

CENTER FOR NANOTECHNOLOGY GRADUATE TRAINEESHIPS
Spring 2009 Call for Proposals
DUE DATE: Monday, May 4th, 2009. 5:00 p.m. to Mack Carter (mcarte@u)

The University of Washington Center for Nanotechnology (CNT) welcomes student-initiated proposals for CNT Graduate Traineeships. These traineeships will provide stipends to excellent students doing frontier, interdisciplinary dissertation research in nanoscale science and technology. Our primary goal is to foster highly talented students' education for leadership positions in academic, governmental, and industrial settings by providing them with financial resources to pursue innovative research projects in high-risk, interdisciplinary areas involving new collaborations at the leading edge of nanoscale science and engineering. Further goals are to provide seed funding for proof-of-principle experiments and theoretical approaches that enhance future funding opportunities, to foster research bridging nanotechnology and medicine, and to promote community outreach. Collaborative off-site research, either domestic or international, is also encouraged, either within year-long traineeships or separately.

After nearly a decade of generous support, the IGERT grant from the NSF is concluding; UIF funds are also subject to the overall budget cuts at the university due to the state budget deficits. As a result, this year's call is different from previous years. This is the last call for traineeships under the current IGERT.

- No more than two new applications per faculty advisor will be accepted. IGERT renewal applications do not count against this limit. Maximum CNT support for any one student is 2 one-year traineeships (UIF and/or IGERT) plus one-quarter of Early Bird Fellowship or Research Rotation support.
- All supported trainees are expected to participate in CNT student symposia and outreach programs. Students supported to work outside UW are expected to make a presentation on their scientific and cultural experiences to the Nanoscience and Nanotechnology Student Association or similar venue.

1. TWO - YEAR IGERT GRADUATE RESEARCH TRAINEESHIPS

Funded by NSF and NCI at congressionally mandated levels (currently \$2500/month). US Citizenship or Permanent Residence required. Support of international travel for off-site research is possible during fellowship period, as are periods of US-based off-site research.

2. ONE - YEAR RENEWAL IGERT GRADUATE RESEARCH TRAINEESHIPS

As above, for US Citizens or Permanent Residents who have had one-year of UIF or IGERT support. Current IGERT trainees may submit a truncated application, as detailed below; current UIF trainees with US citizenship or permanent residency should apply in the same manner applicants without previous support.

3. ONE - YEAR UIF GRADUATE RESEARCH FELLOWSHIPS

Funded by UW CNT at a uniform fraction of the standard RA level (likely one half, or 0.25 FTE) for fellow's home department. Any citizenship permitted. The source of matching funds for the remainder of the RA should be noted on the application and/or in the supervisor's letter of reference.

4. RESEARCH ROTATION FELLOWSHIPS

- a. IGERT ROTATIONS: Funded by NSF and NCI at congressionally mandated levels, plus international travel expenses. Require US Citizenship or Permanent Residence
- b. UIF ROTATIONS: Funded by UW CNT at a fraction of standard RA level (likely 50%, or 0.25 FTE) for student's home department. Any citizenship permitted. Source of matching funds for the remainder of the RA should be noted on the application.
- c. JONSSON INTERNATIONAL EXCHANGE FELLOWSHIPS: Funded at standard RA level, plus international travel expenses. Fellowship must involve travel to and collaboration with specific research laboratories at Linköping University, Sweden (for details, see <http://www.nano.washington.edu/education/awardinfo2.html>). It may exceed one quarter.

Rotation fellowships will support excellent students to spend one quarter doing research in an environment distinct from their dissertation research home that will broaden the fellow's career options in nanoscale science and technology. For example, spending time off campus (abroad, in industry, at a national laboratory, *etc.*), or exploring complementary research areas (*e.g.* biomedical lab for a physical scientist, *etc.*) or other career goals (*e.g.* law, business). Off-site applications may cover more than one quarter, including preparation time on campus. Only US citizens and permanent residents may apply for support of non-Swedish international rotations and travel.

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EVALUATION CRITERIA (note: *d* and *e* are worth more points than *b* and *c*)

- Relevance to Nanoscale Science and Technology: **Binary yes or no.**
Students with research near the borderline on nano-relevance are encouraged to speak to the chair of the review committee *before* preparing their proposal.
- Increase/maintain interdisciplinary/off-campus research interactions
- Seeding of new research directions/new funding sources
- Ability of student to perform research
- Quality of proposed research

PROPOSALS will include (preferably as pdf files emailed to mcarte@u.washington.edu):

(see <http://www.nano.washington.edu/education/awardinfo.html> for forms)

All proposals must include a Completed Fellowship Application Form

1. FIRST TIME SUPPORT FOR ONE (UIF) OR TWO (IGERT) YEAR PROPOSALS:

- Cover page (maximum one page) containing a one paragraph summary of each of:
 - Relevance to Nanoscale Science and/or Technology.
 - Impact on interdisciplinary and/or off-campus relationships involving the student.
 - Impact on seeding new funding and/or new directions of research that would continue post-project. This may include broader career options for the fellow.
- Three page description of the proposed research and its importance (plus up to 2 pages of figures and references). Any plans for off-campus research rotations during the year should be outlined and supported; those plans may be considered separately for Research Rotation funding.
- Unofficial Transcripts for both graduate and undergraduate academic performance.
- Three letters of recommendation addressing the elements of the evaluation criteria with which that recommender is familiar. Letters should be from:
 - Primary research advisor. In addition to comments on the student's ability to perform research and the quality of the proposed research, the advisor's letter should address directly the role of the student in preparing the proposal, and how the project fits into and/or expands the advisor's research directions and/or funding opportunities. It should also address resource availability. If writing for multiple students in the same group, the primary research advisor should specify any synergies among the projects (e.g., would the students be working separately or as a team) and the applicants' relative strengths. Advisor should attach Current and Pending Research Support to letter.
 - Someone with a different research background and/or research approach from the primary advisor. On a collaborative or interdisciplinary project, this would be the *co-advisor* or *off-campus mentor*. For a research rotation proposal, this would be the *host*. This letter should specifically address the student's role in promoting interdisciplinary or diverse approaches to research or nanotechnology (note: diverse approach may include, e.g., experiment/ theory or vacuum/ ambient in addition to science/engineering, biology/ physics, science/policy, etc.).
 - Someone with whom the student is not currently working, e.g., previous supervisor, graduate or undergraduate faculty mentor, REU mentor, user facility scientist, etc.

3. RENEWAL PROPOSALS (STUDENTS SEEKING 2ND YEAR OF FUNDING):

IGERT in '08-'09:

- 1 page summary of key results obtained in the first year, including both research and education/outreach, and new benefits expected from a second year of funding.
- Letter of support from primary research advisor, as described above (2.d.i.)

UIF in '08'09:

- Submit same materials as First Time applicants (2.a, b, c and d), plus 1 page summary as in (3.a).

4. RESEARCH ROTATION PROPOSALS:

- Cover page as described above (2.a)
- Two page description of the proposed one-quarter research rotation and how it fits into the fellow's overall educational and research plan. Off-site or international rotations may be of longer duration. Logistical arrangements should be outlined briefly. For specifics on Jonsson proposals, see <http://www.nano.washington.edu/education/awardinfo2.html>.
- Two letters of support, one each from advisor and host, as described above (2.d.i. and 2.d.ii.).

Forms available at <http://www.nano.washington.edu/education/awardinfo.html>