The New York State
Stem Cell Training Grant
at the University of Rochester

2013 Award details

Use of funds: Training grant funds in this cycle will be utilized to provide up to two years of support to three graduate students and two postdoctoral fellows. The second year of support will be contingent on satisfactory progress in the first year.

Graduate students will be supported at $23,000 per year, the maximum permitted in this application. Additional support in order to provide the standard University of Rochester graduate student stipends must be provided by the host laboratory, which will have to confirm the availability of funding to support the student through the completion of his/her degree. Graduate students will also be provided a travel award of no more than $750 per year to attend one stem cell-related meeting per year. Use of these travel awards will be contingent on presentation of a poster or an oral presentation at the meeting. In addition, the training grant will provide funds of no more than $3450 for health insurance cost and, if funds from this amount remain, for laboratory supplies needed for the trainee's research.

Limitations on number of awardees per laboratory: Only one trainee can be accepted per laboratory at any given time.

Application process

Requirements

1. Graduate students need to have completed their qualifying exam before initiating the award (but not necessarily before applying for the award).
2. It is preferable if applicants have two years ahead of them at UR in their respective positions, whether graduate students or postdoctoral fellows. Graduate students who complete their degrees ahead of their defined funding period cannot roll funds over into a postdoctoral position.
3. Applications do not have to be US citizens or green card holders.
4. The project has to be in the field of stem cell biology, with the recognition that this is a field with many components.

Application format: All applications must adhere to the following format.

1. Applications may be no longer than 6 pages of text. The application should follow precisely the format of an NIH F31 application.
2. Standard formatting is to be used (Standard NIH formats are to be used (i.e., Margins = 0.5 in; Fonts = Arial 11 or Times New Roman 12 (Arial 9 or Times New Roman 10 for Figure Legends); Line spacing of no more than 6 lines per inch. Figure legends should use Arial 9 or Times New Roman 10.
3. Additional information required from the applicant is:
   a) NIH biosketch
   b) Academic transcripts from graduate school courses
   c) Two letters of reference
4. Additional information required from the adviser
   a) NIH biosketch (4-page format, including other support)
   b) Mentoring plan (as per NIH training grant applications)
   c) Guarantee of financial support for all aspects of the training

Evaluation of applications

The selection will be a two-tier process. Applications will initially be screened on the basis of the written submissions. The top 6 graduate student candidates and top 4 postdoctoral candidates will be invited to give a short seminar to members of the Stem Cell and Regenerative Medicine Institute Training Grant Steering Committee, which will consist of a ten minute presentation with an additional 5 minutes for questions. In the case that further information is deemed required by the Steering Committee, candidates may also be asked to interview with individual faculty members.

The Committee review of eligible applicants is based on the quality of the applicant, his/her letters of recommendation, personal interviews and the perceptions regarding a research career oriented towards stem cell-related investigations.

Requirements for recipients of awards

All awardees will be required to take part in the following courses and activities:

Didactic course in stem cell biology: Every other year, we will offer a graduate level course on "Stem Cell Biology," which will be required for all trainees (and will also be open to other graduate students and postdoctoral fellows). This course, which is headed by Dr. Chris Pröschel, consists of lectures on a variety of aspects of stem cell biology and discussion on research papers chosen by each lecturer to complement the material in the lecture. Discussion of these papers (in a single group) will precede the formal lecture. The course is designed to cover basic principles in stem cell science, the role of stem cell dysfunction in developmental disease, potential therapeutic applications of stem cells, principles of embryonic stem cell and iPS research and managing the transition from the laboratory to the clinic.

Along with lectures and discussion, trainees also will be required to submit a research proposal. The proposal may be on any topic in stem cell biology addressed in the course curriculum, and will undergo three submissions. First, a one-to-two page proposal consisting of a short introduction, hypotheses, specific aims and a short presentation of proposed experiments will be submitted. The trainee will then meet with the course instructor most suitable for evaluating their proposal and will receive feedback about strengths and weaknesses of the proposed hypothesis and research. At the next stage, this will be submitted as a four-page proposal with some expansion of the introduction but with the greatest expansion focused on experimental analysis. The trainee will again meet with the most relevant faculty member and again receive feedback. In the third and final submission, the proposal will be expanded to no more than 6 pages (using an R21 format) and detailed feedback will again be provided.

Participation in the annual SCRMI stem cell symposium: All training grant recipients will be required to undergo rigorous training in presentation of short (8-minute) talks, leading to presentations at the annual stem cell symposium held at the University of Rochester.

Stem cell journal club: Except for when the stem cell course is taught, all trainees are required to attend a stem cell journal club focused on training individuals for success in science-related careers. This experimental session was introduced to great success for the first group of trainees, and provides training in understanding patentable discoveries, how patents are written, how to dissect claim language, how to use the patent literature as a valuable source of scientific information, how companies use scientific publications to generate news releases, how to dissect news stories on science, how to communicate science to non-scientists, what are the most effective teaching strategies, and other related topics that are necessary to have the best opportunities for pursuing a science-related career. Thus, along with dissection of new discoveries, trainees will be mentored in multiple aspects of a scientific career path not provided by other venues.

The training on how to give a successful short talk and on multiple aspects of a scientific career are considered by our first group of trainees to be of enormous value, and will be both continued and improved for this second class of trainees.

Instruction in the responsible conduct of research: All students and postdoctoral fellows are required to take course IND501 ("Ethics in Research") and to familiarize themselves with the University of Rochester policies provided in the section on misconduct in scholarship and research found in the Manual for Research and Sponsored Activities that is published by the University of Rochester's Office of Research and Project Administration (ORPA).

Instruction in policies regarding human subjects, live vertebrate animal subjects and human pluripotent stem cells in research compliant with federal regulations and guidelines and NYSTEM contract requirements: All members of the University of Rochester staff are required to receive training in human subject, vertebrate animal, recombinant DNA, biohazardous materials and/or use of human pluripotent stem cells, according to the research being pursued. For example, students pursuing a course of research entirely based on mathematical or computational analysis of microarray data are not required to receive training in most of these areas. In contrast, any student using vertebrate animals must complete training provided by the University committee on animal research. Obtaining such training is a strictly observed responsibility of each laboratory.

Intellectual property: Trainees should be familiar with University of Rochester policies on intellectual property, which apply also to research conducted as a recipient of training grant support.

Attendance at chalk talks: Trainees will be required to attend not only the seminars of University of Rochester faculty candidates but, more importantly, the chalk talks given by these candidates (where allowed by the policies of the recruiting department). In contrast with the standard seminar setting, the chalk talk (as it is structured at the University of Rochester) tests the ability of a faculty candidate to present and defend the hypotheses underlying their proposed research and to discuss in detail a proposal for an NIH grant application. This is often is the most demanding component of the visit of a faculty candidate,and the majority of candidates-even from highly regarded laboratories-often are lacking in these fundamental scientific skills.

Evaluation of trainee progress

Evaluation of the progress of each trainee, obviously, is a primary responsibility of the trainer in whose laboratory the research is being conducted. However, to monitor progress of training grant recipients, SCRMI will provide opportunities for each training grant member to present their research progress each year, whether with the annual stem cell symposium or other venues. The trainees also will have multiple meetings with the Program Director in the context of the stem cell course and journal club, with additional meetings added as necessary to discuss their progress, to obtain feedback on problems and successes, and to exchange thoughts on future career options.

In addition, it will be the responsibility of each trainee to inform the Administrator of SCRMI (Jill Van Atta, email = jill_vanatta@urmc.rochester.edu) of any public presentations they will be making at the University of Rochester so that these may be publicized to the stem cell community.

Requirements for mentors of Training Grant fellows

Faculty mentors will be required to guarantee that all support required for salary, lab supplies and meeting participation above and beyond that provided by the training grant will be provided by the host laboratory. If an award recipient has a mentor who is not a member of SCRMI faculty, then that faculty member must join the SCRMI.