



PNNL Overview

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PNNL is operated by Battelle for the U.S. Department of Energy

PNNL-SA-160879



PNNL is DOE's most diverse national laboratory



\$1.24B Spending



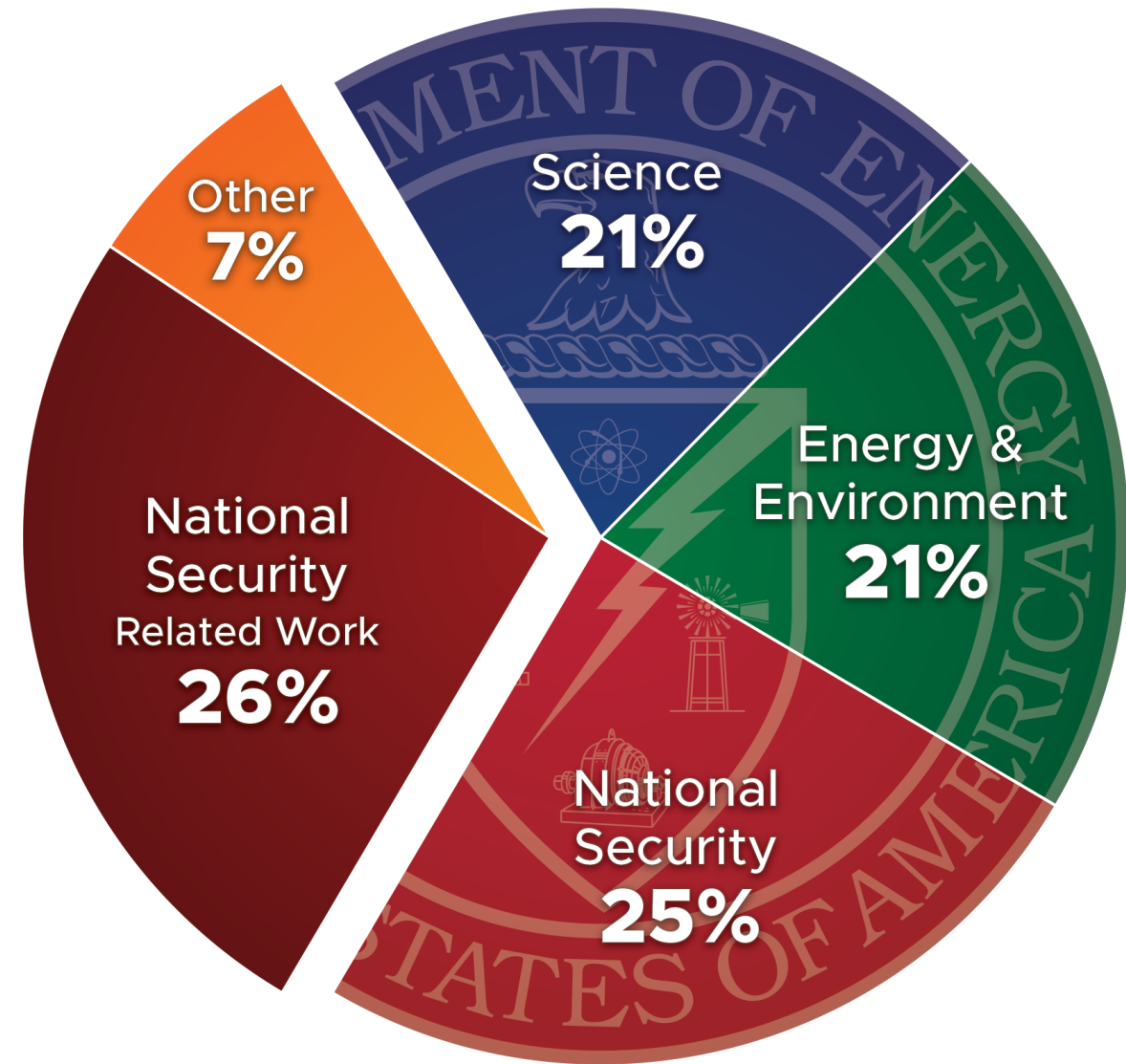
5,300 Staff



1,755 Peer-reviewed Publications

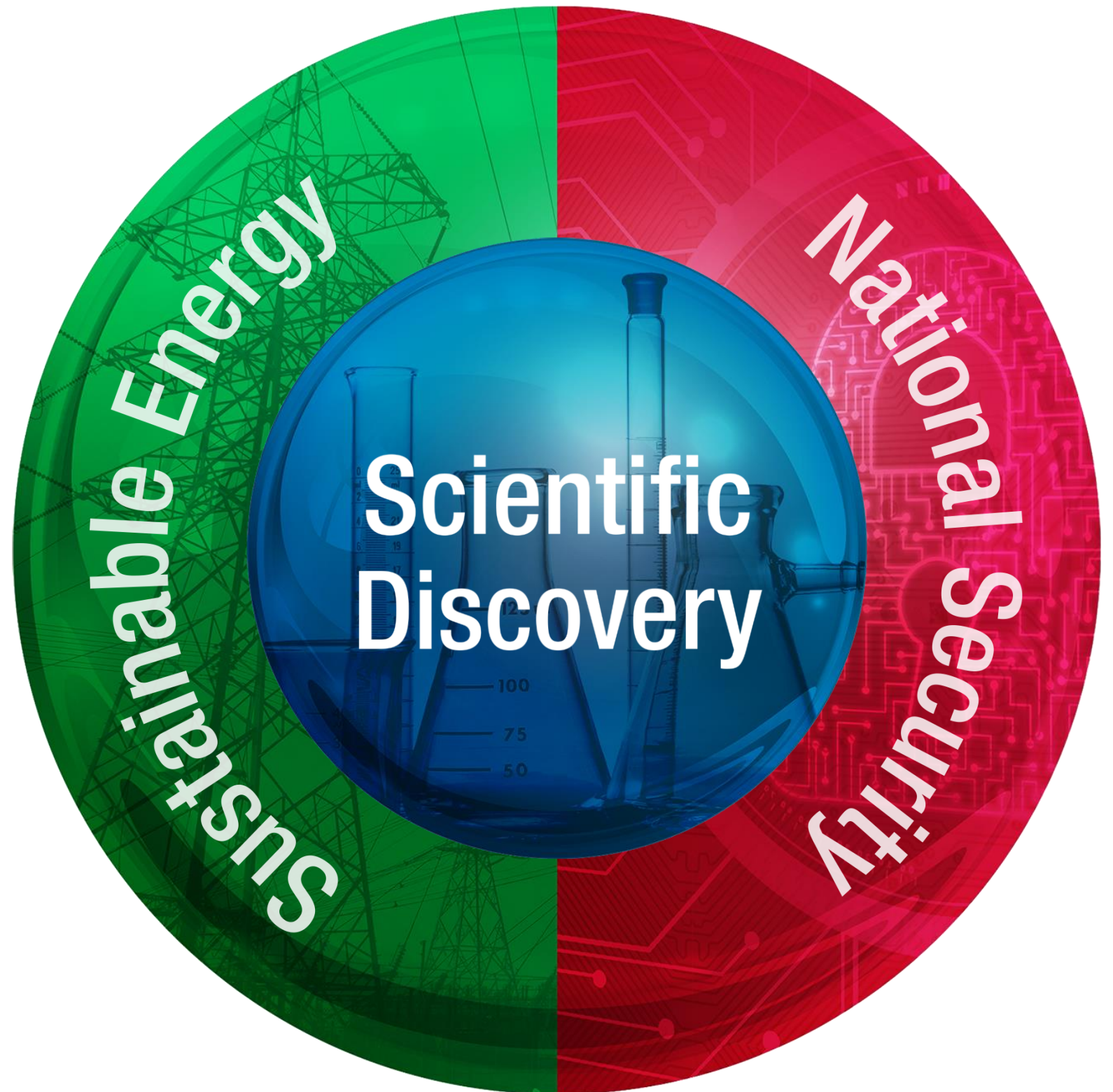


247 Invention Disclosures

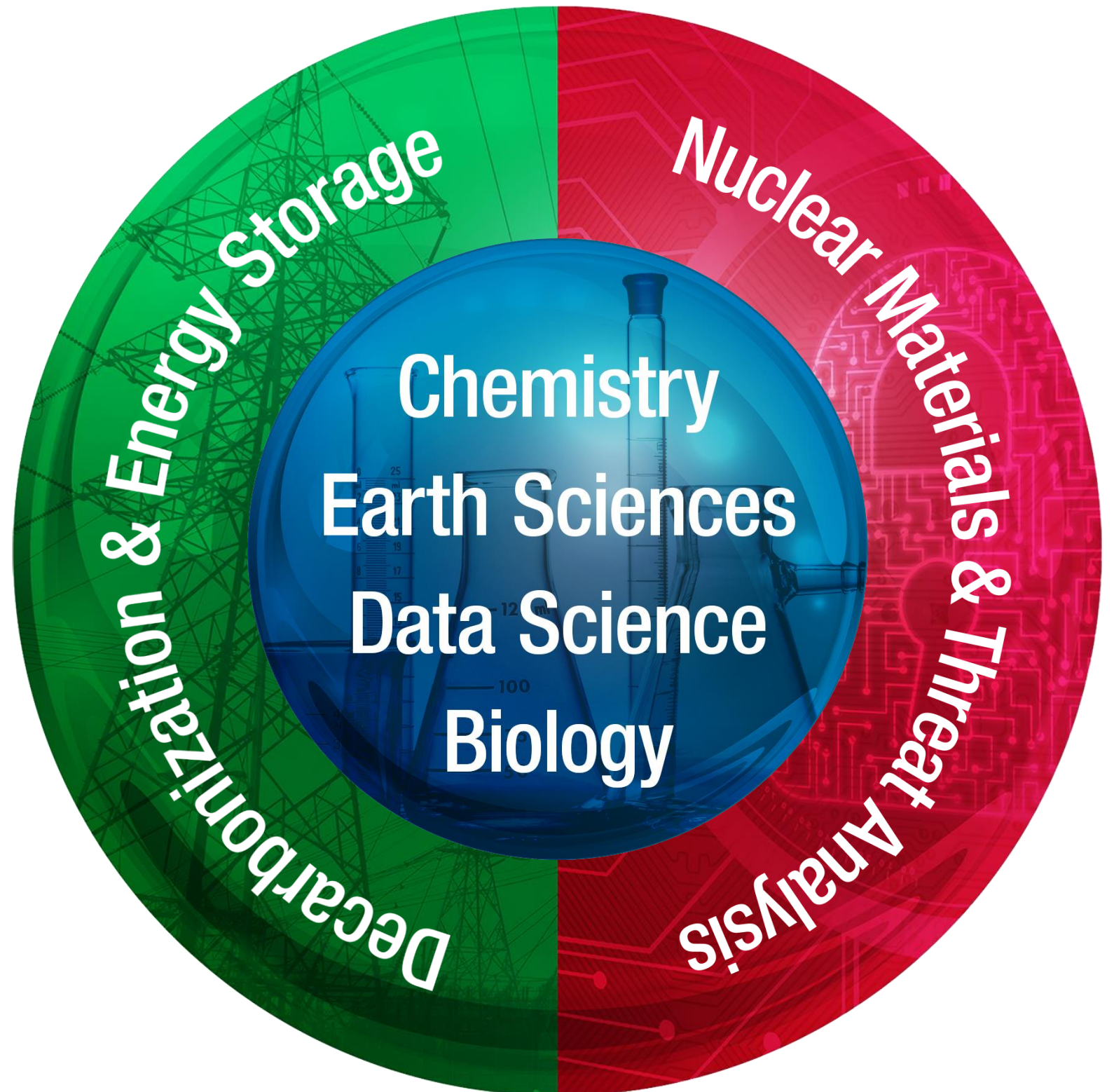


FY 2021 Spending

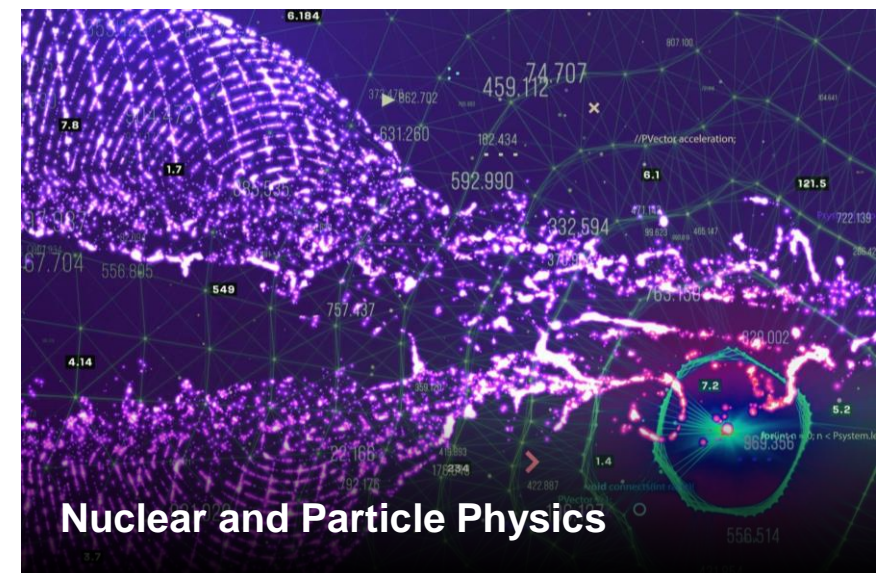
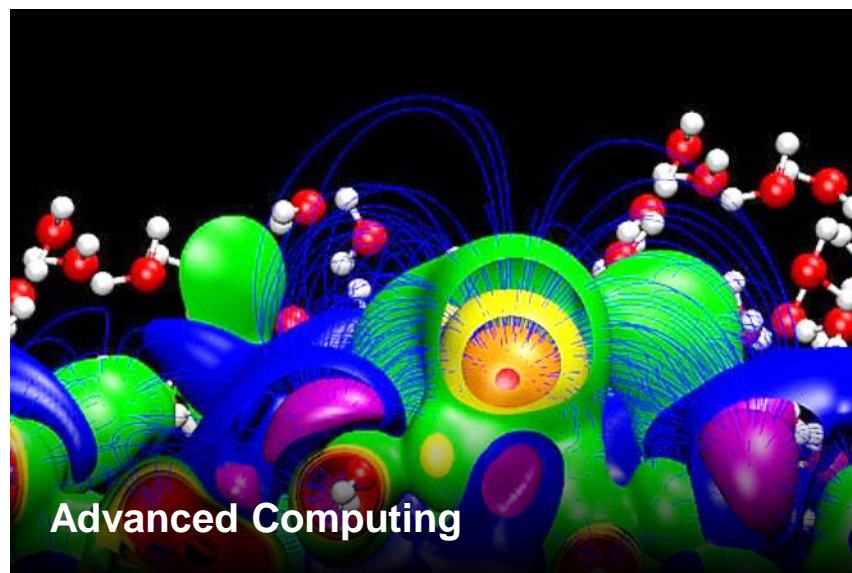
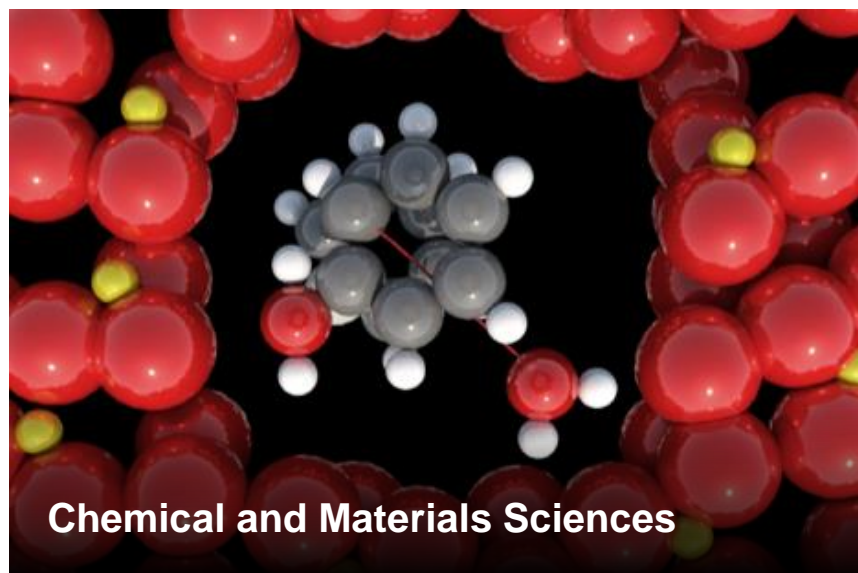
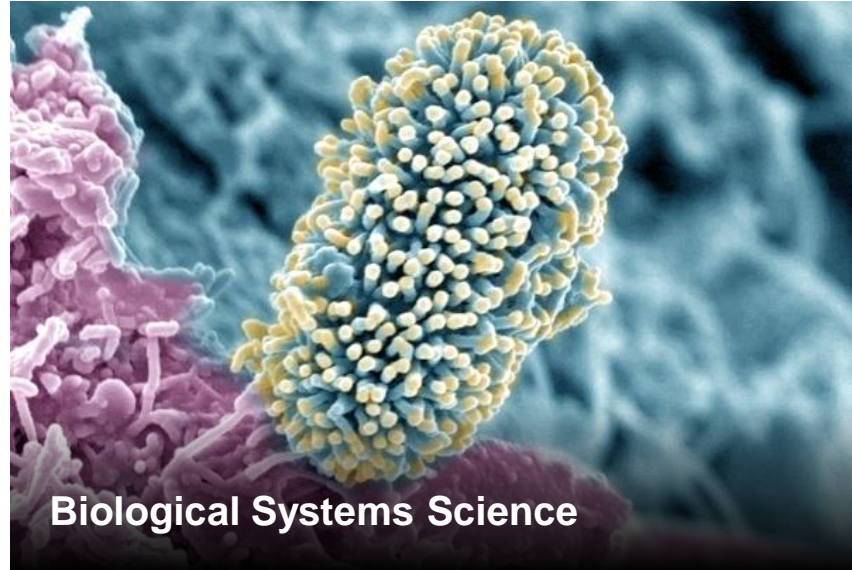
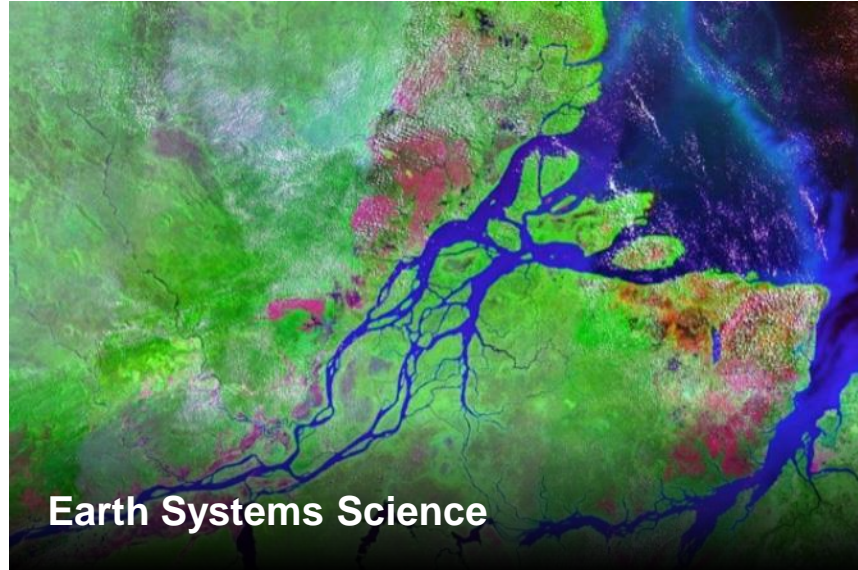
PNNL is **advancing scientific frontiers** and **providing solutions** to critical national needs



PNNL's distinguishing
strengths enable
mission **impact**



PNNL's **Science** mission advances understanding of the world around us



PNNL's **National Security** mission is reducing the threat from weapons of mass effect



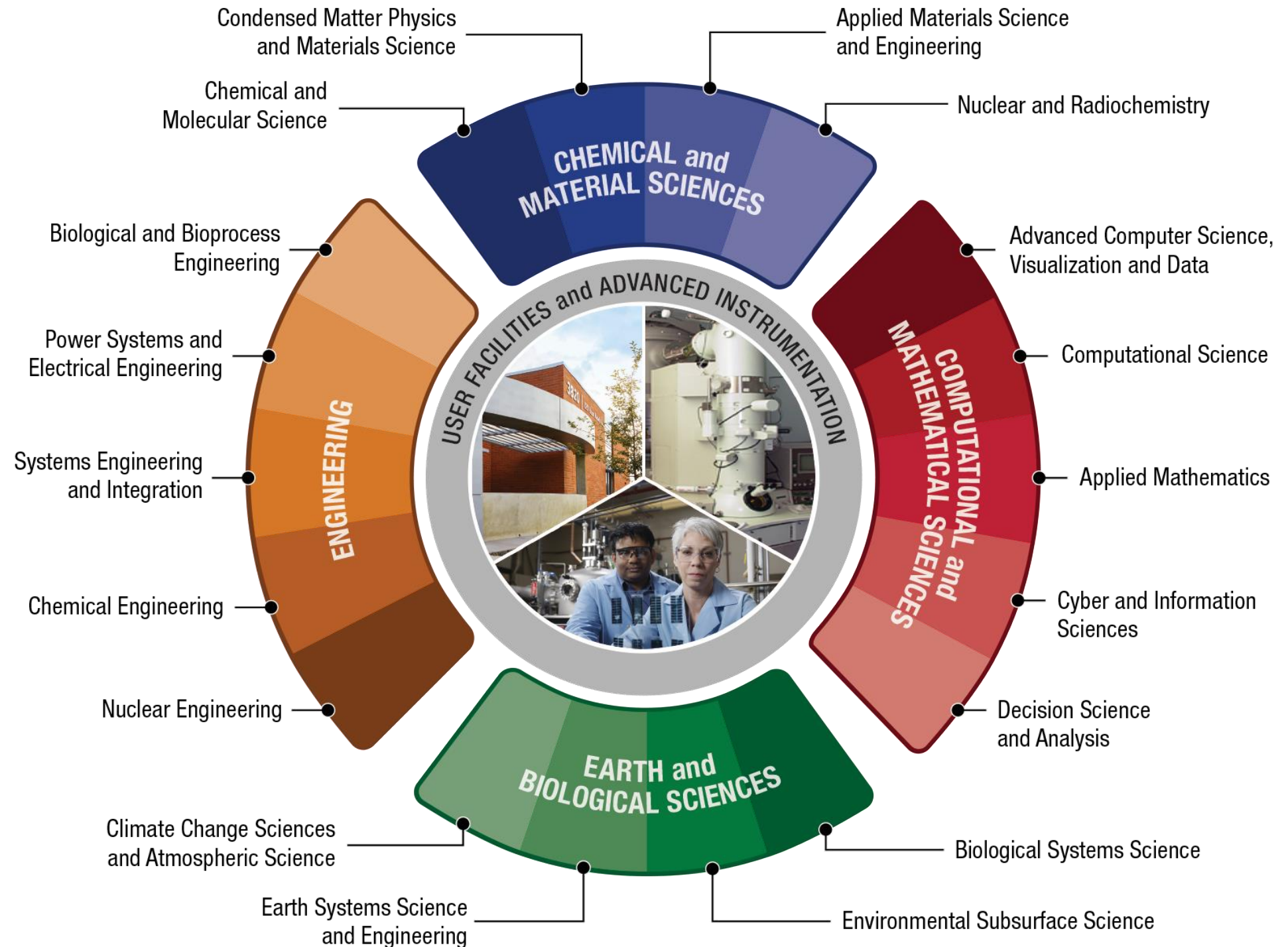


PNNL's **Energy and Environment** mission delivers innovations for our energy future



PNNL stewards Deep S&T Capabilities on behalf of the DOE

19 core capabilities



Expanding
academic
partnerships,
engaging **regional**
stakeholders,
and collaborating
with **industry**



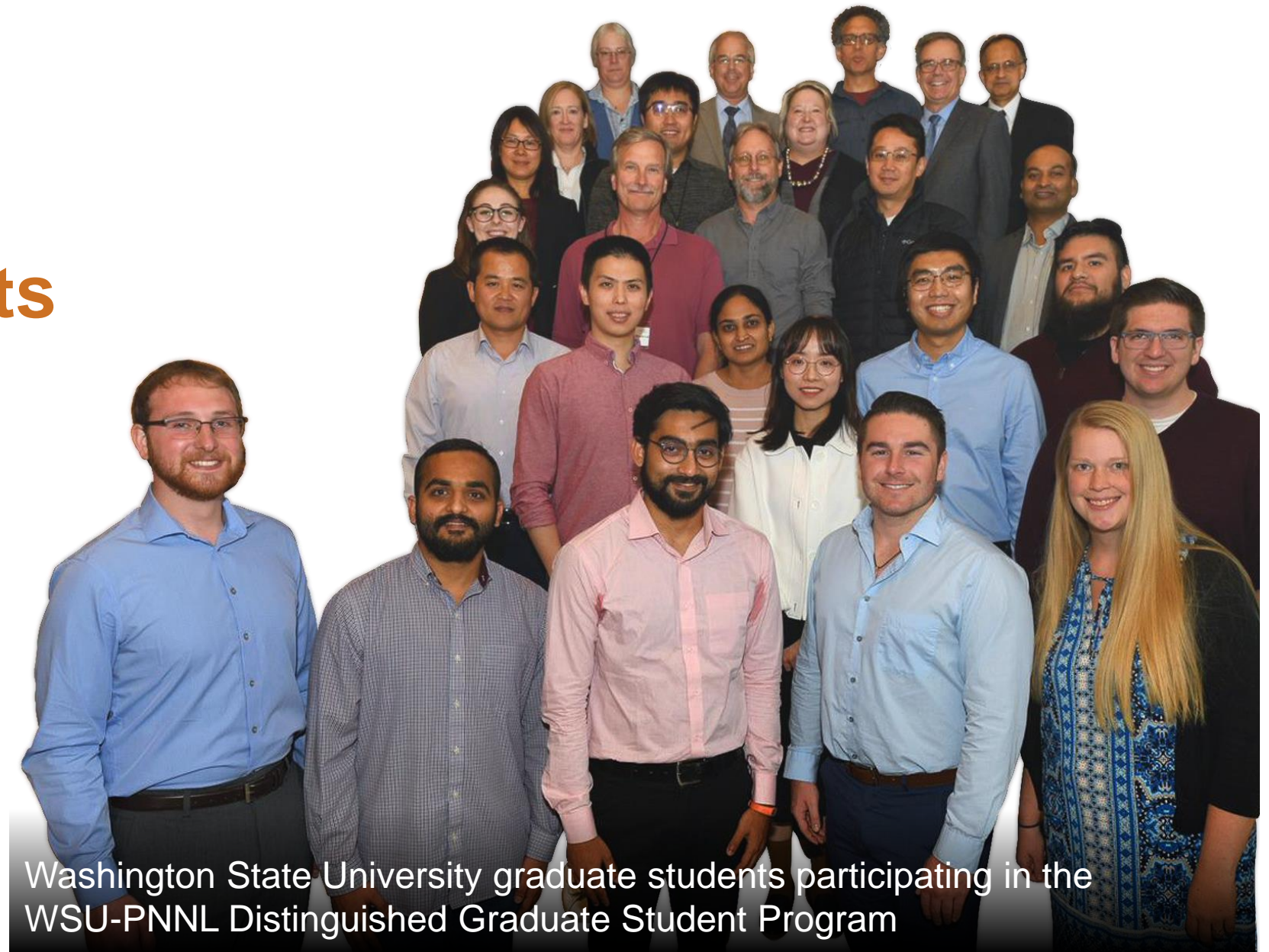
Academia



Industry

Expanding our **academic partnerships** to increase our **mission impact**

- 195 **joint appointments** with 49 institutions
- Six **joint institutes**
- **Graduate student programs** with five universities



Washington State University graduate students participating in the WSU-PNNL Distinguished Graduate Student Program

Photo taken before the COVID-19 pandemic



Six **joint institutes** bring together expertise and resources to **address major challenges**



- Nuclear Science & Technology
- Bioproducts
- Advanced Power Grid



- Materials and Chemistry



- Biomedical Innovation



- Climate Science

Photos taken before the COVID-19 pandemic



Thank you



PNNL Office of STEM Education

Evangelina Galvan Shreeve
Director, STEM Education



PNNL is operated by Battelle for the U.S. Department of Energy



PNNL Human Resources Talent Strategy

1

People Experience

2

Employer Brand

3

Data Driven Insights & Technology

4

Rockstar Rewards

5

Workforce Development



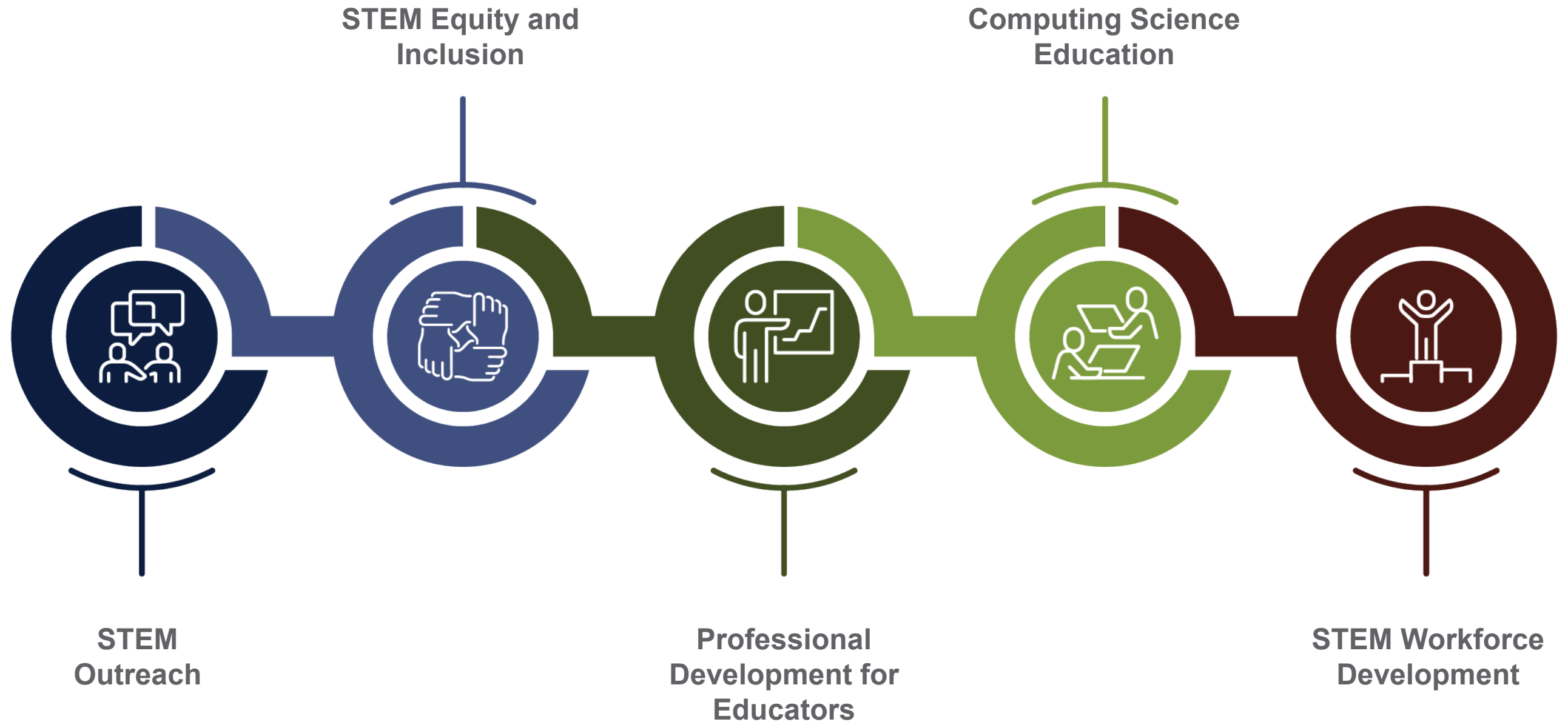
Office of STEM Education

IMPROVING STEM LITERACY & DIVERSITY

DEVELOPING OUR FUTURE WORKFORCE

COLLABORATING WITH EDUCATORS

STEM Education Strategy: Key Elements

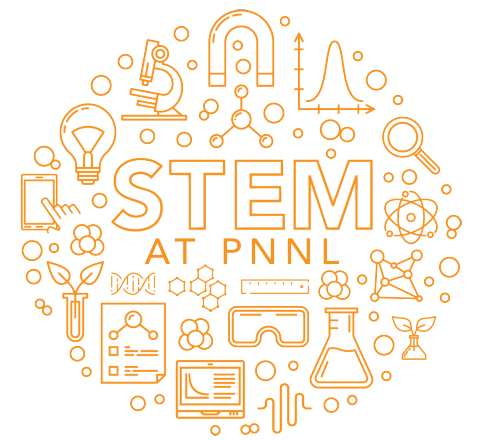


Supporting the impact of our **collaborative** research with **academia**, and providing experiential learning for students in our STEM workforce development efforts



Photo taken before the COVID-19 pandemic

STEM Workforce Development



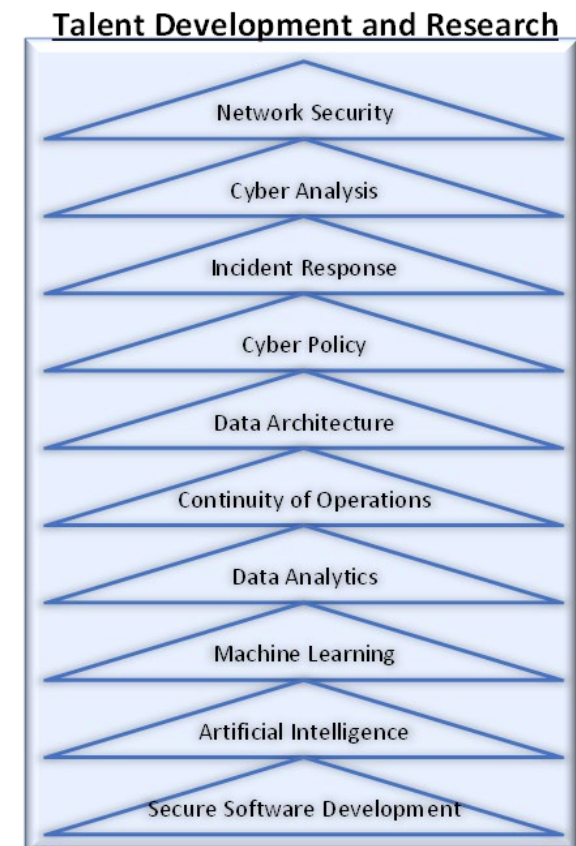
STEM Education initiatives are rooted in Diversity, Equity & Inclusion (DEI)

- In alignment with PNNL S&T strategy, develop, deliver and disseminate **STEM education and outreach** initiatives within the K-20 education system to diversify the future DOE STEM workforce
- Provide **work-based learning** opportunities for students, especially those historically underrepresented in STEM
- Provide **thought leadership** to key stakeholders on STEM education and workforce priorities
- Integrate best practices in DEI, STEM education and workforce development to advance PNNL's S&T **strategy and competitiveness**
- Build relationships with **minority-serving institutions** to increase collaboration with faculty and amplify internship opportunities for underrepresented students in STEM

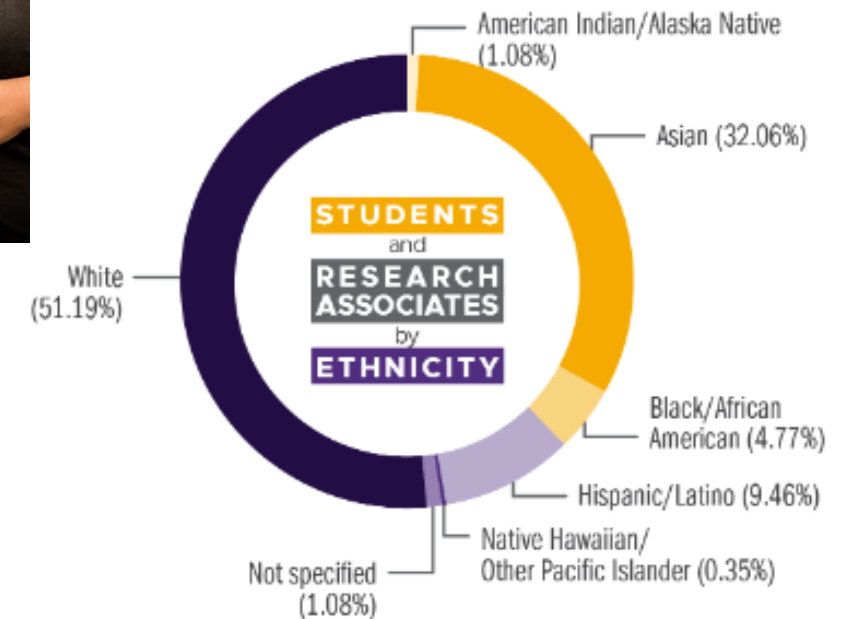
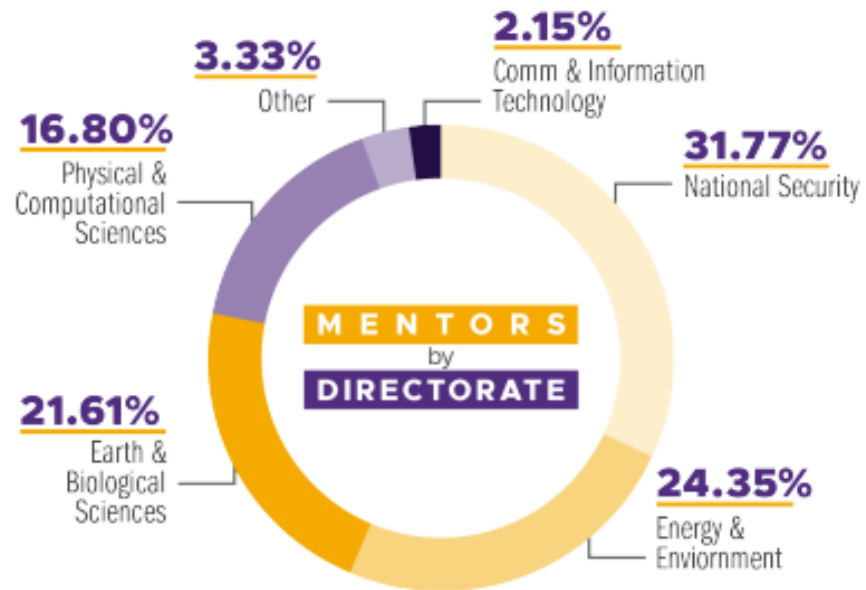
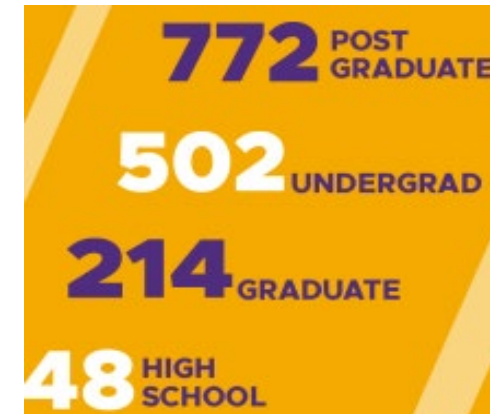
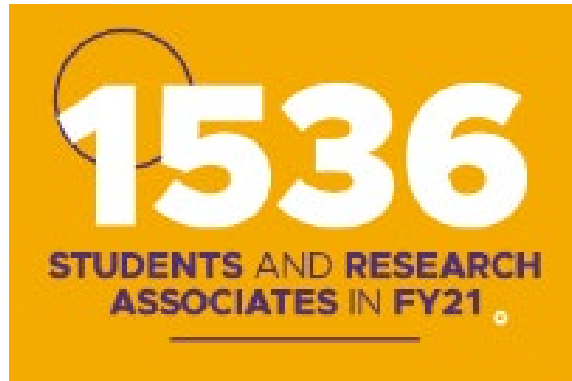


- Cyber Halo Innovation Research Program (CHIRP) is a collaboration with SSC, MSI University/Colleges, and Industry. The mission is to drive innovation and to create a pipeline of talent in cybersecurity for positions at SSC.
- CHIRP is a two-year university program focused on dedicated research on SSC-specific problems. During their time in the program students will build relationships with SSC, PNNL and Industry, and the identified university/college to tackle research problems provided to them by SSC and PNNL.
- Upon completion of the program, students will graduate and join SSC, an SSC industry partner, or PNNL.

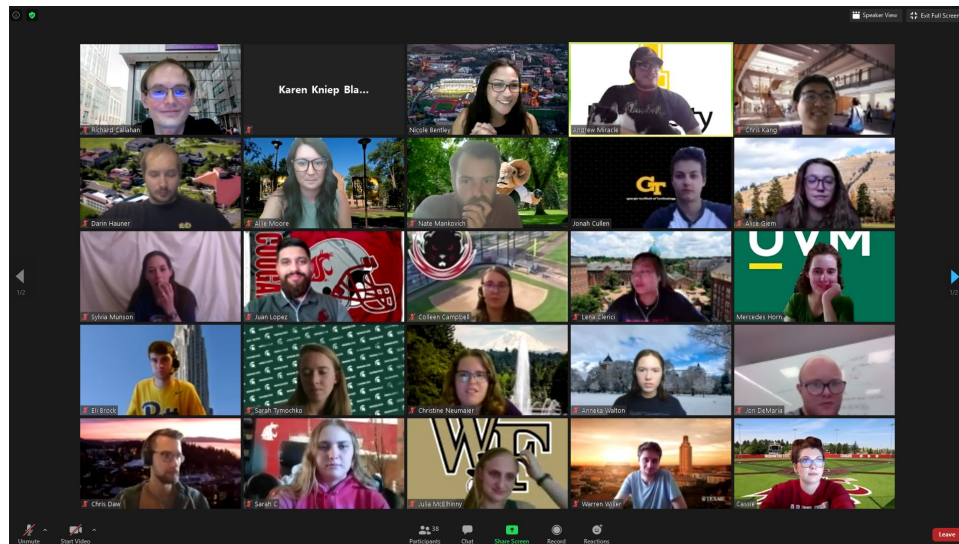
Current Phase 2022 (Cohort 1 - Sophomore Year)
<ul style="list-style-type: none"> • Formal relationships established with PNNL, SSC, and 1st University participant • Student applicants reviewed and selected • Research topics identified
Phase 2 (Cohort 1 - Junior Year)
<ul style="list-style-type: none"> • CHIRP research begins • PI selected to provide guidance on research, project management, and collaborative efforts • SSC, PNNL, & University on-going collaboration
Phase 3 (Cohort 1 - Between Junior and Senior Year)
<ul style="list-style-type: none"> • Students participate in 10-week internship at SSC, with one week occurring at PNNL.
Phase 4 (Cohort 1 - Senior Year)
<ul style="list-style-type: none"> • Students and PI complete research and present at SSC symposium • Students complete workforce readiness exam • Final Ceremony for CHIRP graduates



A Glimpse of our Internship Portfolio



What are the Key Elements of PNNL Internships?



- ✓ Immersive onboarding
- ✓ Mentorship from trained mentors
- ✓ On-the-job work experience
- ✓ Professional development workshops
- ✓ Networking, DEI & enrichment opportunities
- ✓ Knowledge, skills, awareness building
- ✓ Research symposia experience
- ✓ Career exploration
- ✓ Oversight and intentional support
- ✓ Collaboration, retention, conversion opportunities

Current PNNL STEM Education MSI Collaboration Efforts



- Coordinating RENEW workforce & scientific research efforts with MSI's
- Facilitating PNNL Staff / MSI Faculty meetings to accelerate collaboration
- Targeted workshops on grantsmanship for MSI's
- Comprehensive outreach to students, including interactive internship application workshops
- Immersive, work-based learning experiences for students (remote, onsite, hybrid options)

Thank you

