

SIMONS FOUNDATION

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), a joint program of the Mathematics and Physical Sciences and Life Sciences divisions of the Simons Foundation. Investigators in MMLS are outstanding scientists, often with mathematics or theoretical physics backgrounds, now engaged in research based on mathematical modeling in the life sciences.

Rationale and Scope: New approaches in mathematically based modeling are making increasingly important contributions to the life sciences. The MMLS program aims to support theoretical approaches making important contributions to the life sciences and, thus, to foster a scientific culture of theory-experiment collaborations similar to that prevailing in physics. To encourage 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 morphogenic dynamics to the properties of organisms and ecology, 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-related proposals fall outside the scope of the program. In all cases, preference will be given to work developing deep theoretical ideas relevant to experiments, suggesting new questions and new classes of experiments, introducing important, new concepts, and explaining data.

Theory must connect with experiment, and candidates should articulate their own views about the nature of this connection, rather than accepting conventional wisdom; theory is more than data analysis.

The program explicitly does not support translational or specifically human disease-related research.

Basis for Awards: The intent of the Investigator in MMLS program is to help the research careers of outstanding scientists working on mathematical and theoretical approaches to topics in the life sciences. Nominations will be evaluated on the basis of nominees' potential for scientific accomplishment in these areas.

Level and Duration of Funding: A Simons Investigator in MMLS is appointed for a period of five years for up to \$132,000 per year. Appointments will begin August 1, 2019.

An Investigator will receive research support in the amount of \$100,000 per year. An additional \$10,000 per year will be provided to the Investigator's department. The Investigator's institution will receive *an additional* 20 percent per year in indirect costs.

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.

Allowable Expenses: The funding provided to a Simons 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 per year for the Investigator.
- Salary support and related benefits, including tuition support, for postdoctoral fellows and research associates, graduate students or undergraduate research assistants.
- Domestic or international travel for the Investigator and the Investigator's postdoctoral fellows and research associates, graduate students or undergraduate research assistants.
- Short- or long-term visitors and/or collaborators, including travel, meals and lodging expenses.
- Research equipment, laboratory supplies and other supplies, and other expenses directly benefiting the research, including computers, computer support, needed scientific software, publication expenses and professional membership dues.

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 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. Funds may also be used to subsidize meals for faculty, students and visitors. In addition, these funds may be used to help pay for furniture and research infrastructure, such as copiers, computer servers and computer support.

Eligibility: To be eligible to be nominated for an Investigator in MMLS award, a scientist must be engaged in research related to the MMLS program and must not previously have been a Simons Investigator. He/she must have a primary appointment as a faculty member (tenured or non-tenured) at an educational institution in the United States, Canada, the United Kingdom or Ireland, on a campus within these countries, and the primary department affiliation must have a Ph.D. program. At the time of the appointment start date, an Investigator should be in the early stages of an academic career and must be within ten years of the start of his/her first faculty position.

The foundation reserves the right to determine eligibility, but, generally, a 'primary appointment' is defined as one where the Investigator is a full-time employee of an academic institution 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, Canada, the United Kingdom or Ireland, 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 (i) at a research institute, national laboratory or other institution outside the United States, Canada, the United Kingdom or Ireland or another campus of their current institution, which falls outside the United States, Canada, the United Kingdom or Ireland or (ii) at a for-profit organization; or (iii) accepts a major administrative responsibility that significantly reduces the time available for research.

Investigators are not eligible to hold a Simons Fellowship or another Simons Investigator award for the duration of the Investigator award.

Investigators are expected to attend the MPS annual meeting, held at the Simons Foundation in October of each year, to discuss their activities. Costs associated with attending these meetings will be covered by the foundation.

Spending Rules: With the exception of summer salary and fringe benefits for the Investigator, unspent funds are automatically carried over from year to year during the period of appointment. In exceptional circumstances, requests to reallocate funds between award years may be considered on a case-by-case basis, which must be approved in advance by the foundation.

Investigators may apply for a no-cost extension for non-PI salary and fringe benefit funds unexpended at the conclusion of the appointment. Unspent funds at the end of the award must be returned to the foundation.

Reporting: A financial statement and an activity report will be required within 60 days following the end of each appointment year.

Number of Awards: In 2019, the foundation expects to appoint up to seven Simons

Investigators in MMLS.

Nomination Procedure: The foundation asks each university to submit up to two nominations to the Investigators in MMLS program.

Nominations must be submitted via proposalCENTRAL (pC) (<https://proposalcentral.altum.com/default.asp>). The deadline to submit nominations is **October 31, 2018, at 11:59:59 p.m. EST.**

Please refer to the “Simons Investigators Nomination Instructions for MMLS 2019” for further information on submitting a nomination.

The foundation expects to notify nominees of the decision by May 31, 2019. Please note that notifications will be sent via proposalCENTRAL to the institutional official, and corresponding email address, that submitted the nomination.

Important Dates:

Nomination Deadline	Notification	Award Start Date
October 31, 2018	May 31, 2019	August 1, 2019

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