Simons Investigators in the Mathematical Modeling of Living Systems

Request for Nominations

The Simons Foundation invites nominations for Simons Investigators in the Mathematical Modeling of Living Systems (MMLS). These Investigators are outstanding scientists, often with mathematics or theoretical physics backgrounds, who are now engaged in mathematical-model-based research in the life sciences and to whom the Simons Foundation is dedicated to providing long-term support for their work.

Rationale and scope: Mathematical-model-based approaches are making increasingly important contributions to the life sciences. The MMLS program aims to support such approaches and to foster a scientific culture of theory-experiment collaboration similar to that prevailing in the physical sciences. To encourage young researchers to pursue this endeavor, the MMLS program will provide a long-term, stable base of support, enabling a focus on model-based approaches to important issues in the life sciences.

A broad spectrum of research areas within the life sciences will be considered, ranging from cellular-level issues of organization, regulation, signaling and dynamics through morphogenesis to the properties of large organisms, as well as neuroscience and evolution; however, preference will be given to areas in which modeling approaches are less established, and for this reason bioinformatics and genomics will fall outside the scope of the program. In all cases, preference will be given to work that relates closely to experiment, developing models that can explain data, suggest new classes of experiments and introduce important new concepts.
**Level and Duration of Funding:** A Simons Investigator in MMLS is appointed for a period of five years. Appointments will begin August 1, 2015.

An Investigator position may be interrupted and resumed for reasons that would normally justify a leave from a university, such as illness, the need to care for family members or time off for national service. Periods of sabbatical or research leave do not count as interrupting the Investigator position. Support may be withdrawn at any time at the discretion of the foundation, but it is expected that termination of the award at times other than five years would occur only rarely.

An Investigator will receive research support in an amount initially set at $100,000 per year. An additional $10,000 per year will be provided to the Investigator’s department. The award is administered through the institution at which the Investigator is appointed, and this institution will receive an additional 20 percent per year in indirect costs on the Investigator and departmental funds.

**Appropriate Expenses:** The funding provided to the Investigator may be used at the Investigator’s discretion to support research expenses in the following categories:

- Up to one month of summer salary and related benefits.
- Salary support and related benefits, including tuition support, for postdoctoral, graduate or undergraduate research assistants.
- Domestic or international travel for the Investigator.
- Short- or long-term visitors, including travel, meals and lodging expenses.
- Research equipment, supplies and other expenses directly benefiting the research.

Expenditures in other expense categories may be possible but must be approved in advance by the foundation. Investigator funds may not be used for sabbatical salary support or teaching relief of any kind.

Funding provided for the Investigator’s department should be used at the discretion of the department chair to provide support for seminars, visitors, refreshments and related expenditures that benefit the research activities of the department. The
department is expected to provide appropriate administrative support to the Investigator.

**Unspent Funds:** The foundation’s intent is that the award be administered to allow the maximum flexibility in pursuit of scientific goals. To this end, unspent funds are automatically carried over from year to year during the period of appointment, allowing for a particularly large expenditure in one year. In exceptional circumstances, it may be appropriate to pre-spend a portion of the award.

Tentative spending plans will be due by **December 1, 2015**. Requests for accelerated disbursement will be considered by the foundation, subject to budget availability and joint approval by the directors of the Mathematics and Physical Sciences Division and the Life Sciences Division. Investigators may apply for a no-cost extension for funds unexpended at the conclusion of the appointment.

**Reporting:** A financial report and a brief activity report, summarizing research results achieved, people supported, talks given and papers published, will be required from the Investigator annually, due by October 31 of each year.

At the conclusion of the appointment, a final report is required, due within 60 days of the appointment end date. This report should detail the research achieved, people supported and publications produced, as well as provide a detailed itemization of how the funds were expended. It may reference the annual reports already submitted.

**Eligibility:** To be an Investigator in MMLS, a scientist must be engaged in research related to the program, must have a primary appointment as a faculty member at a United States or Canadian educational institution with a Ph.D. program and not previously have been a Simons Investigator. At the time of appointment, an Investigator should be in the early stages of an academic career (within five years of the start of his/her first faculty position) and, typically, be holding an assistant professorship or equivalent position.
The foundation reserves the right to determine eligibility, but, generally, a ‘primary appointment’ is defined as one where an Investigator is a full-time employee of an academic institution and with a teaching load that is comparable to that of other faculty members in the same department. Investigators may transfer their awards to new educational institutions within the United States or Canada, subject to approval from the foundation and the old and new institutions. The award will be interrupted or terminated, at the foundation’s discretion, if an Investigator takes up a primary long-term position at a research institute, national laboratory, non-U.S./Canadian or for-profit organization or accepts a major administrative responsibility that significantly reduces the time available for research.

Investigators are expected to attend annual meetings at the Simons Foundation (at the foundation’s expense) to discuss their activities.

**Basis for Awards:** The intent of the program is to help launch the research careers of outstanding junior scientists. Nominees to the program will normally be in the first few years of their first faculty appointment. Nominations will be evaluated on the basis of nominees’ potential for scientific accomplishment.

**Number of Awards:** In 2015, we anticipate appointing up to four Investigators in the Mathematical Modeling of Living Systems.

**Nomination Procedure:** The foundation asks each university to submit up to one nomination to the MMLS Investigator program. The nomination materials outlined below should be sent via email to Elizabeth Roy (eroy@simonsfoundation.org) by **October 28, 2014**. The foundation expects to notify nominees of the decision by **May 15, 2015**.

For each nominee, we ask the nominators to provide the following documents in a single PDF file in the order indicated below. All documents should be typewritten,
single-spaced and in typeface no smaller than 10-point font. Margins, in all directions, must be at least ½ inch. **Nominations that do not adhere to these requirements may not be considered.**

- Nomination letter written by someone other than the nominee, **up to two pages in length**, explaining the distinctive scientific contributions of the nominee and including discussion of a few important papers; the letter should be signed by the nominator.
- Letters of support from two senior scientists. The letter writers could be the nominee’s Ph.D. and postdoc advisors or could be other scientists familiar with the nominee’s recent work and research goals. The letters should indicate the nominee’s most significant research accomplishments and provide insight into the nominee’s research program and likely future scientific trajectory.
- The nominee’s curriculum vitae, including Ph.D. year, institution, advisor, postdoctoral institutions and advisors, and positions held subsequent to award of doctorate.
- The nominee’s up-to-date publication list.
- A list of postdoctoral fellows and Ph.D. students supervised by or currently under supervision by the nominee. The list can be limited to the past five years if preferred.
- A research statement (**two-page limit**) prepared by the nominee that outlines the nominee’s research vision and plans. References do not need to be included in the page limit but should not exceed an additional page.

**Important Dates:**

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<th>Nomination Deadline</th>
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