

Northwest Nanotechnology Infrastructure (NNI)

University of Washington / Oregon State University

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NNI 2.0 Team – Facilities and Principal Focus Areas



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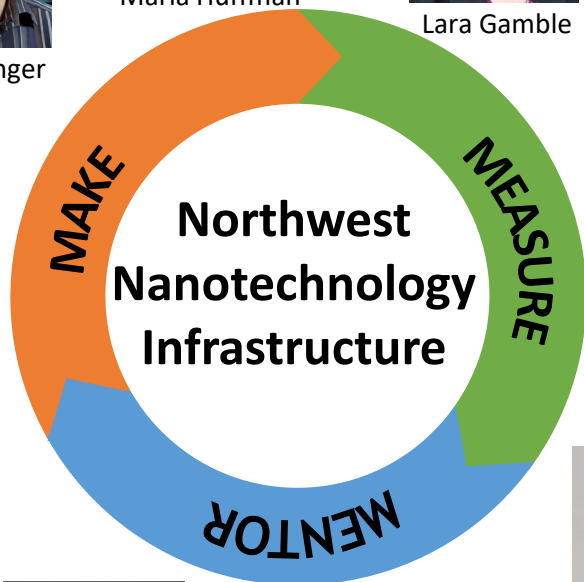
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NNI Vision

The NNCI Northwest Nanotechnology Infrastructure acts as an engine for innovation and economic development by providing world-class nanotechnology infrastructure for a broad and diverse user base, paired with technical and educational leadership in photonic and quantum devices, advanced energy materials and devices, and bio-nano interfaces and systems.

Major Challenge in 2020/21: COVID-19

- Impact

- Complete shut-down April – June 2020
- Slow re-start in summer 2020
- Reduced capacity due to staffing and occupancy limits
- Temporary staff hiring freeze while staff retention remains challenging

- Fallout

- Setback in activity/revenue to 2018 levels
- Delayed research programs, deadlines, deliverables
- Career uncertainty among graduating students and postdocs
- Almost complete hold on K-12 E&O activities, transition to College recruitment/retention
- Continuing service delays, supply chain disruptions
- Still different access requirements depending on facilities

COVID-19: Lessons Learned

Looking back:

- Time away from laboratory resulted in improved documentation and training
 - Rotating staff schedule can work if properly managed
- K-12 E&O very dependent on person-to-person interactions
 - Teachers/districts are exhausted and task-saturated
 - Large community events are on-hold, unlikely to return at scale anytime soon
 - Opportunities to focus E&O towards access/recruitment/retention with higher-ed
- Recovery uneven across facilities and locations
 - Recent cleanroom revenue and specifically industrial activity at all-time high

Looking ahead:

- Cleanroom is among the safest work environments on campus during pandemic
 - Surpassing university EH&S protocols
- Complete shutdown of equipment takes months to recover from, should not be repeated
- Investment in on-line learning and improving virtual teaching tools
 - Frees staff time and increases efficiency

Other Updates / Highlights

- New program: Northwest Nanotechnology Laboratory Alliance
 - Regional platform for exchange on laboratory experiences and best practices
 - Joint effort with Montana State University (MONT)
 - Inaugural NWNLA workshop: November 8-9, 2021 (online, all NW institutions are invited)
 - nano.uw.edu/northwest-nanotechnology-laboratory-alliance
- Research with impact:
 - Recent major NSF research programs in nano/quantum: STC (2021), C-Accel-Quantum (2020/21), NRT-QL (2020), AccelNet (2020), MRSEC (2017)
 - Inpria: OSU spin-off pioneering metal oxide EUV photoresists, acquired by JSR for \$514M
- Diversity:
 - 6 faculty hires affiliated with UW Nano-engineered Systems Institute
 - 5 URM and/or women
 - Central themes: quantum information science, synthetic biology