Rationale
Understanding and predicting the behavior of complex biological systems requires a framework that can integrate across levels of biological organization and incorporate and facilitate mechanistic understanding. These are the stimuli that drive future research in biology. Meeting this challenge requires a multidisciplinary approach that involves strong integration (or re-integration) of molecular biology with organismal biology. In addition, recent innovations in quantitative fields such as mathematics, computer science, statistics, and engineering offer exciting opportunities for novel partnerships. Meeting the food, water, and energy needs of a growing human population, while minimizing adverse impacts of habitat alteration, climate change, invasive species, overexploitation, and pollution on human health and ecological systems operate at scales from molecules to ecosystems, and there is a pressing need to develop the science that can cross these scales and thereby integrate biological research. The University of Minnesota is developing research and curricular initiatives focused on addressing grand challenges, and this program is part of CBS’ contribution to the university-wide programs.

Program Aims
The overall aim of the Grand Challenges in Biology (GCB) Postdoctoral Program is to stimulate synergistic interactions between faculty and postdoctoral associates interested in collaborating on multidisciplinary research that addresses societally relevant problems. Postdoctoral projects are for up to two years (assuming satisfactory progress toward research goals in year one). Postdoctoral associates will be encouraged to participate in grant proposal development workshops and other professional development activities offered at UMN and CBS and are permitted to serve as principal investigators on grant proposals. While in residence, the postdoctoral associates will be expected to be visible members of the CBS community, actively engaging with faculty, undergraduate and graduate students, and contributing to furthering our collaborative culture.

Application Process
Applicants should develop a 2-year research project under the guidance of two or more faculty advisors, at least one of whom must be a faculty member in the College of Biological Sciences (CBS). The other advisor(s) may not be from the same CBS department as the primary advisor, but may be from a different department within CBS, from any other College at UMN or from a local entity external to the university (e.g., private company, government agency, NGO). Since an important aim of the program is to jumpstart the formation of new teams, the faculty advisors should not have an already established record of collaboration with each other (as evidenced by jointly authored publications or grants). Applications must include a CV, a 1-page description of previous or current research and a 3-page (maximum) description of proposed research containing: a statement of the problem to be addressed; methods/approach; relevance of the work in relation to grand challenges in biology; contributions of the collaborating partners; and literature cited (does not count toward the 3-page limit). In addition, the applicant must provide the CVs and a letter of support from each of the proposed advisors who will be involved in the project, as well as the names and contact information for two external persons (at least one of whom should be very familiar with their graduate student research) who may be asked to submit letters of recommendation. The expected salary will be $48,500 plus benefits. In addition, the
postdoctoral scholar will receive $5,000 per year for research supplies and research-related travel. It is expected that necessary office and laboratory space, access to large equipment and any other research needs will be provided by faculty advisors.

**Application Deadline: 3 February, 2020**

**Position Start Date: May – August, 2020 (specific date negotiable)**

**Additional Details:**

- Positions are for a maximum of two years.
- Early-career scientists with a high potential to springboard their careers to future faculty positions are especially encouraged to apply.
- Applications will be evaluated by a search committee representing CBS’ disciplines. This same committee, or a subset thereof, will also be responsible for evaluating postdocs’ performance at the end of the first year.
- Applicants should have completed all of the requirements necessary to attain a Ph.D. degree and be able to be on campus to start employment by the agreed start date.
- Graduates of UMN are eligible to apply for these positions, but we also hope to recruit a strong pool of external applicants.
- Faculty are encouraged to actively recruit potential candidates through personal and professional networks.
- For faculty advisors with joint appointments, their tenure home will count as their official affiliation.
- As the aims of the program are to jumpstart new collaborations among faculty, enhance diversity of our postdoctoral community, and promote the professional development of young professionals within a few years of attaining their Ph.D. degrees, these criteria will be considered in evaluating applicants, in addition to the usual criteria of scholarly excellence.
- It is UMN’s policy to provide equal opportunity to all employees and applicants for employment without regard to race, color, creed, religion, national origin, gender, age, marital status, disability, public assistance status, veteran status, sexual orientation, gender identity, or gender expression. The University also provides reasonable accommodations to qualified individuals with disabilities as required by law.

**Advisors and Co-Advisors Are Expected to:**

- Meet regularly with the Grand Challenges in Biology (GCB) postdocs to support their research program.
- Review and assess the Grand Challenges Individual Development Plan (IDP) with the GCB postdoc at the end of the first year and at the completion of the GCB training period.
- Attend on-campus research presentations by the GCB postdocs for assessment of progress.
- Empower (and encourage) GCB postdocs to pursue professional development opportunities offered by the University and CBS.
- Encourage GCB postdocs to present at scientific meetings, and support them in these endeavors.
- Support, encourage, and advise GCB postdocs who are applying for research funding.
- Support GCB postdocs in career progression and job searches.