

NW IMPACT

Northwest Institute for Materials Physics, Chemistry, and Technology



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NW IMPACT

Northwest Institute for Materials Physics, Chemistry, and Technology



Our mission: Accelerate transformative advances in technology through *the science of making materials*.

These advances will drive discoveries and advancements in energy, telecommunications, medicine, information technology, and other fields.

Our vision: Make the Northwest the nation's leader in *research and workforce development for creating next-generation materials* in energy, security, manufacturing, transportation, biomedical, and information technologies.

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Our dream: co-located research, and research infrastructure where UW and PNNL scientists work side-by-side, maximizing efficiency to all stakeholders, and expanding funding opportunities for materials research, making the Northwest the nation's leader in materials research



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Timeline:

Early Materials Institute Discussions

Jim DeYoreo et al.

visioning committee meets
4 times, compiles recommendations

Launch w/
Pres. Cauce
Dir. Ashby

First
awards

2015-2016

5/2017

7-8/2017

8-12/2017

1/2018

2/2018

3/2018

May 2017: Visioning
Committed Faculty from MSE, EE,
Chem, ChemE, Phys

Meetings with UW/PNNL
Leadership. Internal
Fundraising.

Funding
call

First round call:

Received **22** proposals from **188** PIs (non-unique)

- 1) First round scoring by 12 scientists (6 UW, 6 PNNL). Ginger and DeYoreo do not score.**
- 2) Second round: skype panel discussion with panelists and NW IMPACT directors**

Two proposals funded:

Funded: Engineering sequence-defined polymers for controlled formation of hybrid materials (~\$400,000)

Funded: New quantum phenomena by combining 2D materials with complex oxides (~\$400,000)

Funded: Engineering sequence-defined polymers for controlled formation of hybrid materials (~\$400,000)

Chun-long Chen, PI (PNNL)

Marcel Baer (PNNL)

Jim DeYoreo (PNNL)

David Baker (UW)

Brandi Cossairt (UW)

Francois Baneyx (UW)

David Ginger (UW)

DOE EFRC just awarded –
these funds will be recycled
back for new seed awards!

Funded: New quantum phenomena by combining 2D materials with complex oxides (~\$400,000)

Xiaodong Xu, UW, lead PI

Scott Chambers, PNNL

Peter Sushko, PNNL

Daniel Gamelin, UW

Jiun-Haw Chiu, UW

David Cobden, UW

Xiaosong Li, UW

2nd DOE EFRC just awarded to some members of this team– some of these funds MAY be recycled for new awards!

New Funding Call! Proposals due early Autumn (~Oct. 1)
(funding start date ETA 1/1/2019)

~Estimate \$600,000 to spend ($\$1.2\text{M} - \$800\text{K} = \text{???!}$)

~Estimate funding 2-3 larger proposals at ~\$200-300K/ea for
1-2 years

What are we looking for?

Goal: Nucleate joint UW/PNNL teams to compete for large team and center-level funding calls

Scoring: *Scientific Merit, Seeds New Collaborations, Probability of leading to a new team-level grant application*

NW IMPACT Call for Proposals

Important Information

- For 6-24 months of seed funding
- Anticipated #of awards 4-8
- Anticipated award size: \$100,000-200,000/yr
- Deadline: ~~February 26, 2018~~
- Technical proposal: max of 4 pages, with 1" margins, and 11 point Times or Arial font
- Page limit includes text, figures, and references
- Budget proposal: 1 additional page
- Two-page bios per PI are outside the page limit
- Send to Kristin Lerch, Kristin.lerch@pnnl.gov
- Anticipated award dates: ~~early March 2018~~

What We're Looking For

NW IMPACT invites proposals for two years of seed funding to support UW/PNNL collaborative multi-investigator research projects. The projects will advance the vision of NW IMPACT: to make the Northwest the Nation's leader in the science of making materials.

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Areas of Interest

We welcome proposals that

- Advance the science of making materials. Examples are quantum materials, energy conversion and storage, the water-energy nexus, and biomimetic approaches to synthesis.
- Take advantage of both experimental and theoretical/computational capabilities
- Engage UW students
- Use the capabilities of the two institutions in ways that result in outcomes that could not be achieved by the two institutions working alone.

Judging criteria

Proposals will be judged on three key criteria:

- 1) Defining collaborative research projects of high scientific merit in the area of materials, construed broadly
- 2) To what extent the proposal seeds new collaborative research directions that are distinctive from, or add uniqueness to, ongoing research programs
- 3) To what extent the proposal would increase competitiveness of a UW/PNNL team in applying for specific, new, pre-identified team or center-level funding calls such as an EFRC, MURI, multi-PI BES program, NSF STC, NIH center, large training grant, Keck foundation proposal, or similar programs over the next 2-3 years.

Proposal Submission Details

Proposals should include

- The scientific challenge(s) addressed by the research
- Approach to the research
- Expected outcomes and how those outcomes will address the challenges identified
- Relevance to the mission of NW IMPACT
- How the research is distinct from currently funded efforts at PNNL and UW
- How the research will enable pursuit of future funding opportunities for team or center-level research projects
- 2-page biosketches for each investigator – these are in addition to the four-page technical proposal
- Current and Pending funding for each PI
- Budget & justification (additional 1-2 pages) – The goal is to seed active research teams. Requests for conference travel and/or summer salary by UW PIs are permitted but generally discouraged and will require high bars of justification or risk being cut
- Budgets past 12 months should include clear goals to be met for year 2, and explanations of why 1 year would be insufficient to obtain preliminary data – 2nd year funding will be evaluated and released based on year 1 progress

Common Panelist Criticisms of Proposals:

- 1) Imbalance of UW/PNNL team members/strengths
- 2) Failure to identify /align with a specific external funding opportunity or priority
- 3) Materials or materials synthesis was tangential to proposal
- 4) Lack of visible team leadership / gravitas to lead to a major award
- 5) Too similar to a team's existing research core / duplication of effort

Ways to Engage Beyond Seed funding:

1) WCET Testbeds Matching for UW/PNNL Collaborations

<https://www.cei.washington.edu/facilities/testbeds/>

Internal user rates + 1:1 matching for any preliminary work done there for a joint UW/PNNL team

2) Student Travel Awards

Any UW student proposing to work on a NW IMPACT proposal (unfunded or funded, submitted or planned) can apply for travel funding to work at PNNL.

How: **email:** Kristin.lerch@pnnl.gov

Subject: NW IMPACT student travel request.

Include: (a) budget, (b) student name, (c) list of UW and PNNL collaborators, including contact emails, and (d) <100 word description of purpose of visit

3) Host joint seminars: Invite PNNL staff to UW for seminars, UW staff to PNNL

Community Input:

What would lower barriers to collaborations between UW and PNNL?

What infrastructure in Seattle would be enabling for a NW IMPACT endeavor?

What infrastructure in Richland would change the nature of UW/PNNL collaboration?

What research directions hold the most promise for NW IMPACT?