Pacific Northwest
NATIONAL LABORATORY

nsip

NATIONAL SECURITY INTERNSHIP PROGRAM

The National Security Internship Program's goal is to identify ambitious and high caliber undergraduate and graduate students to take part in a unique opportunity of working at a cutting-edge national research and development laboratory and to develop talented, creative researchers—the national security experts of tomorrow—who will augment the Laboratory's capabilities in key areas that align in national security related science.

About the Program

This program offers a chance to engage in hands-on learning and participate in a research experience with an assigned mentor as well as to interact with other research staff at the top of their field.

Interns will participate in the NSIP Research Symposium that will fall within the appointment period. This event provides them the opportunity to network and showcase their research experience.

Professional development is also made throughout the program. Participants will be given the opportunity to attend PNNL research seminars, tour facilities, take advantage of workshop and seminars, and participate in other group activities with fellow graduate and undergraduate interns.

Undergraduates and post-bachelor candidates interested in the National Security Internship Program (NSIP) can apply to each of the following three tracks:

(1) Signatures Science & Technology

The Signatures Science and Technology track maintains world-class laboratory capabilities and staff working on research and development topics critical to the National Security Directorate's mission in detection and nonproliferation of weapons of mass destruction. Their work includes chemical, biological, radiological, nuclear and explosives measurement, and materials characterization. Modeling, simulation, and advanced statistical treatment of measurement data are common themes throughout the division's research areas. The groups in this track include:

- *Chemical and Biological Signature Science*
- *Applied Physics*
- *Radiation Detection and Nuclear Sciences*
- *Radiochemical Analysis*

- *Detection Systems*
- *Nuclear Engineering and Analysis*
- *Analytical Chemistry of Nuclear Materials*

(2) Computing and Analytics

The Computing and Analytics track focuses on (a) developing novel data-analysis methods and tools to extract hidden features, anomalies, and signatures that support discovery and optimize data-gathering approaches through sampling and experimental design; (b) developing the theory, methods, algorithms, and tools to enable stronger, more resilient technologies and systems; (c) developing cyber technologies and processes that have direct impact on our national security and scientific missions; (d) distilling large, fast, distributed, and messy data into knowledge to support decision processes by applying expertise in data engineering, semantic, and human language technologies, machine learning, data architectures, systems integration, and software development to create advanced computational solutions that address complex data and analytic challenges; (e) applying expertise in software architecture, technology assessment, requirements analysis, software quality, user experience, software test, and documentation to deliver innovative solutions addressing national security mission challenges; and (f) dealing with incomplete, disparate, conflicting, and uncertain data to address challenging problems that cannot be addressed easily through automated approaches by combining innovative interactive visualizations with advanced automated data analysis techniques to enable users to gain deeper insights from their data.

The groups in this track include:

- *Applied Statistics and Computational Modeling*
- *Data Science and Analytics*
- *Cyber Security*
- *Software Engineering and Architectures*
- *Operations and Analysis*
- *Visual Analytics*

(3) Operational Systems and Technology

The Operational Systems and Technology track delivers policy-informed technology solutions to an evolving national security landscape. In the areas of national security, energy, and the environment, PNNL is a leader in operationalizing science and technology through the integration of technology, policy, and field operations to deliver mission critical solutions to complex global security challenges using a systems approach.

The track leverages technical expertise, systems engineering expertise, and project management excellence to solve the nation's most challenging and complex problems. It focuses on defining customer's needs for required functionality early in the development cycle, documenting requirements, and proceeding with design synthesis and system validation while considering the complete problem.

Eligibility

Undergraduate candidates must be currently enrolled /matriculated in an undergraduate degree program with a minimum cumulative GPA requirement depending on job posting.

Post-candidates must have completed their degree within the last two years. Some applicants may need to obtain a security clearance, which requires U.S. Citizenship.

Benefits

Internship Positions: All undergraduate and graduate internships will last at a minimum of 10 weeks. Intern candidates will be paid a highly-competitive hourly wage and will receive a travel reimbursement.

Post-Graduate Positions: All post-grad candidates will work a minimum of six months and receive a highly competitive monthly salary and full medical, dental and vision insurance. Relocation may be offered to those that are eligible.

Application

Log on to ***workbasedlearning.pnnl.gov/default.aspx?topic=National_Security_Internship_Program_(NSIP)*** to review the three NSIP tracks in greater detail and apply. You will need:

- *Current resume or CV*
- *Unofficial transcript for current/past degrees*
- *300 word essay dependent on job requirements*

Visit the website

If you have questions, please contact:

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