Transforming the University of Minnesota through the Enhancement of Interdisciplinary Research

Provost’s Grand Challenges Research Initiative—Phase 2

January 2017

Spotlighting Two Grand Challenges for 2017–18:

Assuring Clean Water and Sustainable Ecosystems
Fostering Just and Equitable Communities

We invite faculty to participate in two research opportunities that will continue to distinguish University of Minnesota scholars as leaders in addressing the critical challenges of our state, nation, and world.

Opportunities in 2017–18 will focus on the challenges of **Assuring Clean Water and Sustainable Ecosystems** or **Fostering Just and Equitable Communities**—or an integration of the two. These challenges are two of the five interrelated Grand Challenges identified through a campus-wide process last year. Opportunities in subsequent years will highlight the other three Grand Challenges areas: **Advancing Health through Tailored Solutions, Enhancing Individual and Community Capacity for a Changing World, and Feeding the World Sustainably.**

The Grand Challenges Research—Phase 2 process engages the Twin Cities campus community through two opportunities that are distinct from the two-tiered grants process launched in **Phase 1 of the Provost’s Grand Challenges Research Initiative.**

One opportunity is a competitive call for proposals from interdisciplinary teams (the Grand Challenges Research Proposal track). The other is a call for nominations, including self-nominations, to participate as a Grand Challenges Research Scholar in a research collaborative for an extended period of intense interdisciplinary engagement to shape a vision for a major new initiative (the Grand Challenges Research Scholar Collaborative track).

The Grand Challenges Research Proposal call is a competitive process for interdisciplinary teams, focused on a smaller number of larger awards—up to $600,000 per award—but with opportunities for smaller awards as well. This process strives to target research projects that will distinguish the University of Minnesota scholars as leaders in addressing two of the Grand Challenges identified through a campus-wide process: **Assuring Clean Water and Sustainable Ecosystems** or **Fostering Just and Equitable Communities**—or an integration of the two. The proposal and selection process is iterative; initial pre-proposal submissions are only two-page statements. Following initial review, a relatively small number of teams submitting the most promising pre-proposals will be invited to develop and submit full proposals, with an expectation that a high proportion of those invited to submit full proposals will be funded.

Aligned with the overall objective of the Grand Challenge Research initiative, the Institute on the Environment (IonE) offers an enhanced opportunity specific to **Assuring Clean Water and Sustainable Ecosystems.** Using additional criteria that privilege impact and societal translation, the IonE will provide
$750,000 over three years to an integrated team of researchers drawn from the pool of applicants responding to the Grand Challenges Research Call for Competitive Proposals. The funds from IonE are in addition to those made available to Grand Challenges Research through strategic plan implementation. Additional criteria are included in the guidelines for Grand Challenges Research pre-proposals.

The Grand Challenges Research Scholar Collaborative aims to provide a dual opportunity for individual faculty members with strong interest in interdisciplinary research focusing on the Grand Challenge of Assuring Clean Water and Sustainable Ecosystems or that of Fostering Just and Equitable Communities—or their intersection. The first opportunity provided by this initiative is professional development: Through a concentrated investment of time with an interdisciplinary cohort, individual faculty will explore new research directions and strategies. The second opportunity—which defines the primary purpose of this track—is to develop, in collaboration with other members of the cohort, a plan of action for exciting major initiatives focused on one or the other of the two Grand Challenges, or their intersection. Drawing on the University’s existing research, programmatic, and infrastructural strengths, selected faculty will participate directly in shaping how our community mobilizes these strengths to address major challenges in the foreseeable future. The latter is a crucial opportunity to foster institutional transformation.

Although Phase 2 focuses on only two of the five Grand Challenges research areas, we actively encourage participation from scholars from all disciplines across the campus. A fundamental commitment of the Provost’s Grand Challenges Research Initiative is that disciplinary perspectives from the full array of fields—sciences and engineering, social sciences, humanities and arts, and the professions—are necessary to address effectively the interrelated issues of Assuring Clean Water and Sustainable Ecosystems and Fostering Just and Equitable Communities.

We hope that the response to the focus on these two Grand Challenges is for faculty to ask, “How might my expertise be brought to bear significantly in addressing one or the other of these challenges?” At the same time, we want to emphasize that the Grand Challenges Research Initiative will continue beyond Phase 2. Each of the five Grand Challenges will be the focus of attention either next year or the year after. Those who choose not to participate in the challenges of clean water/sustainable ecosystems or just and equitable communities may engage in subsequent years when the other three Grand Challenges areas will be highlighted—Advancing Health through Tailored Solutions, Enhancing Individual and Community Capacity for a Changing World, and Feeding the World Sustainably.

Phase 2 of the Grand Challenges Research Initiative builds on Phase 1, launched last year, to advance the integrative research goals that are one component of Driving Tomorrow, the Twin Cities Campus Strategic Plan. The goal of Grand Challenges Research Phase 2 is to elevate the University’s interdisciplinary research strengths for greater impact on the critical societal issues facing our state and the world. In Phase 1, $3.6 million was allocated to 29 projects across all five Grand Challenges. In Phase 2, we seek to build on that initial allocation to appreciably deepen the University’s impact on two Grand Challenges. Through both the competitive call and the collaborative we strive to identify exciting opportunities to foster new interdisciplinary collaborations, spur creative interdisciplinary approaches, integrate research across disciplines and colleges, and strengthen productive research interactions within and beyond the University.

Guidelines for the Grand Challenges Research Scholar Collaborative follow.

See separate guidelines for the Grand Challenges Research Proposals:
https://strategic-planning.umn.edu/gc-research-initiative-phase2

In addition, an online FAQ document provides further details for developing submissions.
Grand Challenges Research—Phase 2

Grand Challenges Research Scholar Collaborative

January 2017

Faculty members from across the campus, from all disciplines, and at all stages of academic career are invited to nominate themselves or colleagues for the new Grand Challenges Research Scholar Collaborative to envision and plan high-risk/high reward interdisciplinary initiatives (research, programmatic, and/or infrastructural) related to one of two spotlighted Grand Challenges: Assuring Clean Water and Sustainable Ecosystems or Fostering Just and Equitable Communities, or their intersection.

One or two collaborative cohorts will be established for the 2018–19 academic year. A collaborative will consist of five or six faculty members drawn from a wide array of disciplines and colleges. Participation in the collaborative will relieve scholars from a substantial percent of their teaching, service, and other responsibilities. The intent is to provide space and time for intense engagement and idea exchange among members of the collaborative in order to develop a vision and a plan of action to substantially elevate the University’s future work on the Grand Challenges.

The Institute for Advanced Study, the Institute on the Environment, and the Interdisciplinary Center for the Study of Global Change will partner with the Provost’s Grand Challenges Research Initiative team to facilitate and support the interdisciplinary work of the collaborative, both as individual research scholars and as a collective. These three partners supporting the collaborative will contribute physical (office and meeting/work) space; an existing, stimulating intellectual environment; and logistical support in conjunction with the Grand Challenges Research Initiative team.

In addition, the collaborative will offer distinct opportunities for scholars who may choose to focus, in greater depth, on international or community engaged work addressing the challenges of clean water/sustainable ecosystems and/or just and equitable communities.

- In partnership with the Global Programs and Strategy Alliance, the Provost’s Grand Challenges Research Initiative will name one or more of the appointed collaborative scholars whose work has an especially strong international focus as a Grand Challenges Research Global Scholar. The release time for the collaborative’s Grand Challenges Research Global Scholar will be supported financially by the Global Programs and Strategy Alliance.

- Similarly, in partnership with the Office for Public Engagement, the Provost’s Grand Challenges Research Initiative will name one or more of the appointed collaborative scholars who conduct their work through reciprocal, high-impact, community-engaged partnerships with local or regional external entities as a Grand Challenges Community-Engaged Scholar. Financial support for the release time for the collaborative’s Grand Challenges Community-Engaged Scholar will be provided by the Office for Public Engagement.
The composition of the collaborative will be shaped through a process of review of the two-page statements of interest. We seek a collaborative of exciting complementarities and interdisciplinary synergies across a broad array of disciplines—the sciences and engineering, social sciences, humanities and arts, and the professions—around a shared theme or topic under the umbrella of Assuring Clean Water and Sustainable Ecosystems or Fostering Just and Equitable Communities, or their intersection.

The collaborative will offer flexibility for scholars to find pathways to major future Grand Challenges research initiatives. A portion of each member’s time, roughly 50 percent, will be “bought out” in order to free members from some standard professional responsibilities. Members will be expected to devote that time to being present in the collaborative to foster deep engagement with fellow members. The collaborative will offer a physical and intellectual space for Grand Challenges Research Scholars, and will serve as a platform for developing two types of scholarly work.

First, through ongoing exchanges—and as its principal purpose—the collaborative cohort will be responsible to generate one or more plans for future signature Grand Challenges initiatives (research, programmatic, and/or infrastructural). The plans will include a clearly articulated vision statement of how the University is to be transformed to elevate its position as a leader with respect to the Grand Challenge, as well as a plan of action for implementing that vision (ideally in conjunction with a substantial external funding proposal).

Second, each member will additionally be responsible for a specific collaborative product with at least one other member of the cohort—a proposal for external funding for a more specific interdisciplinary research project, a scholarly article, a national or international conference focused on a Grand Challenge or aspect of a Grand Challenge, a video, a performance piece, or other contribution. To the extent possible, both the cohort project and individual Research Scholar projects should include the engagement of new colleagues, including external partners.

The first of these responsibilities—the collective work of the collaborative—will be a substantial service to the University, in guiding steps forward for the establishment of institutional distinction around the Grand Challenge, and helping to position the University for greater realization of its fullest potential in addressing the Grand Challenge. The second responsibility—a tangible interdisciplinary product—will provide a professional development opportunity for each member of the collaborative to expand the scope of her or his interdisciplinary work by reaching in new directions.

Grand Challenges Research Scholars will participate as members of the collaborative for the academic year 2018–19, beginning their appointment the first day of the fall semester and continuing until the last day of the spring semester. The final products of the collaborative and of its individual members must be submitted no later than mid-summer 2019.

The collaborative will focus on strategies for working together across disciplines, and broadening the discussion of institutional enhancements for interdisciplinary research via public events, seminars, and speakers. The Provost’s Grand Challenges Research Initiative team will provide a facilitator, as needed, and meet other staffing needs in order to: foster research planning and culture change discussions; highlight new research tools that can foster interdisciplinary capacity; promote discussion of strategies to engage with stakeholders; facilitate communication and social media training; and provide other practical information that can contribute to conceptualization and execution of activities and projects by members of the collaborative. We will also provide a programmatic support budget for the work of the collaborative.

Measures for assessment will be based on the goal of overcoming barriers to institutional transformation, as well as generation of a well-formulated program of action for launching highly innovative research on
one of the two Grand Challenges, or their intersection, in order to position the University as a nationally prominent leader in addressing the challenge.

Call for nominations and applications

The timeline for Grand Challenges Research Scholar applications for the 2018–19 academic year includes the following steps:

- Nominations of a colleague and/or self-nominations should be emailed to gcrsrch@umn.edu—due March 1, 2017. For nominations of a colleague, be sure to inform the individual you wish to nominate before submitting your nomination to ensure that he or she has interest in being nominated. No letters of nomination are required. Simply provide name, title, and contact information for your nominee, including yourself. Nominees will receive an immediate acknowledgment of nomination and reminder of the deadline for the statement of interest.

- Submission of a two-page statement of interest in working on aspects of water, just and equitable communities, or the integration of the two Grand Challenges as a Grand Challenges Research Scholar, and a letter of support from your department head/chair —due April 3.

- Following peer review of statements of interest, promising candidates are invited for interviews—April–May–June

- Note that peer review of statements of interest, and interviewing of invited applicants, will be conducted by an interdisciplinary panel of distinguished faculty who are well versed in the development of the Twin Cities Campus Strategic Plan and the Provost’s Grand Challenges Research Initiative. Collegiate deans will review the recommendations, and the provost will make the appointments for the 2018–19 Research Scholars.

- Appointment announcements—September 2017. Announcements are timed to best allow the Research Scholar and his or her department to prepare for the 2018–19 academic year appointment.

Elements of faculty participation

- Both self-nominations and nominations by colleagues at any stage of their career are invited. The nominee must submit the required two-page statement of interest in both cases.

- The Grand Challenges Research Scholar Collaborative should be regarded as a professional development opportunity especially for faculty members who have not previously had this type of experience, although those who have had such experience are not excluded from consideration.

- All faculty members are encouraged to apply, young scholars as well as mid-career and senior faculty.

- Successful candidates will have the support of their department head/chair.

Guidelines for application (no more than two pages, 12-point font, singlespaced, 1-inch margins)

- **Applicant contact information.** Provide name, title, departmental affiliation(s), email, and phone number on a separate cover page.

- **Statement of interest.** Describe your vision for and expected role in an interdisciplinary research collaborative focused on one of these two Grand Challenges, or their intersection. In particular, please address your:
• **Grand Challenges Vision.** State your proposed focus on water, just and equitable communities, or the intersection of the two Grand Challenges. Cast in broad or general terms, describe the substantive aspect of the Grand Challenge(s) that your ideal collaborative experience would address. In general, what issues within these broad areas would you hope to pursue collaboratively? How do those issues align with your current work and the work that you wish to pursue over the next five years? Please identify other disciplines that might be beneficial to involve in the planning of a high risk/high reward major initiative on behalf of the full collaborative, and/or who you might wish to draw into your individual, but interdisciplinary, final product. [If you have specific researchers or external collaborators that you would envision engaging in your work, please include their names and positions. Identifying specific others is not required, however.]

• **Individual Contribution.** Include a discussion of how you will uniquely contribute to the collaborative. What will you bring to the group effort, and what is your capacity to work collaboratively? What kinds of interdisciplinary connections are you prepared to make? How will your participation facilitate: (1) the University’s transformation through innovation of institutional processes that can further foster interdisciplinary interactions around Grand Challenges research, and (2) your professional development through enhancement of your capacity to conduct and champion interdisciplinary research on Grand Challenges topics.

• **Special focus.** Please also describe your contributions specifically related to international or community engagement issues if you wish to focus on one of these areas and be considered for an appointment as a Grand Challenges Research Global Scholar or a Grand Challenges Research Community-Engaged Scholar.

• **Work accommodation.** Please also include a description of the arrangements that would likely be necessary for you to be able to devote time to an appointment as a Grand Challenges Research Scholar for the 2018-2019 academic year. The description might include, for example, necessary adjustments in your anticipated teaching load, departmental responsibilities, or external outreach and service activities. Be specific to the extent of your current knowledge.

• **Letter of support.** A letter from your department head/chair that supports your application as a Grand Challenges Research Scholar is required, along with your statement of interest. It is in your best interest—as well as that of your department, college, the Grand Challenges Research Scholar Collaborative, and the institution overall—to anchor your potential selection with the endorsement of your department head/chair.

• **Grand Challenges criteria.** Those who are invited to interview as a finalist should be prepared to also address how their ideas for the configuration and direction of the collaborative are attentive to the to the eight Grand Challenges research criteria outlined in the campus Strategic Plan.

Please submit your nominations and self-nominations to gcrsrch@umn.edu by Wednesday, March 1, 2017. All nominees should submit their two-page statement of interest to gcrsrch@umn.edu by April 3, 2017. Inquiries can also be sent to gcrsrch@umn.edu.

Note: This is one of two opportunities for faculty as part of the Provost’s Grand Challenges Research Initiative—Phase 2. Please see separate guidelines for Grand Challenges Research Proposals (https://strategic-planning.umn.edu/gc-research-initiative-phase2).