and U.S. Drug Enforcement Administration; Booz Allen Hamilton; Center for Arms Control and Nonproliferation; Nuclear

Threat Initiative; Stimson Center; U.S. Army and U.S. Navy; U.S. House of Representatives; and the Los Alamos, Oak Ridge, Pacific Northwest, Sandia, and Savannah River national laboratories.

Fellow Universities

The Class of 2020–2021 had 50% of its fellows hired with a technical background, which was an increase of 17% from the Class of 2019–2020. Approximately 36% of the fellows had a policy background, and 9% had a multidisciplinary background.





Leadership and Professional Development

While pandemic-related restrictions meant 2020-2021 activities were remote, the virtual environment did not inhibit opportunity. PNNL transitioned all leadership and networking events to the online environment, and the Class of 2020–2021 fellows used their allotted travel and training funds to participate in virtual events connecting with colleagues and stakeholders around the world. Throughout the year, fellows participated in virtual leadership development, training, and networking events, including orientation, educational webinars, and career

development workshops. Additionally, fellows partnered with their offices to participate in learning opportunities aligned with their offices' and their individual development needs.

Orientation

Orientation was transitioned to the virtual environment and spanned several weeks in half-day sessions:

- **Week 1:** Succeeding as a PNNL Employee
- **Week 2:** Succeeding in Your NNSA Office
- **Week 3:** Succeeding as a Fellow

While this was a first in the program's history, the NGFP team maximized engagement with a diverse roster of speakers, interactive activities, and team exercises. The activities helped fellows get to know each other, as well as NNSA and PNNL, regardless of the virtual limitations. After the event, fellows deployed virtually to their assignments across NNSA, DOS, and DTRA.

Trainings, Workshops, and Conferences

In the face of travel restrictions, fellows used their allotted travelling and training allocations to find exciting new ways to better serve their office by developing new skillsets, learning foreign languages, attending virtual conferences, and pursuing certifications. Fellows also supported their offices' participation in virtual conferences and events worldwide. Highlights from the year include support to or virtual attendance at:

- The DOE Annual Site Environmental Review Workshop,
- The 2021 Nuclear and Facility Safety Virtual Workshop,
- The Project on Nuclear Issues Nuclear Scholars Initiative,
- Institute of Nuclear Materials Management and American Nuclear Society meetings, and
- A wealth of leadership development trainings available on NNSA's Learning Nucleus and LinkedIn Learning.

“My fellowship offered me unique opportunities to grow as a professional, gain hands-on experience in the government, and collaborate and learn from subject matter experts in the field.”

Aspiring Leader Certificate Program

Fellows participated in ALCP, a multi-week event 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, including emotional intelligence, strengths assessments, and developing organizational trust. Fellows also shadowed NNSA personnel to gain exposure to the organization's various roles and responsibilities.

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 highlighted:

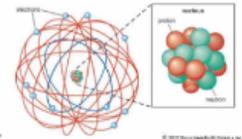
- Nuclear science and nuclear weapons
- NNSA's role in congressional operations
- State Department's Nuclear Risk Reduction Center
- DTRA and the Defense Nuclear Weapons School
- Remote Sensing Laboratory
- International Atomic Energy Agency (IAEA)
- Alumni Career Lessons Learned with NGFP alumni Georgia Adams (Class of 2007–2008) and Taissa Sobolev (Class of 2010–2011).



PNNL's Walt Sansot discussed nuclear science with the fellows.

Structure of the Atom

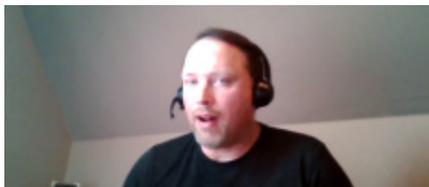
- Massive central nucleus consisting of heavy nucleons (protons and neutrons) surrounded by light orbital electrons
- Mostly empty space
- Chemical reactions involve the electrons.
- Nuclear reactions involve the nucleus.
- Number of protons determines identity and chemical properties.
- Nuclei of a single chemical element with different numbers of neutrons are called isotopes.



Career Development Events

In early January, fellows participated in career mapping and consultation activities, including one-on-one sessions with PNNL recruiters and Human Resources representatives. The activities provided an individualized exploration of their career needs, desires, and aspirations.

Fellows received feedback on their resumés, interview skills, and LinkedIn profiles. Fellows also attended the NGFP Career Development Workshop to gain practical guidance for their post-fellowship career journey. The event featured a panel with NGFP alumni who spoke to fellows about their individual career and experiences navigating negotiations across the technical/policy and public/private sectors.



PNNL's Dwight Beck shared career fair tips with fellows.

In February, fellows attended the NGFP Career Fair. The virtual event featured a video message from NNSA Chief Learning Officer Julie Spyres and welcomed 46 fellows, 26 employers, and nearly 100 representatives from across the National Security Sector, including federal government, national laboratories, contracting partners, and private industry. Nearly 330 connections were made between fellows and employers, including more than 170 audio/video chats. The event helped match NGFP fellows who



The NNSA Chief Learning Officer provided welcome remarks to fellows at the virtual NGFP Career Fair.

had not accepted federal offers with potential post-fellowship employers.

The event also featured a series of panels with NGFP alumni who shared their experiences choosing a post-fellowship career path and negotiating their salaries and benefits in their new positions. Panelists included:

- Savannah Blalock, NNSA Office of Nuclear Export Controls (NA-242), Class of 2018–2019

- Michelle Dover, Ploughshares Fund, Class of 2012–2013
- Kyle Fowler, NNSA Office of Tritium and Domestic Uranium Enrichment Program (NA-192), Class of 2015–2016
- Jere Freeh, Los Alamos National Laboratory, Class of 2016–2017
- Alexander Godinez-Robinson, NNSA Office of Learning and Career Management (NA-MB-40), Class of 2019–2020
- Diego Lozano Jimenez, Northrop Grumman, Class of 2019–2020
- Gabriel Sandler, NNSA Office of Cost Policy Analysis (NA-MB-92), Class of 2019–2020
- Erica Wolf, NNSA Office of Policy and Strategic Planning (NA-1.1), Class of 2019–2020



NGFP alumni shared career advice with fellows in a virtual panel.

Closing Ceremony and Alumni Reception

To honor the Class of 2020–2021 graduates, NGFP hosted a virtual closing ceremony that featured keynote speaker Acting Under Secretary for Nuclear Security and NNSA Administrator Charles P. Verdon. The online event was attended by nearly 250 guests and alumni from across the NSE.



The Class of 2020-2021 closing ceremony honored the program's first fully virtual cohort.

“This fellowship provided me the opportunity to work with and learn from the fantastic men and women of Defense Programs at NNSA Headquarters and at the national security sites. I was able to experience how they collaborate expertly across the nation to support the NNSA mission and how they lead their teams.”

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/3kzXujk>.

NGFP Class of 2020–2021 Highlights

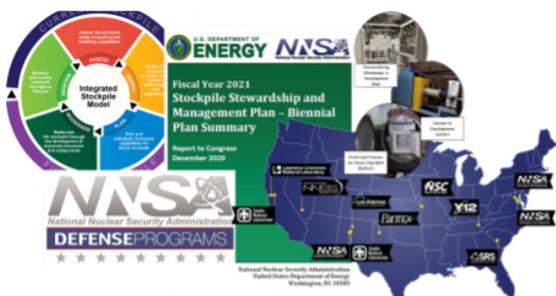
Dominik Booth, APM-1.3 Y-12 Acquisition and Project Management Office, supported the Operations and Security team at the Y-12 National Security Facility, serving as a subject matter resource on questions and issues regarding cybersecurity management and guidance.



Taylor Brown, NA-532 Office of Nuclear Materials Integration, developed several writeups of successful technical projects to be used in the future when presenting or discussing the results of certain projects to interested parties.



Megan M. Bruns, NA-183 Office of Strategic Planning and Analysis, was responsible for producing the Stockpile Stewardship and Management Plan, including shaping messaging, collecting crucial information, and integrating program and site input through extensive networking and teamwork.



Christopher Bryson, NNSA Production Office, Amarillo Facilities Infrastructure Program, supported infrastructure projects providing oversight to the Pantex Roof Asset Management Program, demolition and disposition projects, and numerous other facility upgrades.



Margaret Butzen, NA-53 Office of Enterprise Stewardship, worked on a range of radioactive waste management and environmental projects, assisting in strengthening NNSA's corporate radioactive waste management program and participating in long-term stewardship program activities.



Austin Clark, NNSA Production Office, Uranium Sustainment Program, served as the acting program liaison for the enriched uranium, depleted uranium, and special materials programs.



Ryan Coogan, NA-181 Office of Policy and Requirements, supported resolution of stakeholder comments for an updated product realization process, built an educational tool to help NSE staff navigate the product realization process, and provided technical support on a national security exemption for air transport.

Thomas Cook, NA-MB-92 Office of Analysis and Evaluation, participated in several analyses including evaluating the appropriate escalation rate for NNSA's programmatic capital equipment, writing a discrete event simulation to identify equipment requirements for a Depleted Uranium Capability planning study, and authoring an AACE International publication on using discrete event simulation to support cost estimates.

Ashley Curtis, NA-241 Office of International Nuclear Safeguards, helped her office deliver two first-of-a-kind events: a virtual regional workshop with representatives from 13 Middle East and North Africa countries and a bilateral virtual safeguards and security workshop with Sudan's nuclear regulatory agency.



Camera Foster, NA-10.1 Office of Strategic Partnership Programs, worked in all three pillars of the Office of Strategic Partnership Programs: Partnerships, Institutional Programs, and Cross-Cutting Support.



Anastasia Fox, NA-SN Sandia Field Office, supported programmatic and environmental oversight by reviewing Laboratory-Directed Research and Development proposals and water quality reports, as well as managing the environmental restoration and long-term stewardship programs.

Gillian Gayner, NA-24 Office of Nonproliferation and Arms Control, conceived a foundational portfolio on disinformation and its impacts on the U.S. nonproliferation mission, including an independent study on civil nuclear energy disinformation, the findings of which she presented in a DNN-wide information session and to a number of senior and specialist audiences.



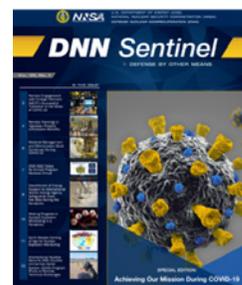
Nicholas Girard, NA-234 Office of Nonproliferation Construction and Program Analysis, helped maintain effective internal controls, financial management, records management, quality assurance, and risk management.



Kamel Greene, NA-LA Los Alamos Field Office, coordinated and completed the Fiscal Year 2020 Site Integrated Assessment Plan for Los Alamos National Laboratory.

Robert Hanson, DTRA Research and Development (R&D) Chem/Bio Detection and Diagnostics Division, contributed to assessments of various research proposals that will continue to improve the nation's ability to detect and counter threats.

Ryan Henderson, NA-20 Office of DNN, led the development and production of the DNN Sentinel, a biannual publication highlighting program accomplishments and updates from DNN's four program offices. The Sentinel is made publicly available and disseminated to key partners, congressional members and committees, and other leaders in the nonproliferation community.



Eric Jackson, NA-115 Office of Engineering and Technology Maturation, worked with the Technology Demonstrators team, which demonstrates and matures technologies through capabilities like flight and ground testing with the goal of reducing risk and increasing opportunities for stockpile insertion.



Monia Kazemeini, NA-NV Nevada Field Office, worked with the program analyst and physical scientists on the Assistant Manager for Mission and Infrastructure team, participated in programming meetings, and assisted the contact for the Nuclear On-site Transportation Safety Document.



Maura Ann Lapoff, NA-532 Office of Nuclear Materials Integration, led the newly established Robotics and Autonomous Solutions Working Group, which brings together subject matter experts to facilitate the implementation of advanced technological solutions in nuclear material handling.

Kristin Mackowski, NA-122.2 Stockpile Management, Stockpile Sustainment, Ballistic Missile Weapons Division, worked on documentation that will help streamline the coordination between NNSA, the Air Force, and the Navy, including the management of nuclear weapon activities at Pantex.

Savannah MacLean, NA-10 Office of Defense Programs, Deputy Administrator's Action Group, managed the NA-19 Office of Production Modernization portfolio, including working with subject matter experts to review and develop materials supporting Defense Programs and NNSA leadership.

Angely Martinez, DOS Office of Cooperative Threat Reduction, supported capacity-building efforts targeting partner nations on issues relating to sanctions, illicit financing, and sales of advanced conventional weapons.

Noah McFerran, NA-LL Livermore Field Office, assisted the efforts of the Radiation Detection Analysis group within N-Program on projects associated with NA-213, NA-22, NA-241, and U.S. Department of Homeland Security Customs and Border Protection.

Carolyn Ann Migli, NA-195 Office of Secondary Stage Production Modernization, created and maintained a comprehensive task-tracking system, provided program documentation updates, and assisted data visualization.

Erin Morrissey, NA-213 Office of Nuclear Smuggling Detection and Deterrence, supported the Green Border Security Initiative team in combating radiological/nuclear smuggling and joined workshops, exercises, and trainings to support international partners.

Jack Morrison, NA-NV Nevada Field Office, provided technical assistance so experiments and operations were performed safely at the Nevada National Security Site and North Las Vegas Facilities.



Daniel Mulrow, NA-113 Office of Experimental Sciences, worked on projects investigating future experimental capabilities and diagnostics and organized the X-Ray Detector Development Workshop.

Terri Poxon-Pearson, NA-233 Office of Material Disposition, worked with contractor partners at Y-12 on the highly enriched uranium disposition program to develop the program budget, track progress toward key milestones, and coordinate mid- and end-of-year reviews.



Brian Rabaey, NA-212 Office of Radiological Security, provided program support to both the Domestic and the International Reduce Alternative Technology Portfolios.



Daniel Reddy, NA-NV Nevada Field Office, interfaced with the diverse organizations, projects, and technical staff within the Nevada Field Office and the contractor Mission Support and Test Services, LLC.



Brandon Rowell, NA-193 Office of High Explosives and Energetics, supported his office in its development of a new Light Initiated High Explosives capability at Lawrence Livermore National Laboratory as well as upgrading current capabilities at Sandia National Laboratories to allow for expanded weapon Stockpile to Target sequence certification requirements.

Henry Rysz, NA-121.2 Office of Stockpile Management, Production Operations, worked on projects that supported communications with seven national security sites and collaboration with other NNSA Defense Programs Divisions.



Matthew Schmitt, NA-23 Office of Material Management and Minimization, helped with distribution of mission-critical tasks and information that was passed on to programmatic offices to enable reduction of fissile material around the globe.



Matthew Shalloo, NA-APM 1.4 Savannah River Acquisition and Project Management Office, oversaw some of the technology maturation and task execution by the R&D engineering team at Savannah River National Laboratory.



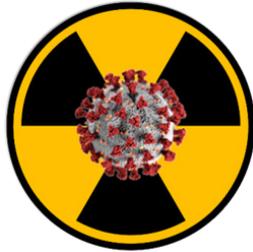
Rainbow Suh, NA-122.3 Stockpile Management, Air-Delivered Weapons Division, was involved in a lessons-learned study that included interviews with dozens of managers and leaders across the NNSA and management and operating sites to capture the weapons modernization program efforts thus far and advise on future planning practices.

Matthew Streseman, NA-115 Office of Engineering and Technology Maturation, worked on a business case analysis for imaging technologies and interacted with subject matter experts from the physics laboratories.

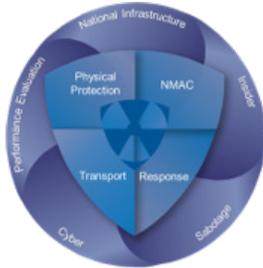
Jonathan Tacke, NA-LA Los Alamos Field Office, worked on a range of quality assurance oversight activities, including document reviews and training on conducting assessments.



Ryan Tan, NA-84 Office of Nuclear Incident Response, managed an interagency project that researched lessons learned from COVID-19 and the implications on future policy, preparations, research, and response for radiological/nuclear incidents.



Emily Tatton, NA-211 Office of International Nuclear Security, supported interagency coordination for the U.S. delegation for the 2020 U.S.-South Korea Nuclear Security Working Group.



Alexander Thien, NA-213 Office of Nuclear Smuggling Detection and Deterrence, served as acting project manager for the Philippines, coordinating efforts with the sustainability manager and in-country team to refurbish nuclear detection equipment at the Port of Manila.



Jacob Tala'ietalalelei Tuia, NA-192 Office of Tritium and Domestic Uranium Enrichment Program, helped assess how suspect tritium production rods are handled throughout the supply chain.



Reagan Turley, NA-LL Livermore Field Office, participated in the recovery of high-altitude balloons that carried infrared recorders during chemical explosion experiments.



Kevin Daniel Vallejo, NA-122.1 Stockpile Services Division, wrote a project execution plan for managing different types of containers for nuclear materials and a white paper on the benefits of implementing an enterprise-wide materials database feature.



“The fellowship provided me with a unique glimpse into the national security enterprise and assisted me in determining my future career goals.”

David Vazquez Cheatham, NA-APM-10 Office of Acquisition and Project Management, worked on interagency agreement contracts, modification actions, and professional credentialing.



Kelsey Wallace, NA-EA-10 Office of Congressional Affairs, worked on projects that provided insight into the National Defense Authorization Act and its impact on multiple NNSA programs.

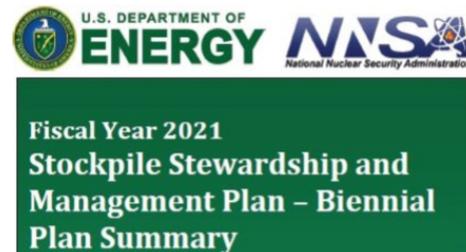
Samra Wolde-Tensae, NA-242 Office of Nuclear Export Controls, helped coordinate a virtual event for Customs Brokers with DOS that focused on communicating the importance of strategic trade control systems in countering weapons of mass destruction proliferation threats.



Marc Wonders, NA-22 Office of DNN R&D, helped coordinate a series of workshops to engage the research and mission community in exploring next-generation artificial intelligence.



Austin William Wright, NA-195 Office of Secondary Stage Production Modernization, worked on projects that oversaw the development of new manufacturing technologies and supported U.S.-U.K. cooperation efforts under the Mutual Defense Agreement.



“Through the NGFP, I was able to federalize in my office after completing the program and pursue six unique fully funded professional certificates. I could not be more thrilled to continue my work in the Office of Nuclear Smuggling Detection and Deterrence.”

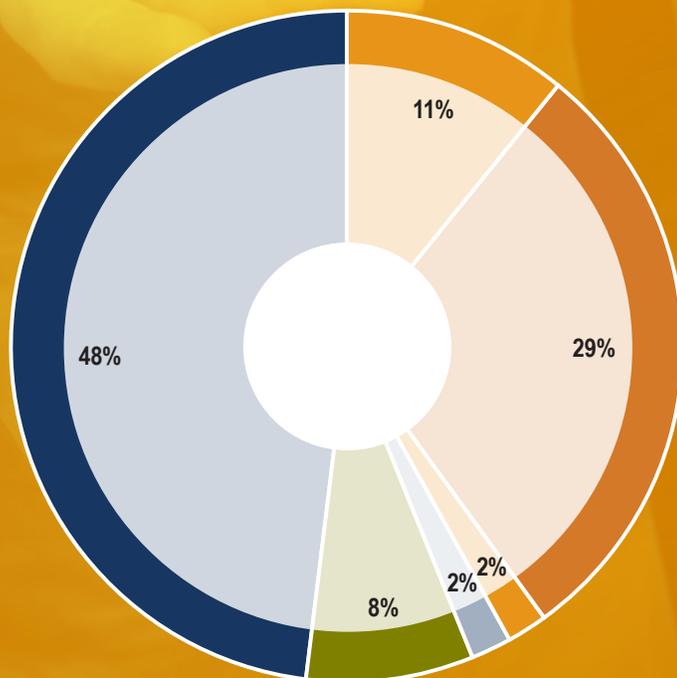
Conclusion: Future Leaders Fit to Serve



In 2020–2021, NGFP remained a premier program for bringing passionate and talented graduate-level students into the NNSA and the NSE. To date, over 86% of alumni have secured employment with ties to national security after their fellowship.

Where Are They Now

After completing their assignments, nearly 90% of the Class of 2020–2021 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 2021.



■ NNSA
 ■ Other
 ■ National Security Contractor
■ Department of Defense
 ■ Department of State
 ■ National Laboratory

Class of 2020–2021 Post-Fellowship Employment

NNSA

- Megan Bruns, NA-115
- Margaret Butzen, NA-53
- Ryan Coogan, NA-182
- Thomas Cook, NA-MB-92
- Camera Foster, NA-192
- Nicholas Girard, NA 234
- Kamel Greene, NA-LA
- Robert Hanson, NA-182
- Monia Kazemeini, NA-NV
- Kristin Mackowski, NA-122.3
- Savannah MacLean, NA-1.1
- Jack Morrison, NA-10
- Erin Morrissey, NA-213
- Daniel Mulrow, MB-92
- Terri Poxon-Pearson, NA-233
- Brandon Rowell, NA-193
- Rainbow Suh, NPO
- Jonathan Tacke, NA-LA
- Emily Tatton, NA-10
- Alexander Thien, NA-183
- Kevin Vallejo, NA-122.4
- David Vazquez Cheatham, NA-MB-55
- Kelsey Wallace, NA-1

Contractors

- Christopher Bryson, Consolidated Nuclear Security, Pantex
- Austin Clark, Kairos Power LLC, NPO
- Ashley Curtis, Mele, NA-241
- Gillian Gayner, Mele, NA-24
- Ryan Henderson, Systematic Management Services, Inc., NA-21
- Maura Lapoff, Technomics, NA-MB-92
- Brian Rabaey, Systematic Management Services, Inc., NA-212
- Daniel Reddy, Consolidated Nuclear Security, LLC
- Matthew Streseman, Pantex Plant
- Ryan Tan, Y-12 National Laboratory
- Jacob Tuia, Leidos, NA-192
- Reagan Turley, Mission Support and Test Services
- Samra Wolde-Tensae, Mele, NA-242
- Austin Wright, Leidos, NA-10

Nuclear Security Enterprise and National Security Sector

- Dominik Booth, Department of Defense
- Taylor Brown, Los Alamos National Laboratory
- Angely Martinez, DOS
- Noah McFerran, Lawrence Livermore National Security
- Matthew Shaloo, Lawrence Livermore National Laboratory
- Marc Wonders, Lawrence Livermore National Laboratory

Other

- Anastasia Fox
- Eric Jackson
- Carolyn Migli
- Henry Rysz
- Matthew Schmitt

Alumni Spotlight

Given the reputation NGFP has built over its 25 years, NGFP alumni are highly sought after by employers in the NSE and more broadly in the National Security Sector. Many fellows have gone on to apply their NNSA mission knowledge and experience at a broad set of agencies across the U.S. government and organizations worldwide. In fact, the majority of the 600-plus alumni remain connected to the nuclear security mission through federal positions at NNSA, DOE, national laboratories, or other national security stakeholders. Importantly, to the growing reputation and reach of the NGFP alumni, many fellows have found impactful opportunities outside NNSA and the national laboratories, demonstrating the value of fellows' skills and expertise.

NNSA Women Working to Keep America Safe. In honor of Women's History Month, NNSA highlighted five phenomenal women—including NGFP alumni Hannah Gardiner (Class of 2019–2020) and Anagha Iyengar (Class of 2014–2015)—who are forging an inspirational new path for women and girls aspiring in STEM.

Since completing her fellowship, Hannah has been working with the NA-115 Office of Engineering and Technology Maturation, where she works with NNSA sites to fund R&D of new and improved manufacturing methods. Anagha works in the NA-241 Office of International Nuclear Safeguards within the Office of Nonproliferation and Arms Control, where she manages the advanced reactor international safeguards engagement activities and the bilateral safeguards cooperation with Western Europe. She also supports the office's efforts to assess national security risks posed by emerging and foundational technologies.

Read more about Hannah, Anagha, and others leading the way in STEM on the [NNSA news site](#).

From Fellow to Researcher. When Karen Ventura (Class of 2018–2019) was completing her PhD in physical inorganic chemistry at the University of Texas at El Paso, she stumbled across NGFP while talking to a professor with connections at DOS. The decision to apply set her career in motion and has paid off for both Karen and NNSA.

After a year of working in DNN R&D, gaining substantial knowledge and experience related to the nuclear nonproliferation mission, and participating in DNN R&D's proposal selection process, Karen decided to begin her nuclear nonproliferation career with Consolidated Nuclear Security at the Pantex Plant, where she is a program manager within the Nonproliferation and Arms Control R&D group. Following on the success of those efforts, she joined researchers from Oak Ridge National Laboratory and Los Alamos National Laboratory in submitting a proposal to DNN R&D that would take advantage of high explosive detonations that routinely occur at Pantex to better understand the seismic and acoustic signatures of that activity. The project launched in April 2021, and Karen will be responsible for deploying the seismo-acoustic sensor at Pantex, coordinating with the firing site to collect data, and contributing to the data analysis. "I love working on these nonproliferation projects as they enable me to contribute to making the world a safer place. I look forward to continuing to do cutting-edge research into the future." To learn more about Karen's fellow-to-researcher journey, see the [August 2021 issue of the DNN Sentinel](#).



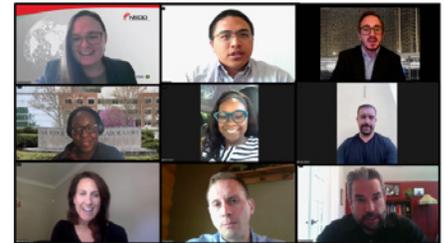
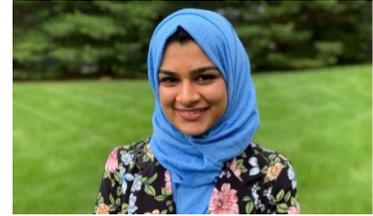
Recognizing Women of Mass Distinction. In March 2021, the Institute of Nuclear Materials Management hosted the **Women of Mass Distinction** event focused on inclusion in the nuclear materials management field. The virtual networking event featured a moderated panel and small group networking via a collaborative virtual platform. Guest speakers included NGFP alumni Katherine Bachner (Class of 2010–2011) from Brookhaven National Laboratory and Wardah Amir (Class of 2019–2020) from DOS.

Welcome Back (to Brookhaven). Sidra Zia (Class of 2019–2020) recently returned to Brookhaven National Laboratory after completing her NGFP fellowship in the NNSA Office of Radiological Security. Sidra brought with her new nuclear nonproliferation policy know-how to support the Nonproliferation and National Security Department. To learn more about Sidra's journey from Brookhaven to NGFP and back again, see "**Meet Sidra Zia and Welcome Her Back to Brookhaven Lab.**" You can also read about Sidra and her NGFP cohort in the **2020 annual report**.

Alum Joins the IAEA. Ryan Bolt, Class of 2019–2020, was selected to serve as a junior professional officer in the IAEA Department of Technical Cooperation Division for Latin America and the Caribbean, starting November 2020. In this position, Ryan is responsible for managing and implementing nuclear applications for technical projects across the region, including those focused on building capacity in nuclear safety and security. Ryan brought to the role his experience as the fellow in DNN, where he focused on IAEA Cooperation for the Office of Global Material Security, to support the division's mission. "There is no better way to launch your career in nuclear security than NGFP," he said.

Alumni Share Firsthand Perspective. During the Class of 2021–2022 orientation, several alumni tuned in to participate 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), Marc Wonders (Class of 2020–2021)
- Mid-Career Alumni Perspectives: Tracey-Ann Wellington (Class of 2015–2016), Staci Brown (Class of 2014–2015), Andy Hallock, (Class of 2009–2010)
- Careers within the Nuclear Security Enterprise: Gisele Irola (Class of 2013–2014), Doug Dyer (Class of 2004–2005), William Braniff (Class of 2006–2007)



“Working with the engineering oversight team offered me a unique insight into how DOE keeps large-scale projects on schedule and on budget through detailed planning and diligent record keeping executed by world-class engineers.”

Continuous Improvement

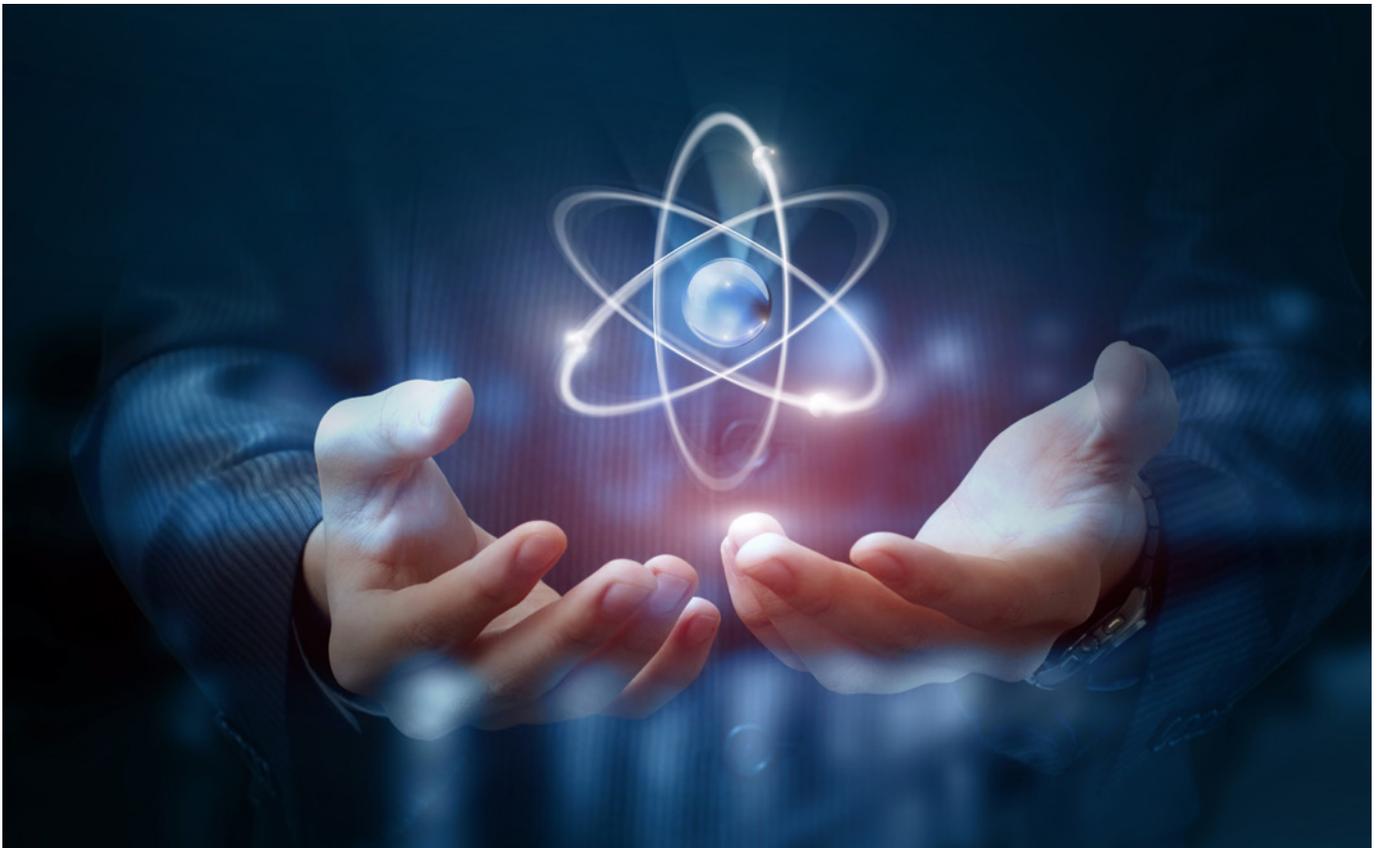
As NGFP has evolved over the last 25-plus years, so has its operations. To enhance its program management approach and deliver a productive experience for fellows and the offices they serve, the program has instituted numerous touchpoints between fellows, their supervisors, and PNNL. The program conducts mid-year and year-end surveys and lessons learned sessions to elicit and address opportunities for continuous improvement. The program also produced an enhancement matrix and return

on investment report to evaluate the impact of these efforts.

A sustained program improvement focus is recruiting a diverse applicant pool and fostering a diverse and inclusive workplace. In 2020–2021, this effort entailed fostering relationships with MSIs to build awareness of the fellowship in communities that were historically overlooked in the program's outreach, connecting with organizations in the NSE that promote diversity and inclusion, and

providing more opportunities for current and former fellows to share their experiences.

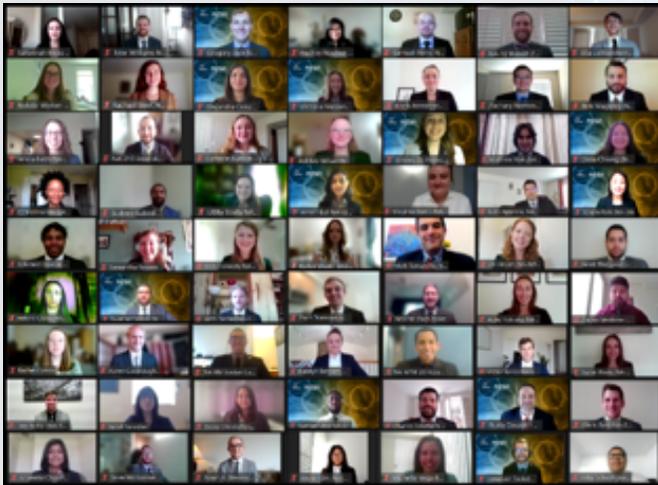
In its ongoing effort to evolve and enable a productive experience for fellows and the offices they serve, the program is always open to building new relationships with new nuclear and national security leaders, universities, student organizations, and industry partners. If you are interested in learning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



“This fellowship increased my knowledge of threats concerning nuclear smuggling and how the United States works with partners around the globe to combat it.”

Looking Forward

As the Class of 2020–2021 departed on its post-fellowship journey, the Class of 2021–2022 came aboard in June 2021 as the program's largest class to date. This cohort of 63 fellows is collectively supporting 12 NNSA organizations and field offices as well as DTRA and DOS. The fellows hail from 35 universities nationwide with backgrounds spanning the technical and policy realms, from nuclear engineering and physics to public policy and international security. Stay tuned for highlights from their cohort in the 2021–2022 annual report.



NGFP Class
of 2020–2021

By the Numbers

205
APPLICANTS

138
CANDIDATES

352
INTERVIEWS

12
DIFFERENT PROGRAM,
FUNCTIONAL, AND FIELD
OFFICES SUPPORTED
(PLUS DTRA AND STATE)

48
FELLOW
GRADUATES

33
UNIVERSITIES
REPRESENTED

50%
FELLOWS WITH
TECHNICAL BACKGROUND

36%
FELLOWS WITH
POLICY BACKGROUND

9%
FELLOWS WITH
MULTIDISCIPLINARY
BACKGROUND

48%
FELLOWS ACCEPTED FEDERAL
POSITIONS WITH NNSA

41%
FELLOWS WITH POSITIONS TIED
TO NATIONAL SECURITY

600+
ALUMNI TO DATE



Appendix: Fellow Biographies



Dominik Booth

NA-APM-1.3 Office of Acquisition and Project Management, Uranium Processing Facility Project Management Office – Oak Ridge, TN

Experience

- Graduate Intern, Organized Crime Analyst, Kentucky Intelligence Fusion Center, Kentucky Office of Homeland Security
- Graduate Intern, Associate of State Dam Safety Officials

Accomplishments

- Completed graduate studies focused on intelligence, national security, and diplomatic competencies, with particular focus in defense policy, energy, and nuclear issues.
- Worked for the Association of State Dam Safety Officials, researching dam safety and security policies across the United States.
- Performed research at Rhodes College on Title IX policies and assisted in drafting a new policy, building a strong professional background in policy research and design.
- Interned at the Kentucky Office of Homeland Security, building critical threat evaluation skills while providing supervisors and state partner agencies with timely intelligence products detailing threat potential of both criminal organizations and domestic terror groups and upcoming rallies and events.
- Contributed to various publications, including the Patterson Journal of International Affairs, Modus Vivendi Journal of International Relations, Rhodes Historical Review, and the Southwest Review at Rhodes College.
- Participated in the Patterson School War Crisis Simulation on the Greater Kurdistan Independence Movement and the Center for Strategic and International Studies /U.S. Army War College Strategic Negotiations Simulations on the South China Sea and on Nagorno-Karabakh.
- Intermediate language proficiency in Spanish.

Education

- Master of Arts, Diplomacy and International Commerce, University of Kentucky
- Bachelor of Arts, International Studies, Rhodes College



Taylor Brown

NA-532 Office of Nuclear Material Integration – Germantown, MD

Experience

- Research Assistant, Utah State Legislature, Office of Legislative Research and General Counsel
- Intern, Utah State Legislature
- Intern, Bureau of Administration, Office of Procurement Executive, U.S. Department of State

Accomplishments

- Conducted research projects for legislators, policy analysts, and attorneys that influenced legislation and policies that were pursued and adopted by state legislators.
- Extracted key information and conducted analyses on large amounts of legislative materials and policies that states adopted.
- Created briefing papers and reports for legislators, policy analysts, and attorneys.
- Under the direction of legislators, drafted resolutions for the Utah State Legislature.
- Supported a representative in the Utah State Legislature during a legislative session.
- Reviewed hundreds of grant awards and audits of U.S. embassies for compliance with U.S. Department of State standards.
- Lived and worked in Portugal for two years; proficient in the Portuguese language.

Education

- Master of Public Administration, University of Utah
- Bachelor of Arts, Law and Constitutional Studies, Utah State University



Megan Bruns

NA-183 Office of Systems Engineering and Integration – Washington DC

Experience

- Intern, Harris County Veterinary Public Health
- Animal Control Officer, Williamson County Sheriff's Office, City of Cedar Park Police Department, and Round Rock Police Department
- Client Services Representative, VCA Northwest Hills Animal Hospital

Accomplishments

- Knowledgeable in epidemiology and population science with practice in policy and management through behavior-based models.
- Worked as an animal control officer for various county and city districts in Texas, fusing a passion for animals, animal care, and community safety.
- Interacted with lawmakers and community partners and gained experience in policy development and regulation enforcement.
- Worked with professors on research opportunities, such as the DeeP Fire project studying the impact of a refinery fire in Deer Park, Texas on local community residents.
- Pursuing certification as an Associate Systems Engineering Professional through the International Council on Systems Engineering.
- Received the South Carolina LIFE and the Coastal Carolina Palmetto LIFE Enhancement scholarship for exemplary scholastic aptitude.

Education

- Master of Science, Epidemiology, University of Texas, Houston
- Bachelor of Science, Biology, Coastal Carolina University



Christopher Bryson

NA-NPO Facilities Infrastructure Program – Amarillo, TX

Experience

- Research Assistant, Texas Tech University
- Lead R&D Engineer, MHD Technologies
- Research Intern, Sandia National Laboratories
- Mechanical Design Co-op, DRS Infrared Technologies

Accomplishments

- Served as a mechanical design co-op at DRS Infrared Technologies, supporting the manufacturing process by designing custom tooling needed by the plant workers to quickly, effectively, and safely handle the infrared focal planes through various stages of device construction.
- Developed novel approach in computational fluid dynamics for improving efficiency when computing the pressure gradient field in Fourier space on an unbounded 2D grid.
- Developed design concepts for a novel carbon nanotube desalination system using a low-maintenance saltwater pump intended to be effective in under-developed parts of the world. The work resulted in a patent: Pub. No. US 2017/0120253.
- Developed LabVIEW software to interface with a fiber optic strain sensor network to provide real-time strain data to a wind turbine control system.
- Served as referee in the First Tech Challenge, enforcing game rules and safety of students participating in a University Interscholastic League robotics competition to build remote-controlled robots designed to compete in an annual game.

Education

- Doctor of Philosophy, Mechanical Engineering, Texas Tech University (in progress)
- Master of Science, Mechanical Engineering, Texas Tech University
- Bachelor of Science, Mechanical Engineering, Texas Tech University



Margaret Butzen

NA-53 Office Enterprise Stewardship – Albuquerque, NM

Experience

- Graduate Research Assistant, Civil and Environmental Engineering and Earth Sciences, University of Notre Dame
- Staff Intern, U.S. Nuclear Waste Technical Review Board
- Weekend Exhibit Staff, Aldo Leopold Nature Center

Accomplishments

- Gained in-depth understanding of the security concerns and challenges with storing, transporting, and disposing of nuclear materials as an intern with the U.S. Nuclear Waste Technical Review Board (NWTRB).
- Researched, analyzed, and presented to the NWTRB on the hydrogeology of deep crystalline rock relevant to deep borehole disposal of nuclear waste.
- Conducted doctoral studies on how bacteria affect the environmental fate and transport of contaminants at the University of Notre Dame.
- Developed a novel technique for quantifying or per- and polyfluoroalkyl substances, or PFAS, an emerging contaminant, in solution phase using particle-induced gamma-ray emission spectroscopy.
- Modeled neodymium sorption data for the Actinide Chemistry and Repository Science research group at Los Alamos National Laboratory through the U.S. Department of Energy Scholars Program.
- Served as group leader for Expanding Your Horizons, leading female students through science courses and activities to promote interest and exploration of STEM careers.
- Certified in International Engineering and Japanese Studies for Engineering Majors.
- Skilled in advanced and technical Japanese language and basic conversation in French, Spanish, and Korean languages.

Education

- Doctor of Philosophy, Civil and Environmental Engineering and Earth Sciences, University of Notre Dame
- Bachelor of Science, Geological Engineering, Geology, and Geophysics; Major, Japanese, University of Wisconsin-Madison



Austin Clark

NA-NPO Uranium Sustainment Program/Process Technology Development Program – Oak Ridge, TN

Experience

- Graduate Researcher, Molten Salt Nuclear Research Group, Brigham Young University
- Research Assistant, Optima Nuclear Research Group, Brigham Young University
- Physics Teacher, Walden High School
- Head teaching Assistant, Physics Department, Brigham Young University

Accomplishments

- Researched the effects of solvated fissionable materials, fission products, and corrosion products on molten salts in a molten salt reactor.
- Investigated the feasibility of adding a bottoming power cycle to typical nuclear power plant designs.
- Led a research group that received a \$800,000 grant from the Nuclear Energy University Program for reactor concepts research.
- Presented two original nuclear research papers selected at the 2019 American Institute of Chemical Engineers conference.
- Conducted thermodynamic analysis, comparison, and optimization of potential nuclear energy cycles.
- Studied Spanish, French, and Farsi languages.

Education

- Doctor of Philosophy, Chemical Engineering, Brigham Young University (in progress)
- Bachelor of Science, Chemical Engineering, Brigham Young University



Ryan Coogan

NA-181 Office of Policy and Requirements – Albuquerque, NM

Experience

- Co-Owner and Director, Page 7 Productions LLC
- Graduate Assistant Researcher, Center for Nuclear Security Science and Policy Initiatives
- English Teacher, Englewood Public School District

Accomplishments

- Conducted a comparative analysis of two technologies and strategies for detecting nuclear material smuggling. Modeled a transportation network to better understand if a state's limited resources should be used to harden the border to nuclear material smuggling or if those resources should be dedicated to mobile monitoring between border and target.
- Researched expert elicitation, contingent valuation, and other methods for quantifying weights and values in risk assessment models. Consulted with colleagues to minimize uncertainties in nuclear proliferation models. Presented findings to open meetings of MPACT and Los Alamos National Laboratory hosted at Texas A&M.
- Compiled data from 13 independent entities for Nuclear Security Science and Policy Initiatives projects over three years and drafted final reports that communicated each project's results and value to the customer in a concise narrative.
- Developed a live entertainment business through social media platforms, in-person relationships, and word of mouth marketing. Managed content creation and operation teams. Collaborated with the franchisor to improve processes.

Education

- Master of Science, Nuclear Engineering, Texas A&M University
- Bachelor of Science, Physics, Montclair State University
- Bachelor of Arts, English Literature, Drew University



Thomas Cook

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

Experience

- Graduate Researcher, Stanford University
- Undergraduate Research Assistant, Brigham Young University
- Research Intern, Nalco

Accomplishments

- Developed alcohol oxidation by a ruthenium polypyridyl complex covalently attached to an electrode surface, toward potential use in methanol fuel cells.
- Studied how organized dinuclear copper complexes covalently attached to an electrode show enhanced dioxygen reduction rates as compared to randomly distributed mononuclear copper molecules.
- Trained a graduate student in electrochemical measurements and inorganic synthesis and undergraduate research assistants in Unix and Gaussian software.
- Explored transition states using Gaussian software to explain selectivity in enolate allylation via a chiral phase-transfer catalyst and this work was published as Cook, T.C.; Andrus, M.B.; Ess, D.H. "Quantum Mechanical Transition-State Analysis Reveals the Precise Origin of Stereoselectivity in Chiral Quaternary Cinchonidinium Phase-Transfer Catalyzed Enolate Allylation" *Org. Lett.*, 2012, 14, 5836–5839.
- One of 32 nationally selected SCI Scholars by the American Chemical Society Education Division (2012).
- One of 10 university-wide students selected for the three-year Jack & Mary Lois Wheatley Leadership Scholarship (Brigham Young University, 2011).

Education

- Doctor of Philosophy, Chemistry, Stanford University
- Bachelor of Science, Chemistry, Brigham Young University



Ashley Curtis

NA-241 Office of International Nuclear Safeguards – Washington DC

Experience

- Research Associate, Wisconsin Project on Nuclear Arms Control
- Intern, Office of Multilateral and Nuclear Affairs, U.S. Department of State
- Intern, Nuclear Threat Initiative
- Press Assistant, Committee on Oversight and Government Reform, U.S. House of Representatives

Accomplishments

- Published material on economic and diplomatic relations with foreign nations for external audiences.
- Drafted speeches and background material for the Nuclear Nonproliferation Treaty Preparatory Committee and the UN Disarmament Commission.
- Published and presented original research on economic statecraft in the Middle East.
- Selected as a fellow in the Stanley Center Accelerator Initiative.
- Drafted communications on congressional hearings in the U.S. House of Representatives.

Education

- Master of Arts, International Relations, Johns Hopkins University
- Bachelor of Arts, Political Science, Brigham Young University



Camera Foster

NA-10.1 Office of Strategic Partnership Programs – Washington DC

Experience

- Research Associate II, Scintillation Materials Research Center (SMRC)
- Graduate Research Assistant, University of Tennessee, Knoxville
- Undergraduate Research Assistant, University of Tennessee, Knoxville

Accomplishments

- Completed a graduate research assistantship at SMRC, focused on the growth and characterization of oxide scintillator materials for potential applications in radiation detection (i.e., medical imaging or national security).
- Managed many SMRC laboratory functions as the general laboratory safety chair, radiation safety chair, chemical inventory manager, and laboratory meeting coordinator.
- First-authored four publications and co-authored four peer-reviewed research articles. Presented research at several regional, national, and international conferences.
- First inventor on pending U.S. patent in the field of scintillator material development for radiation detection applications.
- Experienced with scientific research techniques such as bulk single crystal growth, solid-state synthesis, X-ray diffraction, photo-response detection, spectroscopy, and microscopy. Familiar with computational analysis techniques using MCNP, LAMMPS, MATLAB, and Mathematica.
- Completed dissertation research on novel scintillators for medical imaging applications with a very strong overlap with nuclear nonproliferation disciplines.
- Served as a mentor during Materials Camp organized by the Oak Ridge Chapter of ASM International, the world's largest association of metals-centric materials engineers and scientists, and supervised undergraduate research assistants and one high school student in the laboratory on a daily basis.
- Appointed the Featured Speaker at the Fall 2019 Graduate Hooding Ceremony at the University of Tennessee by the Dean of the Graduate School.

Education

- Doctor of Philosophy, Materials Science and Engineering, University of Tennessee
- Master of Science, Materials Science and Engineering, University of Tennessee
- Bachelor of Science, Materials Science and Engineering, University of Tennessee



Anastasia Fox

NA-SN Sandia Field Office – Albuquerque, NM

Experience

- Research Assistant, Texas Tech University
- High School and Undergraduate Technical Intern, Sandia National Laboratories
- Subject Tutor for Math and Statics, Marsha Sharp Center for Student Athletes

Accomplishments

- Interned at Sandia National Laboratories, using AutoCAD to create models and assemblies and using Inventor to create 3D models of parts. Worked with the environmental remediation department to review environmental permits submitted to the New Mexico Environment Department and learned about various ways to collect and interpret field data.
- Performed a literature review to identify a research gap with regards to bioremediation, specifically methods to increase the population of contaminant-degrading bacteria independent of reproduction. Presented the research at the 2019 Battelle Bioremediation Conference and the 2019 national meeting of the Association of Environmental Engineering and Science Professionals.
- Selected to continue a radon research program funded by the Environmental Protection Agency focused on gathering data from homes in Texas and public outreach to raise radon awareness.
- Helped analyze water samples collected during Hurricane Harvey for potential contaminants.
- Received the Presidential Fellowship from Texas Tech University.

Education

- Master of Environmental Engineering, Texas Tech University
- Bachelor of Science, Environmental Engineering, Texas Tech University



Gillian Gayner

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

Experience

- Research Associate, South Asia Program, The Stimson Center
- Research Assistant, South Asia Program, The Stimson Center
- Research Intern, South Asia Program, The Stimson Center

Accomplishments

- Led coordination of official correspondence and taskings for Nonproliferation and Arms Control (NPAC), including drafting briefing materials for high-level U.S. Department of Energy principals and developing products for Congress and the interagency.
- Spearheaded the development of a foundational portfolio on disinformation and its impacts on nonproliferation, including an independent study on civil nuclear energy disinformation, the findings of which she presented across the organization and to senior and specialist audiences.
- Co-created NPAC's inaugural "Space Camp," which convened space experts from across the U.S. government and nongovernmental organizations to discuss NPAC's role in the emerging space frontier, associated opportunities and threats, and how the new U.S. administration should respond.
- Served as a founding member of the NPAC Staff Development task force paving the way for a new organizational approach to integrating staff and fostering constructive engagement.
- Led the development of an online course on deterrence dynamics in Southern Asia, and co-produced another online course on nuclear weapons in India and Pakistan. Achievements include developing course curricula, generating a roster of experts to speak on key issues, distilling the breadth of literature, and highlighting contemporary debates.
- Managed the Stimson South Asia Program's Track II initiative, bringing together South Asian security experts to participate in a crisis simulation exercise. Achievements include designing a scenario-based tabletop exercise on a future crisis between India and Pakistan and running the simulation with experts, including from key U.S. government agencies.
- Led the South Asia Program's ongoing investigation of the Kashmir conflict. Accomplishments include cultivating original databases, statistical analysis of key trends, conflict mapping using geographic information system software, and multiple written products on the political and security situation in the Kashmir region.

- Directed the Stimson Center South Asia Program's fellows from India and Pakistan and DC scholars and practitioners in the nuclear space.

Education

- Master of Arts, Security Studies, Georgetown University
- Bachelor of Arts, Political Science, Tulane University



Nicholas Girard

NA-234 Office of Material Management and Minimization – Washington DC

Experience

- Mortgage Servicing Intern, First National Bank of Omaha
- Finance Intern, Centris Federal Credit Union
- Asset Management Intern, Bank of the West

Accomplishments

- Completed a summer internship with First National Bank of Omaha, working in the secondary mortgage division, prepping the Bank's mortgages for collateralization, and dealing to quasi-government enterprises such as Fannie Mae and Freddie Mac and to private investors.
- Interned with Centris Federal Credit Union, reviewing recent regulatory restrictions on the loan-loss provisions in the United States, along with developing a new model for the credit union to comply with these regulations.
- Interned with Bank of the West, a BNP Paribas subsidiary, in Omaha, Nebraska, working in the asset management division of the bank, focusing specifically on loans and debt in default and on computerized database tracking within the bank; worked with upper-level management and became accustomed to the legal and financial processes related to managing debt in default and poor investments.
- Participated in a student-led financial competition in China, focused on developing a solution to the U.S. student loan crisis and a competitive leadership experience with Wells Fargo.
- Experienced with technical programs such as Bloomberg, Lexis Nexis, ARCHER, ProfitStar, Wolfram Alpha, and Microsoft Office Suite.
- Skilled in Italian and Spanish languages.

Education

- Master of Arts, International Affairs, Johns Hopkins University
- Bachelor of Science, Finance, Saint Louis University



Kamel Greene

NA-LA Los Alamos Field Office – Los Alamos, NM

Experience

- Research Assistant, Brigham Young University
- Management Analyst Intern, Eagle Mountain City
- Student Advisor, Cost-Benefit Analysis, Heber City Airport
- Operations Management Intern, Community Outreach, Silicon Slopes
- Student Policy Advisor, Utah County Policy Good Governance Board
- Student Consultant, Program Evaluation, Utah Sustainable Business Coalition
- Founder and Chief Executive Officer, MESH (a mobile platform serving as a central hub for municipalities, higher education, and corporate organizations)

Accomplishments

- Interned for Eagle Mountain City in Utah; engaged with AT&T, Verizon Wireless, and T-Mobile on 5G microcell towers within the city.
- Analyzed existing research on 4G and 4G LTE microcell and macrocell towers in existing municipalities to ensure the proper safety of Eagle Mountain city residents. Helped conduct a panel where AT&T, Verizon Wireless, and T-Mobile answered questions for local cities.

- Competed in the Brigham Young University Orca grant scholarship competition with political science professor on gender and politics.
- Selected as a member of the Diversity and Inclusion committee for The Romney Institute.
- Led a team of interns to assist with the coordination of a technology summit, which consisted of over 300 companies and 25,000 people.
- Presented optimal forms of government and compensation to Utah County governance board for local government change.
- Compiled award-winning budget book to help the public understand the Eagle Mountain City budget (Distinguished Budget Presentation Award).
- Bootstrapped and raised over \$15,000 for company to develop a working Android and iOS app with over 4,000 downloads.
- Grew a company of 14 employees and managed a software development team to build both a web and mobile app.
- Created and launched an internship program for a nonprofit featuring 10 interns.

Education

- Master of Public Administration, Federal Government, Brigham Young University
- Bachelor of Science, Political Science, Brigham Young University

Robert Hanson

DTRA R&D Research and Development, Chem/Bio, Detection and Diagnostics Division – Fort Belvoir, VA

Experience

- Treasurer, Chemistry Graduate Student Association, Brigham Young University
- Vice President of the American Chemical Society student chapter, Idaho State University

Accomplishments

- Worked on isolating materials of interest ranging from radioactive isotopes to DNA related to bacterial drug resistance.
- Contributed to purification projects looking to isolate various targets related to drug resistance as seen in sepsis cases.
- Co-authored in the Analytical Chemistry, Journal of Chromatography, Physiological Reports, and the American Journal of Physiology Lung Cellular and Molecular Physiology.
- Made key contributions on a collaborative National Institute of Health-funded project to detect bacteria and their antibiotic resistance.
- Co-authored a paper with collaborators at Brigham Young University and the University of California Santa Cruz; the work involves multiple processes from bacteria isolation in a blood sample to single-molecule counting of specific DNAs related to antibiotic resistance in the bacteria.
- Presented research at the Pittcon Conference & Expo—the top conference worldwide in analytical instrumentation—for three consecutive years.

Education

- Doctor of Philosophy, Biochemistry, Brigham Young University (in progress)
- Master of Science, Microbiology, Brigham Young University
- Bachelor of Science, Biochemistry, Idaho State University





Ryan Henderson

NA-20 Office of Defense Nuclear Nonproliferation – Washington DC

Experience

- Summer Associate, Washington Business Dynamics
- Peacekeeping Analyst Intern, Permanent Mission of Rwanda to the United Nations
- Summer Research Intern, International Budget Partnership
- Public Affairs Intern, U.S. Department of Homeland Security
- Administrative Assistant, Center for Career Education, Columbia University

Accomplishments

- Worked as an associate at Washington Business Dynamics, performing extensive financial analysis, modeling, and budget forecasting for a \$1.2 billion U.S. Department of Defense client portfolio to expedite its contracting process and streamline financial management strategies.
- Provided Information Technology acquisition support to more than 20 customers within the U.S. Department of Defense and certified numerous Military Interdepartmental Purchase Requests and other funding documents to ensure customer funds satisfied Federal Acquisition Regulations.
- Worked with the Secretary of Homeland Security staff and cultivated deep insight into how internal operations strengthened national security.
- Served as an advisor to the Permanent Mission of Rwanda to the United Nations peacekeeping division, representing Rwanda in Fourth Committee meetings and providing daily policy analysis on Security Council mandates affecting peacekeepers in the Central African Republic and South Sudan.
- Served as a research consultant for Costa Rica's UN Development Programme Office and co-led a five-student task force to analyze the complex social and environmental issues of the country's rapidly growing pineapple industry.
- Performed an operational analysis of Public Expenditure and Financial Accountability reports for over 50 countries to assess the effectiveness of state tax appeals and procurement complaints systems.

Education

- Master of Arts, International Affairs/Security Policy, Columbia University
- Bachelor of Arts, Diplomacy and World Affairs/Economics, Occidental College



Eric Jackson

NA-115 Office of Technology Maturation – Washington DC

Experience

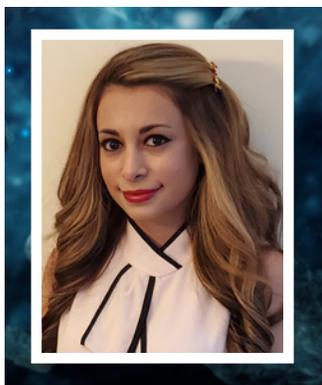
- Research Assistant, Howard University
- Teaching Assistant, General and Organic Chemistry, Howard University
- Organizer, Howard University Environmental Society

Accomplishments

- Derived organic compounds used as ligands in metal organic frameworks through synthesis, including isolation, purification, and analysis.
- Utilized spectroscopic instruments in analyzing and confirming synthesized compounds.
- Worked to expand the crystalline sponge method by developing and optimizing crystalline sponges—essential porous complexes concerned with X-ray single crystal diffraction.
- Received the departmental Kelly Miller, Jr. Fund.
- Completed graduate coursework in inorganic and organic chemistry, including coursework on instrumentation, characterization methods, and computational techniques.
- Performed laboratory administrative roles including keeping compounds safely and securely stored and ensuring that laboratory data and equipment were systematically organized and maintained.
- Supervised undergraduate students in laboratory experiments, assisted professors with grading, and enforced proper laboratory procedures and techniques.
- Organized a student-led group aimed at raising awareness of environmental issues, organizing community cleanups, and offering information on sustainability.

Education

- Master of Science, Organic Chemistry, Howard University (in progress)
- Bachelor of Science, Chemistry, Howard University



Monia Kazemeini

NA-NV Nevada Field Office – Las Vegas, NV

Experience

- Graduate Assistantship, University of Nevada, Las Vegas
- Intern, Mission Support and Test Services
- Mechanical Designer II, Precision Design Group

Accomplishments

- Specialized in radiological contamination search and mapping using robotic platforms.
- Won first and second place in Sustainability Awards in the Department of Mechanical Engineering at Howard R. Hughes College of Engineering for undergraduate research focused on an unmanned aerial vehicle methane sensor module.
- Received the College of Engineering Scholar Award given to a graduate student every year for publishing in the top technical journals in their fields.
- Served as the American Nuclear Society student chapter board member and was the Student Program Chair for the Conference of Nuclear and Emerging Technologies for Space.
- Interned at Mission Support and Test Services, a contractor to the Nevada National Security Site, and received the MSTS Hot Shot Award for dedication and hard work of the projects.
- Participated in the Las Vegas Business Academy and American Nuclear Society student chapter.
- Awarded the Nuclear Regulatory Commission Fellowship.
- Published three peer-reviewed journal papers, one book chapter, 12 peer-reviewed conference proceedings papers, and eight academic proceedings.
- Received the Roy G. Post Foundation Award from the Waste Management Conference and the Nuclear Regulatory Commission Fellowship.

Education

- Doctor of Philosophy, Mechanical Engineering, University of Nevada, Las Vegas
- Graduate Certification, Nuclear Safeguards and Security, University of Nevada, Las Vegas
- Graduate Certification, Nuclear Criticality Safety, University of Nevada, Las Vegas
- Bachelor of Science, Mechanical Engineering, University of Nevada, Las Vegas



Maura Lapoff

NA-532 Office of Nuclear Material Integration – Germantown, MD

Experience

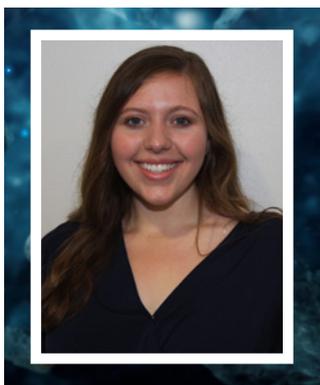
- Quantitative Research Intern, National Commission for Military Aviation Safety
- Assessment, Monitoring, and Evaluation Analyst, Center for Global Health Engagement, Henry M. Jackson Foundation for the Advancement of Military Medicine
- Science Writer, Selfhacked
- Research, Analysis, Monitoring, and Evaluation Officer, Syria Essential Services II, Blumont
- Support Conflict Analysis Intern, Governance and Peace-building, United Nations Development Programme, Arab States Regional Hub
- Lead Global Ambassador, University of Miami Study Abroad Office

Accomplishments

- Served full-time as an assessment, monitoring, and evaluation analyst at the Uniformed Services University of the Health Sciences Center for Global Health Engagement.
- Awarded the National Security Education Program Boren Scholarship for International Study and studied full-time at the Qasid Arabic Institute in Amman, Jordan.
- Worked as a U.S. Agency for International Development contractor on a Syrian essential services and governance project.
- Awarded research grant to investigate trauma in a traumatic brain injury laboratory at the Miami Project to Cure Paralysis.
- Experienced in Modern Standard Arabic, Jordanian colloquial Arabic, Spanish, and Turkish languages.

Education

- Master of Arts, Interdisciplinary Studies, Concentration in Computational Social Science, George Mason University (in progress)
- Bachelor of Science, Neuroscience, University of Miami



Kristin Mackowski

NA-122.2 Ballistic Missile Weapons Division – Albuquerque, NM

Experience

- Intern, Booz Allen Hamilton
- Intern, Los Alamos National Laboratory
- Intern, Parallel Computing, Los Alamos National Laboratory

Accomplishments

- Worked on a project in a five-member team environment that investigated location finding using Global Navigation Satellite System, Radio Frequency Identification, and LTE coverage.
- Performed undergraduate and graduate work on diffusion problems, defining diffusion coefficients in pure metals using first principle calculations.
- Investigated the diffusion rates of different metals to find the different time steps and rate that the material undergoes diffusion.
- Worked at Los Alamos National Laboratory as a student intern for two summers; worked on computational modeling of high-performance codes and created an Equation of State for Silicon Carbide using density functional theory.
- Participated in four semesters of design clinic and was part of the SAE Mini Baja team, helping to design and test a fully functional single passenger off-roading vehicle.

- Participated on a Mechanoluminescent Impact Sensing Team, designing impact testing fixtures that upon impact can detect the location and severity of the damage.
- Presented research at two separate conferences, MS&T 2018 and TMS 2020.

Education

- Master of Science, Materials and Metallurgical Engineering, New Mexico Institute of Mining and Technology
- Bachelor of Science, Mechanical Engineering, New Mexico Institute of Mining and Technology

Savannah MacLean

NA-10 Defense Programs Front Office – Washington DC

Experience

- Intelligence Analyst, Dynamis in support of U.S. Department of Homeland Security (DHS), Immigration and Customs Enforcement
- Program Coordinator, PhD Fellowship Program, Academic and Student Programs, Mercatus Center
- Research Assistant, National Defense University, Institute for National Strategic Studies, Center for Strategic Research
- Intern, U.S. House of Representatives, 2nd District of Massachusetts

Accomplishments

- Completed graduate work focused on security studies, biodefense, and counterterrorism.
- Provided analysis for DHS Homeland Security Investigations Student and Visitor Exchange Program unit through the use of government and open-source databases to determine potential fraud.
- Served as a research assistant at the Institute for National Strategic Studies, focusing on the Israel-Palestine conflict, multiparty mediation, and conflict resolution for a senior fellow's ongoing projects on national security strategy and policy issues.
- Supported the Mercatus Center's Academic and Student Programs Associate Director to recruit and mentor PhD students in economics.
- Interned with a U.S. Representative to address constituent concerns, provide case support for staff members, and carry out legislative research.

Education

- Master of Arts, International Security, George Mason University
- Bachelor of Arts, Political Science-International Relations, Cultural Studies and Communications, Clark University

Angely Martinez

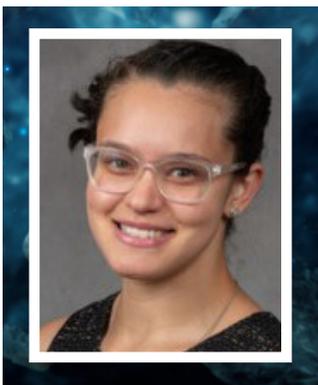
DOS/ISN/CTR Office of Cooperative Threat Reduction – Washington DC

Experience

- Research Fellow, Research Excellence Doctoral Fund, Syracuse University
- Project Manager and Researcher, Global Black Spots, Moynihan Institute of Global Affairs
- Graduate Teaching Assistant, Department of Political Science, Syracuse University
- Intern, Librarie Farfafouilles
- Intern, Education Abroad, The University of Alabama
- Intern, Nancy Bishop Casting

Accomplishments

- As a researcher for the Global Black Spots Project, wrote in-depth case reports on illicit networks across porous borders.
- Served as a supervisor for research assistants, overseeing case studies for China, Gaza, and the Syria/Iraq border.
- Directed a team of researchers in analyzing large amounts of open-source data and writing detailed case reports regarding nuclear materials, WMD tracking, terrorism, and transnational criminal organizations in conflict areas.



- Operated and applied statistical methods to a large database with various datasets; performed SQL functions and generated reports, queries, and forms for supervisor; and utilized functions to model patterns within countries and regions.
- Instructed 40-60 students per semester on various international political topics as well as periodically lecturing large auditoriums (150-200 people) on specialized subject matters.
- Co-authored research project examining the role of Russia in Central Asia and the Caucasus.
- Experienced in Spanish and French languages and worked abroad in France and Czechia.

Education

- Doctor of Philosophy, Political Science, Syracuse University (in progress)
- Master of Arts, Political Science, Syracuse University
- Bachelor of Arts, International Studies and French, University of Alabama



Noah McFerran

NA-LL Livermore Field Office – Livermore, CA

Experience

- Academic Co-Op Program Member, Lawrence Livermore National Laboratory
- Integrated University Program Fellow, U.S. Department of Energy
- Graduate Research Assistant, University of Florida
- Intern, University of California Irvine Nuclear Working Group
- Laboratory Safety Manager, Enqvist Research Group, University of Florida

Accomplishments

- Collaborated with Lawrence Livermore National Laboratory on radiation transport modeling for detecting potential fuel cycle misuse scenarios. This research tested the viability of a potential new tool for use in nuclear safeguards.
- Conducted graduate research focused on neutron transport modeling of dry storage casks to detect potential structural failures and diversion scenarios.
- First-authored "Gamma-ray spectrum variations for surface measurements of uranium hexafluoride cylinders" in Nuclear Instruments and Methods in Physics A.
- Attended multiple workshops, including the PNNL Radiation Detection for Nuclear Security Summer School, to strengthen knowledge on nuclear security challenges and gain hands-on experience locating radiation sources with hand-held and portal monitor detector systems.
- Placed first at AIChE Regional Conference 2016 and second at AIChE Regional Conference 2015 for the AIChE Chemical Engineering Car Competition.
- Presented at the Institute of Nuclear Materials Management Annual Meeting 2019, American Nuclear Society Winter Meeting 2018, NNSA University Program Review 2019, Physics of Reactors Conference 2018, and Pacific Basin Nuclear Conference 2018.
- Awarded best student paper in International Safeguards at the Institute of Nuclear Materials Management Annual Meeting 2019.
- Member of American Nuclear Society, Institute of Nuclear Materials Management, American Institute of Chemical Engineers, Omega Chi Epsilon Honor Society, Tau Beta Pi Honor Society, and Alpha Nu Sigma Honor Society.
- Served as Chapter President for Institute of Nuclear Materials Management Florida Student Chapter from 2017 to 2020.

Education

- Doctor of Philosophy, Nuclear Engineering, University of Florida
- Master of Science, Nuclear Engineering, University of Florida
- Bachelor of Science, Chemical Engineering, University of California, Irvine



C. Annie Migli

NA-195 Office of Secondary Stage Production Modernization

Experience

- Administrative Assistant, Drug Enforcement Administration, U.S. Embassy Beijing, China
- Military Instructor, Chinese Mandarin Cryptologic Language Analyst Course, U.S. Air Force

Accomplishments

- Motivated veteran with over 10 years of experience in the intelligence community and as an experienced office manager, certified educator, and course developer.
- Served as a Master Instructor in the U.S. Air Force and was part of a team that designed and developed an innovative new capstone exercise.
- Attended the Joint Military Attaché School Spouse Course, before moving to Beijing, China to serve as a diplomat.
- Worked in U.S. Embassy for the Drug Enforcement Administration, gaining experience coordinating with other U.S. agencies such as the U.S. Department of State and the Federal Bureau of Investigation, as well as Chinese counterparts the National Narcotics Control Commission, the Narcotics Control Bureau, and the Ministry of Public Security.
- Authored professional correspondence in a diplomatic environment, successfully navigating multiple cultures.
- Bilingual in English and Mandarin Chinese languages.

Education

- Master of Business for Veterans, University of Southern California
- Bachelor of Science, Business Administration, University of Maryland, University College



Jack Morrison

NA-NV Nevada Field Office – Las Vegas, NV

Experience

- Graduate Researcher, Optical Sensing and Nonproliferation Group, University of Florida
- Lead Licensing and Shielding Engineer, Nuclear Engineering Design Project
- Treasurer, Institute of Nuclear Materials Management Student Section, University of Florida
- Manager, Joylato. Reykjavik, Iceland

Accomplishments

- Served as lead licensing and shielding engineer of a senior design project that revealed the complexities of having a civilian power reactor compliant to both security and nonproliferation requirements, with international considerations as it was proposed to be sited in Malaysia.
- Attended the Nuclear Nonproliferation, Safeguards, and Security short course at Brookhaven National Laboratory, gaining experience in global nuclear policy as well as verification and safeguards; the course reviews efforts to internationalize the nuclear fuel cycle, the Atoms for Peace initiative, and the negotiation of the Nuclear Nonproliferation Treaty and its outcomes.
- Participated in coursework exploring International Atomic Energy Agency safeguards and verification systems and agreements, material balance accounting, and inspection tools and measurements, and participated in a Complementary Access exercise based on the real-world inspection activities of agency inspectors.

Education

- Master of Science, Nuclear Engineering Sciences, University of Florida
- Bachelor of Science, Nuclear Engineering and Radiological Science, University of Florida



Erin Morrissey

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

Experience

- AmeriCorps VISTA Leader, Campus Compact
- AmeriCorps Fellow, United Way
- Nuclear Power Plant Outage Administrative Assistant, Seabrook Station
- Graduate Teaching Assistant, University of Rhode Island
- Public Relations Intern, Tricom Associates

Accomplishments

- Served as an AmeriCorps VISTA Leader supporting 40 VISTA members serving across Washington DC, Maryland, and Delaware. Conducted site visits and monitored VISTA grant compliance in poverty-fighting projects.
- Authored digital impact stories and social media posts, planned and executed workshops, and recruited VISTAs for the 2020-2021 cycle.
- Served as an AmeriCorps fellow in the communities of Salem and Lynn, Massachusetts supporting at-risk teens and English Language Learners from a community-based nonprofit organization.
- Compiled, analyzed, and presented data on AmeriCorps impacts for 500 English Language Learners and identified and implemented data-related strategies.
- Worked as a Nuclear Power Plant Outage Administrative Assistant, coordinating with labor union business managers and plant personnel to meet customer needs during a routine refueling cycle.
- Created and presented lessons on realism, liberalism, China, Russia, Cuba, international aid, global terrorism, nuclear proliferation, etc. for university undergraduate students.
- Assisted in Tricom Associates organization of media coverage and day-of-event logistics at the International Association of Fire Fighters Legislative Conference featuring 11 U.S. presidential candidates.
- Intermediate Spanish language skills, continued learning in Mandarin and Korean languages.

Education

- Master of Arts, International Relations, University of Rhode Island
- Bachelor of Arts, Communication Studies, University of Rhode Island



Daniel Mulrow

NA-113 Office of Experimental Sciences – Washington DC

Experience

- Research Assistant, Departments of Chemistry and Radiation Oncology, Washington University in St. Louis
- Research Assistant, Chemistry Department, University of Virginia
- Teaching Assistant, Washington University in St. Louis
- Teaching Assistant, University of Virginia
- Consultant and Project Manager, Biotechnology and Life Science Advising Group

Accomplishments

- Researched a variety of dosimeters and new materials for their application in an emerging radiation therapy that utilizes ultra-high dose rates.
- Studied the radioluminescent properties of various materials for their application in dosimetry; dealt with the characterization of radiochromic film to various clinical therapy beams and studying fundamentally the nature of the solid-state reaction that allows these films to be used as dosimeters.
- Participated in the Biological and Life Science Advising Group as both a consultant and a project manager. This graduate- and post-doctoral-led consulting group is hired by local businesses and startups to perform primary and secondary research on a given project.
- Participated in the Nuclear Chemistry Summer School, learning about nuclear science applications in health physics, nuclear forensics, nuclear engineering, and medical applications.

- Assisted in teaching laboratory experiments and provided guidance on course material for the National Nuclear Chemistry Summer School.
- Awarded the one-year Graduate Assistance in Areas of National Need Fellowship for outstanding teaching.
- Served as co-president of the Graduate Student Senate, leading a cohort of graduate students from over 30 departments in the School of Arts and Sciences, managing over 10 subcommittees, and reporting graduate reports and concerns to the Graduate Council.
- Chaired the Graduate Research Symposium that convenes graduate students from all graduate schools (i.e., law, business, engineering) at Washington University to share research and compete for best student poster.

Education

- Doctor of Philosophy, Chemistry, Washington University in St. Louis (in progress)
- Bachelor of Science, Chemistry, University of Virginia
- Bachelor of Arts, Physics, University of Virginia

Terri Poxon-Pearson

NA-233 Office of Material Management and Minimization – Washington DC

Experience

- Research Assistant, National Superconducting Cyclotron Laboratory, Michigan State University
- Teaching Assistant, Department of Physics and Astronomy, Michigan State University
- Tour Guide, National Superconducting Cyclotron Laboratory, Michigan State University
- Research Assistant, Department of Physics, University of Maryland

Accomplishments

- Performed research activities ranging from developing a user-friendly code to study charge-exchange reactions to collaborating with experimentalists on interpreting reaction measurements with applications to nuclear astrophysics.
- Interned at the Episcopal Church Office of Government Relations, researching relevant legislation and producing policy alerts for their public policy network.
- Founding member of the National Superconducting Cyclotron Laboratory Nuclear Policy Journal Club.
- Served as a tour guide at the National Superconducting Cyclotron Laboratory, presenting to over 1,000 visitors ranging from elementary school classes to university professors, to foster a deeper appreciation for the science performed at the laboratory.
- Participated in the Boot Camp on Nuclear Security Policy at George Washington University, an intensive two-week course on nuclear security and energy policy with visits to the U.S. Department of State, Nuclear Regulatory Commission, and Capitol Hill.
- Attended Nuclear Physics DC Day, meeting with congressional representatives to discuss research performed at the National Superconducting Cyclotron Laboratory and advocate for increased U.S. Department of Energy and National Science Foundation funding for nuclear physics research.
- Received the Department of Physics and Astronomy Outreach Award, University Distinguished Fellowship from Michigan State, and the National Superconducting Cyclotron Laboratory Graduate Fellowship.

Education

- Doctor of Philosophy, Physics, Michigan State University
- Master of Science, Physics, Michigan State University
- Bachelor of Science, Physics, American University





Brian Rabaey

NA-212 Office of Radiological Security – Washington DC

Experience

- Intern, Center for Arms Control and Nonproliferation
- Chemical Officer, U.S. Army

Accomplishments

- Served as an officer in the Chemical Corps, gaining experience in the operational side of WMD detection, identification, mitigation, and force protection serving with the 1st Special Forces Group (Airborne) as a battalion chemical, biological, radiological, and nuclear officer, and as the unit radiation safety officer.
- Served with the 110th Chemical Battalion (Technical Escort) as an assistant team leader and analytical team leader.
- Completed a group capstone project for the RAND Corporation's Intelligence Policy Center, examining instances of proliferation from various countries compared with historical case studies.
- Contributed to ongoing research and wrote projects focused on nonproliferation, arms control, and international nuclear security while at the Center for Arms Control and Nonproliferation.
- Experience in Mandarin and Spanish languages.

Education

- Master of International Affairs, Texas A&M University
- Graduate Certificate, Advanced International Affairs, Texas A&M University
- Bachelor of Science, Environmental Geosciences, Texas A&M University



Daniel Reddy

NA-NV Nevada Field Office – Las Vegas, NV

Experience

- Graduate Research Assistant, Herbert C. Brown Center for Borane Research
- Manufacturing Science and Technology Intern, Biologics and Vaccine Analytics Department, Merck
- Technical Intern, Naval Nuclear Laboratory, Bettis Atomic Power Laboratory
- Technical Intern, Waste and Shipping, Naval Reactors Facility
- Teaching Assistant, Biological and Chemical Sciences, Duke Talent Identification Program, Davidson College
- Science Undergraduate Laboratory Intern, Environmental Science and Biotechnology Group, Savannah River National Laboratory

Accomplishments

- Interned at Savannah River National Laboratory and the Naval Nuclear Laboratory and supported the cradle-to-grave lifecycle of naval nuclear propulsion.
- Conducted undergraduate research in applied laboratory settings, investigating chemical problems through the use of analytical and organic techniques.
- Interned at the Institute for Advanced Learning and Research, studying microbes to enhance the growth of switchgrass, a bioenergy feedstock.
- Completed a spring semester internship at Savannah River National Laboratory as part of the U.S. Department of Energy Science Undergraduate Laboratory Internship program; used gas chromatography-mass spectrometry to study microbial bioremediation and presented at an American Society for Microbiology conference.
- Interned with the Naval Nuclear Laboratory at the Naval Reactors Facility and contributed to creating a safe, Environmental Protection Agency-compliant facility for spent nuclear fuel through a statistical comparison of two different methods for extracting polychlorinated biphenyls from solid matrices.
- Interned at Bettis Atomic Power Laboratory, supporting the maintenance of an active fleet through the use of inductively coupled plasma mass spectrometry to study metal corrosion products from pressurized water reactors.
- Received an honorable mention for the Rickover Fellowship Program in Nuclear Engineering.

Education

- Doctor of Philosophy, Chemistry, University of Cambridge (in progress)
- Master of Science, Chemistry, Purdue University
- Bachelor of Science, Chemistry, Liberty University

Brandon Rowell

NA-192 Office of Strategic Materials – Washington DC

Experience

- Instrumentation Specialist, Center for Materials Processing, University of Tennessee
- Undergraduate Researcher, University of Tennessee
- Research Internship, Shull-Wollan Center, Oak Ridge National Laboratory

Accomplishments

- Founded a public service organization that puts University of Tennessee engineers in direct service and contact with underfunded schools and hospitals in East Tennessee.
- Operated and performed user-requested experiments and measurements on a variety of instruments; samples varied from laser-printed metals to atmospherically reactive ceramics.
- Conducted studies on uranium properties for use in a fast neutron radiation detector and developed novel ceramics and electrical analysis of radioactive and non-radioactive properties in relation to a neutron source material.
- Assisted in constructing and operating ultra-high-pressure diamond anvil cells for neutron diffraction and superconductivity experiments over varying temperatures in the Spallation Neutron Source at Oak Ridge National Laboratory.
- Participated in the Printers for Patients Project at East Tennessee Children's Hospital, including creating, coordinating, and implementing procedures and processes from conception to bring 3D printing technology to enhance the hospital's ChildLife program. The effort served as a pilot program for the University of Tennessee College of Engineering Service Learning Initiative, which led to founding a student-led service learning organization SLOPE.

Education

- Master of Science, Mechanical Engineering, New Mexico Institute of Mining and Technology
- Bachelor of Science, Material Sciences and Engineering, University of Tennessee

Henry Rysz

NA-121.2 Production Operations – Washington DC

Experience

- Nuclear Engineering and Analysis Masters Intern, Pacific Northwest National Laboratory
- Global Security Post-Bachelors, Savannah River National Laboratory
- Mechanical Engineering International Co-op, JFE Steel
- Mechanical Engineering Co-op, General Electric Aviation

Accomplishments

- Interned with General Electric Aviation working on facility tooling projects, business case study of LM500e jet engine, and electrical power generator designs.
- Interned with JFE Steel in Fukuyama, Japan, and focused on hydraulic descaling in steel rolling mills research and experimentation.
- Interned at Savannah River National Laboratory and learned about International Atomic Energy Agency policies and aspects of safeguarding special nuclear material.
- Conducted graduate research applying uncertainty quantification methods on material measurements in waste-storage tanks located at the Hanford site in Washington.
- Developed computational skills in using MATLAB and Python to apply uncertainty quantification methods to mathematical models and experimental data.



- Attended a week-long course at PNNL on nonproliferation and international safeguards and the 2017 Japan Nuclear Facilities Experiences run by the Nuclear Security Science and Policy Institute at Texas A&M, which included a week-long tour of nuclear facilities throughout Japan.
- Participated in the Domestic Nuclear Facilities Experience, which toured facilities in Sandia National Laboratories, Los Alamos National Laboratory, Urenco, and the Waste Isolation Pilot Plant.

Education

- Master of Science, Nuclear Engineering, Texas A&M University (in progress)
- Bachelor of Science, Mechanical Engineering, University of Cincinnati



Matthew Schmitt

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

Experience

- Master at Arms, U.S. Navy
- Administrative Assistant, Veteran's Center for Psychologist Office, Mesa Vet Center
- Vice-Chairman, Tempe Veterans Commission
- Tempe U.S. Census Complete Count Committee Member Chairman, Community Outreach and Special Populations Subcommittee
- Volunteer, Veterans Furniture Center

Accomplishments

- Served as member of the U.S. Navy, assigned to Naval Base Kitsap-Bangor to protect and secure nuclear submarines.
- Participated in the security operations of three airshows and the Warrior Games.
- Served as an administrative assistant for the Veteran's Center Psychologist Office specializing in treatment of veterans suffering from Post-Traumatic Stress Disorder.
- Rendered military/Naval honors for fallen service members in the Greater Phoenix area; received Navy Achievement Medal for contributions to the detail and the Navy Reserves.
- Received the Veterans Education Fund Scholarship and a graduate fellowship from the Elliott School of International Affairs.
- Appointed member of Tempe Veterans Commission, working collaboratively with other members in commission to advise and assist the Mayor, city councils, and city departments on veteran programs, policies, and practices designed to improve the quality of life for veterans in Tempe, AZ.
- Responsible for the complete and accurate count for the City of Tempe in preparation for the 2020 U.S. Census.
- Supported nonprofit organization in providing new furniture and home goods free of charge to veterans transitioning from homelessness to subsidized housing.

Education

- Master of Arts, Security Policy, George Washington University (in progress)
- Bachelor of Science, Political Science, Arizona State University



Matthew Shalloo

NA-APM-1.4, Savannah River Acquisition and Project Management Office – Aiken, SC

Experience

- Graduate Research Assistant, University of South Carolina
- Construction Intern, Walker White Mechanical
- Teaching Assistant, University of South Carolina

Accomplishments

- Completed a master's thesis studying corrosion characteristics of aluminum-clad spent fuel in wet storage and removal of surface-bound water to contribute to a U.S. Department of Energy used-fuel disposition project.
- Presented research regarding full-scale commercial spent fuel drying project at American Nuclear Society Winter Meeting 2017 and Waste Management 2018; also participated in poster competition at the society's Winter Meeting 2018 and presented a paper in 2019 regarding master's thesis work.
- Awarded the Nuclear Regulatory Commission fellowship and ANS Columbia Section Annual Scholarship.
- Participated in a two-day Nuclear Safeguards Workshop at Savannah River National Laboratory as supplemental instruction to the Nuclear Safeguards course at University of South Carolina.
- Served as the student section president for the American Nuclear Society at University of South Carolina, organizing tours of local nuclear power plants and manufacturing facilities, coordinating with guest speakers, and attending conferences.
- Supervised, provided guidance, and installed equipment for new and renovated project sites in four locations across University of South Carolina and Fort Jackson as a construction intern at plumbing and heating, ventilation, and air conditioning contractor Walker White Mechanical.

Education

- Doctor of Philosophy, Nuclear Engineering, University of South Carolina (in progress)
- Master of Science, Nuclear Engineering, University of South Carolina
- Bachelor of Science, Nuclear Engineering, University of South Carolina



Matthew Streseman

NA-115 Office of Technology Maturation – Washington DC

Experience

- Part-Time Graduate Instructor, Physics Department, Texas Tech University
- Teacher, All Saints Episcopal School
- Teaching Assistant, Physics Department, Texas Tech University
- Pathways Intern, Department of Medical Records, Cannon Air Force Base
- Community Advisor, University Student Housing, Texas Tech University

Accomplishments

- While studying astrophysics, researched how the European Space Agency Gaia Space Satellite could detect compact objects (black holes and neutron stars).
- Facilitated an introductory physics class of 60 students, with students showing 15% gains on standardized tests. Implemented a research-based curriculum, emphasizing thinking skills and problem solving.
- Taught Advanced Placement Physics classes for groups of 10-24 students, emphasizing effective methods for problem solving skills and critical thinking skills.
- Collaborated with university faculty in the math and science departments to customize how new material was introduced to maximize student understanding.
- Worked as a teaching assistant, coordinating three laboratory sections with 72 students per week and overseeing over 20 different experiments, requiring solutions to emergent problems.

- Followed Health Insurance Portability and Accountability Act guidelines to protect confidential patient information, including copying medical records and reducing an existing backlog of medical record transfer and copy requests.
- Served as a community advisor in university student housing, developing small groups of students on the Complex Council to enable their success at planning thousands of dollars of programs per year while serving as student leaders.

Education

- Master of Business Administration, Texas Tech University
- Master of Science, Physics, Texas Tech University
- Bachelor of Science, Physics, Texas Tech University



Rainbow Suh

NA-122.2 Air Delivery Weapons Division – Albuquerque, NM

Experience

- Intern, Center for Global Security and Cooperation, Sandia National Laboratories
- Graduate Researcher, Texas A&M University

Accomplishments

- Participated in extensive training on radiation detectors, nuclear policies, safeguards implementation methods, and various analysis tools.
- Visited facilities and met with members of the safeguards community throughout Europe and the International Atomic Energy Agency to learn about enrichment, fuel fabrication, reprocessing, and nuclear waste disposal practices in countries such as France, Germany, and Switzerland.
- Completed a year-long graduate internship with Sandia National Laboratories in the Center for Global Security and Cooperation center. Tasks directly affected domestic and international issues regarding nonproliferation and safeguards.
- Compiled database of publications for current safeguards issues and topics and identified areas where data analysis systems can be applied to nuclear safeguards.
- Examined operational criteria for nuclear waste disposal in the Waste Isolation Pilot Plant, established continuity-of-knowledge requirements, and identified approaches for containment and surveillance.
- While studying at Texas A&M, designed a feedback system for determining PVT operational status, applied and researched autonomous robotic systems functions in safeguarding geological repository, and researched and developed optimal system for fabricating BaTiO₃ crystals with doping.
- Completed an externship at the International Nuclear Facilities Experience and the Radioactive Waste Management Program coordinating site visits, tours, briefings, lectures, forums, discussions, and exercises.
- Experienced in Mandarin and Spanish language.

Education

- Master of Science, Nuclear Engineering, Texas A&M University (in progress)
- Bachelor of Science, Nuclear Engineering, Texas A&M University



Jonathan Tacke

NA-LA Los Alamos Field Office – Los Alamos, NM

Experience

- Graduate Research Assistant, University of Idaho
- Student Researcher, University of Wyoming
- CDL Driver/Equipment Operator, Independence Enterprises, Inc.

Accomplishments

- Researched the application of high-performance classical control systems for nuclear power applications.
- Used C++ to modify simulation software and developed experimental procedures for testing theoretical simulation components.
- Worked as an undergraduate research assistant for University of Wyoming Civil and Architectural Engineering Department, supporting research on applications for a new thermal material and attempting to develop a passive cooling system to improve thermal efficiency of coal-fired power plants.
- Performed data processing on large datasets using MATLAB software and wrote detailed documentation of experimental procedures and interpretation of results.
- Completed a capstone project in classical control design and controls techniques for improving grid stability. Performed a feasibility study on the use of large energy storage banks to provide active power injection during frequency instability events to improve wide-area stability.
- Researched high-performance voltage regulation systems for improved generator response during system disturbances.

Education

- Master of Science, Electrical Engineering, University of Idaho (in progress)
- Bachelor of Science, Electrical Engineering, University of Wyoming



Ryan Tan

NA-84 Office of Nuclear Incident Response – Washington DC

Experience

- Graduate Research Assistant, University of Tennessee
- Research Intern, Oak Ridge National Laboratory
- Teaching Assistant, University of Pittsburgh

Accomplishments

- Performed graduate research on developing low-cost, room-temperature hybrid perovskite semiconductors for nuclear security applications at the University of Tennessee. Published findings on improved fabrication methods and dual gamma/neutron sensing capabilities.
- Published a novel method for purification of berkelium-249 using column chromatography and ion exchange resins at Oak Ridge National Laboratory.
- Delivered an oral presentation on graduate research at the 2019 Institute of Electrical and Electronics Engineers Nuclear Science Symposium in Manchester, UK. Research was also presented at the 2018 and 2021 American Nuclear Society Student Conference, 2021 Waste Management Symposium, and 2020 Advanced Reactor Summit.
- Attended the 2019 Radiation Detection for Nuclear Security Summer School at PNNL, learning about the challenges nuclear security workers face in the field outside the well-controlled confines of the laboratory setting.
- Served as student/faculty liaison for the Baltimore/Washington Chapter of the Health Physics Society.
- Recipient of Roy G. Post Fellowship Award (University of Tennessee) and Nuclear Regulatory Commission Scholarship Award (University of Pittsburgh).
- Skilled in Mandarin and basic Korean language.

Education

- Doctor of Philosophy, Nuclear Engineering, University of Tennessee (in progress)
- Master of Arts, Political Science, University of Tennessee (in progress)
- Master of Science, Nuclear Engineering, University of Tennessee
- Bachelor of Science, Chemical Engineering, University of Pittsburgh



Emily Tatton

NA-211 Office of International Security – Washington DC

Experience

- Foreign Affairs Intern, Bureau of International Security and Nonproliferation, Regional Affairs Office, East Asia Team, U.S. Department of State
- Foreign Affairs Campus Coordinator, Bureau of Public Affairs, U.S. Department of State
- Four-time Virtual Student Federal Service Intern: Research Intern, U.S. Consulate General Shenyang China; China Research Intern, U.S. Africa Command; Global Strategy Unit Intern, China Desk, Bureau of East Asian and Pacific Affairs, U.S. Department of State; Chinese Media Analysis Intern, Thailand Desk, Bureau of East Asian and Pacific Affairs, U.S. Department of State

Accomplishments

- Assisted with coordinating, preparing, and executing five bilateral nuclear security and counter-proliferation dialogues between the United States and the European Union, Ukraine, Japan, Australia, and China in conjunction with the U.S. Department of State.
- Worked on the 10-person team that supported logistics for the first Plenary for the Creating the Environment for Nuclear Disarmament Initiative, a first-of-its-kind multilateral effort aimed toward global disarmament.
- Conducted research for principals throughout the U.S. government focused on China, including Sino-African security relations, China's global expansion, media analysis, crisis planning, Chinese military modernization, and export control license decisions.
- Published research on the effect of blockchain on the nonproliferation regime and presented research on nonproliferation at Los Alamos National Laboratory.
- Volunteered and studied abroad in Taiwan, Vietnam, Thailand, and China, equating to approximately two years spent in Asia.
- Served as Pacific Forum Young Leader focused on Asian security issues.
- Served as a 2019-2020 Foreign Affairs Campus Coordinator for the U.S. Department of State, one of 18 nationwide student representatives of U.S. foreign policy.
- Fluent in Mandarin Chinese.

Education

- Master of Science, Political Science and Anticipatory Intelligence, Utah State University
- Bachelor of Arts, International Business, Economics, Political Science, and Asian Studies, Utah State University



Alexander Thien

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

Experience

- Intern Analyst, Political-Military Affairs Branch, U.S. Southern Command (SOUTHCOM)
- State Department Title VIII Awardee, Derzhavin Institute, St. Petersburg, Russia
- Quartermaster, USS Elrod, U.S. Navy
- VBSS (Visit, Board, Search and Seizure) Team Member, USS Carter Hall, U.S. Navy

Accomplishments

- Emerging national security professional with tactical experience in anti-piracy operations in the Middle East and operational experience supporting political-military affairs at SOUTHCOM.
- Completed two semesters abroad in St. Petersburg, Russia.
- Attended the 2019 South American Defense Conference, in Natal, Brazil, to support eight bilateral engagements between the Combatant Commander and South American Chiefs' of Defense.
- Organized 10 country books on political-military affairs for Combatant Commander's travel throughout Latin America.
- Led coordination efforts between multiple SOUTHCOM directorates and country team members stationed overseas to support engagements between the SOUTHCOM Commander and senior foreign military leaders.
- Assisted with harmonizing SOUTHCOM's written policy with other U.S. combatant commands regarding military-to-military interactions with both the Chinese and Russian military.
- Completed a certificate in Russian studies at St. Petersburg State University and a certificate in Russian language at Derzhavin Institute.

Education

- Master of Arts, International Affairs, Florida State University
- Graduate Certificate, U.S. Intelligence Studies, Florida State University
- Bachelor of Arts, Global Studies, Arizona State University



Jacob Tuia

NA-192 Tritium and Domestic Uranium Enrichment Program – Albuquerque, NM

Experience

- Graduate Research Feed System Lead - Oxy-Combustion Research, Brigham Young University
- Undergraduate Team Lead - Simulated Absorber/Stripper Project, Missouri University of Science and Technology
- Undergraduate Team Member - Experiential Learning Project, Missouri University of Science and Technology

Accomplishments

- Attended the Missouri Academy of Science, Mathematics, and Computing and served as the design lead for the academy's First Robotics team. Determined efficient ways to use energy supplied by the competition's standard power source to accomplish specific goals.
- Accepted a scholarship to the Missouri University of Science and Technology and completed chemical engineering coursework with a minor in business to better understand the intersection of economics and engineering.
- Served as president of the Missouri University of Science and Technology American Institute of Chemical Engineers and the vice president of Omega Chi Epsilon.
- Completed a graduate thesis on correlating pressure, fluidization inlet rate, and coal mass flow-rate in a pressurized, dry-coal feed system for a U.S. Department of Energy-funded advanced oxy-combustion reactor. Applied the extensive theoretical survey and models, physical design and construction, and collaborative analysis to develop safety procedures and precautions for the larger-scale feed system.

Education

- Master of Science, Chemical Engineering, Brigham Young University
- Bachelor of Science, Chemical Engineering, Missouri University of Science and Technology
- Associate of Science, Missouri Academy of Science, Mathematics, and Computing



Reagan Turley

NA-LL Livermore Field Office – Livermore, CA

Experience

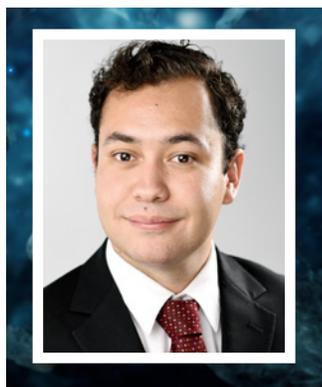
- Research Associate, University of Texas at El Paso
- President and Treasurer, Engineering Research Center for Nanotechnology-Enabled Water Treatment Student Leadership Council
- Research Assistant, Brigham Young University
- Intern, State of Utah Bureau of Forensic Services

Accomplishments

- Conducted graduate research on developing techniques to detect and quantify nanoparticles in water using colorimetric or fluorescence sensors validated by inductively coupled plasma mass spectrometry.
- Authored a publication in *Microchemical Journal* and co-authored publications in *Science of the Total Environment*, the *Journal of Sol-Gel Science and Technology*, *American Chemical Society Sustainable Chemistry and Engineering*, and *Applied Spectroscopy Reviews*.
- Presented research at the 8th annual Sustainable Nanotechnology Organization Conference and a regional conference for the American Chemical Society.
- Earned credit toward a graduate certificate in Geographic Information Science and Technology using programs such as ArcGIS and ArcMap and completed coursework in commercial imagery and geospatial intelligence.
- Served as president of the student leadership council for a National Science Foundation-funded Engineering Research Center and led the development of the organizational structure and operational protocols. Established the criteria and secured funding for a travel grant that allowed student lab exchanges to promote collaboration across the four partner universities.

Education

- Doctor of Philosophy, Chemistry, University of Texas at El Paso
- Bachelor of Science, Chemistry, Brigham Young University



Kevin Vallejo

NA-122.1 Office of Nuclear Weapon Stockpile – Albuquerque, NM

Experience

- Graduate Research Assistant, Boise State University
- Graduate Research Assistant, The University of Texas El Paso
- Graduate Research Intern, Idaho National Laboratory

Accomplishments

- Wrote a project execution plan for managing different types of containers for nuclear materials.
- Wrote a white paper on the benefits of implementing an enterprise-wide materials database feature.
- Received a graduate certificate in college teaching from Boise State University and a certificate in leadership principles for engineers, scientists, and researchers from the Massachusetts Institute of Technology.
- Grew novel III-V GaAs-based semiconductor materials with applications to infrared wavelength emission technologies using molecular beam epitaxy. Characterized grown samples using optical, mechanical, and diffraction-based techniques.
- Interned the Idaho National Laboratory, optically characterizing semiconductor thin films grown at Boise State University.

- Taught an introductory course on materials science with full teaching responsibilities using the latest methods in college teaching pedagogy.
- Received the Benjamin A. Gilman International Scholarship through the U.S. Department of State to study abroad.
- Worked in several different research areas relating to low-dimensional semiconductor nanostructures.
- Presented results on semiconductor quantum dots and wells at different national and international scientific conferences.
- Presented work on ionic liquid characterization through neutron spin echo and small-angle x-ray diffraction techniques at the 2017 American Physical Society National March Meeting in New Orleans, Louisiana.
- Authored and co-authored several peer-reviewed articles on semiconductor science.

Education

- Doctor of Philosophy, Materials Science and Engineering, Boise State University (in progress)
- Master of Science, Engineering, Boise State University
- Bachelor of Science, Physics, University of Texas at El Paso

David Vazquez Cheatham

NA-APM-10 Office of Acquisition Management – Albuquerque, NM

Experience

- Graduate Fellow, Office of Acquisition and Project Management, NNSA
- Intern, Office of U.S. Senator Martin Heinrich, U.S. Congress
- Logistics Officer (Operations, Maintenance, Distribution, Transportation), 3rd Brigade 3rd Infantry Division, U.S. Army
- Professional Intern, Intelligence and Security Command, U.S. Army
- Cadet / Petroleum Supply Specialist, 877th Quartermaster Company, U.S. Army Reserves

Accomplishments

- Will continue serving within the NNSA as a Presidential Management Fellow in the office of Corporate Budget and Performance Integration Division.
- While serving as an NGFP Graduate fellow, completed all training requirements for the level 1 Federal Acquisition Certification in Contracting and Contracting Officer's Representatives.
- Served in the U.S. Army for six years as an officer and enlisted soldier with positions including transportation manager and unit movement officer. Synchronized a sophisticated logistics network and distributed a wide range of supplies, equipment, and personnel to multiple states and countries worldwide.
- As a U.S. Army Officer, held multiple supervisory roles setting daily goals and monitoring productivity for teams composed of numerous direct report supervisors, line managers, and 10-40 soldiers at any given time.
- Managed the workflow of maintenance operations critical to combat readiness for a fleet of 250 vehicles and equipment valued over \$65 million for a battalion of three artillery companies and one logistical support company.
- Experienced leader and manager with skills in hazardous materials and hazardous waste handling, and emergency management response operations. Received the Army Superior Unit Award for excellence during multiple Emergency Deployment Readiness Exercises.
- Awarded the Dwight David Eisenhower Transportation Research Fellowship.
- Received Certificate of Achievement from Federal Emergency Management Agency for Professional Development Series course completion.

Education

- Master of Public Administration, Public Management, University of New Mexico
- Bachelor of Arts, University Studies, University of New Mexico
- Associate of Arts, Modern Languages, Central New Mexico Community College (in progress)
- Certificate, National Security and Strategic Analysis





Kelsey Wallace

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

Experience

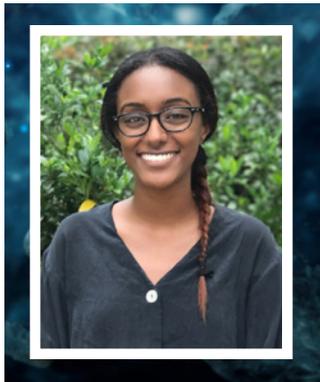
- National Security Subcommittee Intern, Oversight and Government Reform Committee, U.S. House of Representatives
- Congressional Intern, Congressman David Schweikert, U.S. House of Representatives
- Administrative Assistant, Wild Olive Insurance and Financial Services
- Transcriptions and Administrator, Maricopa County Medical Examiner's Office
- Field Intern, Senator John McCain, U.S. Senate Campaign

Accomplishments

- Theoretical and hands-on experience in domestic politics and the formulation of international security policy, geopolitics of energy security, national security science and technology policy, and great power competition.
- Served on a national security subcommittee within the U.S. House of Representatives as an empowered research and policy intern.
- Executed comprehensive research and conducted interviews and investigations within various agencies of the U.S. government.
- Worked within the forensic science field, identifying remains and providing critical analysis of time-sensitive information to solve cases of missing and unidentified persons.
- Experienced in handling comprehensive research on governmental agency concerns, energy innovations, illicit trade, and behavioral science and supporting diverse operations including managing communications, interviews, and investigations for multiple organizations, such as the chairman of the national security subcommittee and the office of the medical examiner.
- Executed comprehensive research and tailored guidance and questions to brief Congressional Members for hearings and roundtables.

Education

- Master of Arts, International Security, George Mason University
- Bachelor of Science, Neuroscience and Cognitive Science, University of Arizona



Samra Wolde-Tensae

NA-242.2 Office of Nuclear Export Controls – Washington DC

Experience

- Graduate Intern, Policy Analyst, Systems Planning and Analysis, Inc.
- Accelerator Lead Intern, TradeSecure LLC
- Security Leadership Program Fellow, Center of International Trade and Security
- Peace Corps Intern, Office of International Education

Accomplishments

- Conducted extensive open-source research and detailed trend analysis to produce weekly and monthly memoranda on client equities related to nuclear strategy/national policy and navy nuclear equities.
- Supported Systems Planning and Analysis policy team members on projects related to U.S. Department of Defense initiatives, including research and design for a seminar focused on deterrence for flag officer and senior executive service client.
- Participated in the Security Leadership Program at the Center for International Trade and Security, studying the structure of the nonproliferation regime and the roles the multilateral export control regimes occupy within it.
- Conducted nonproliferation and UN Security Council Resolution 1540-relevant research on Jordan, Mexico, and Sri Lanka in support of nonproliferation and export control course development.

- Worked as a lead intern with TradeSecure LLC, acquiring critical insight into export control laws and regulations, specifically the U.S. Department of Commerce's Export Administration Regulations. Managed the team dedicated to researching Asian and Middle Eastern country-specific legislation to maintain Accelerator, a database on trade regulations for over 68 states and used by select Fortune 500 companies.

Education

- Master of Arts, Security Studies, Georgetown University
- Bachelor of Arts, International Affairs, University of Georgia

Marc Wonders

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

Experience

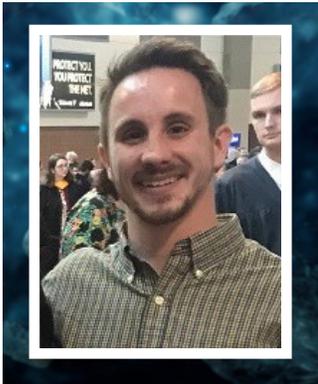
- Graduate Research Assistant, Radiation Detection and Imaging for Nuclear Nonproliferation, Pennsylvania State University
- Research Assistant, Search for Violations of Lorentz Invariance in the Electron Sector, University of South Carolina, National Science Foundation (NSF) Research Experience for Undergraduates
- Research Assistant, Search for Light Stops with Pair-Produced Dijet Resonances, Rutgers University, NSF Research Experience for Undergraduates

Accomplishments

- Conducted graduate research in radiation detection and imaging for nuclear nonproliferation including the application of emerging technologies and the creation and development of a novel multiplexing scheme toward advanced detectors and imagers.
- Authored and co-authored over 15 journal and conference publications, including two award-winning conference papers.
- Served as president of the Pennsylvania State University Institute of Nuclear Materials Management student chapter; grew membership from one to 15 members and organized activities and visits to national laboratories to learn about nonproliferation.
- Joined the 2019 Nuclear Engineering Student Delegation to advocate for nuclear science and technology in a week-long immersion in domestic nuclear policy.
- Attended the NNSA-sponsored 2017 Nuclear Facilities Experience in the United Kingdom, engaging with and presenting to colleagues in the King's College London College of War Studies's Centre for Science and Security Studies, and participated in the 2016 Radiation Detection for Nuclear Security Summer School at PNNL.
- Conducted undergraduate physics research searching for evidence of new physics in two NSF-funded research experience for undergraduates programs and presenting results from both experiences at conferences and symposia.
- Member of Phi Beta Kappa, Alpha Nu Sigma, Sigma Pi Sigma, Beta Gamma Sigma, and Phi Eta Sigma honor societies.

Education

- Doctor of Philosophy, Nuclear Engineering, Pennsylvania State University
- Bachelor of Science, Physics and Business Administration, Washington and Lee University





Austin Wright

NA-19 Office of Strategic Materials – Washington DC

Experience

- International Trade Consultant, World Trade Institute
- Global Risks Researcher, Human Development Research Initiative
- Research Assistant, Department of Government, University College Cork
- Research Assistant, Economics Department, Xavier University
- Intern, Ohio House of Representatives

Accomplishments

- Organized seminars with the United Nations Development Project, served as an ambassador for a state representative in meetings with private corporations, and maintained close relations with members of the French Ministry of Defense.
- Analyzed and presented research projects on ballistic missile defense capabilities and the psychology of the use of nuclear weapons.
- Researched export controls for a graduate dissertation, building an enhanced understanding of how to counter the proliferation of nuclear weapons.
- Spent time abroad in Ireland, Turkey, Italy, Spain, Greece, the United Kingdom, the Netherlands, and France, bolstering analytical, collaborative, and compositional capabilities in relation to complex issues of foreign nations and cultures.
- Researched, published, and assisted in producing reports related to gray zones, specializing in Russia's Hybrid-Warfare operations in Ukraine.
- Completed a dual master-level dissertation focused on the multilateral export control regime and the World Trade Organization's inaction on proliferation issues.
- Completed a professional certificate on Nuclear South Asia with the Stimson Center.
- Awarded the Benjamin D. Urmston Family Peace Studies Scholarship from Xavier University for integrating ideas and values of peace in educational pursuits.
- Completed 18 courses on Nuclear Security with the International Atomic Energy Agency.
- Researched the effects of U.S. criminal deportation on El Salvador citizens cost-benefit analysis and gun control and the effect of gun laws on criminal activity.

Education

- Master of Science, International Political Economy, London School of Economics
- Master of Arts, International Security, SciencesPo (Paris Institute of Political Studies)
- Bachelor of Arts, International Studies, Political Science, Xavier University

Jennifer Kline

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