



How to Propose Scientific Long Programs at the NITMB

We invite the submission of proposals for scientific long programs to be held at the National Institute for Theory and Mathematics in Biology (NITMB). Planning of such programs is generally done more than a year in advance.

1. LONG PROGRAMS AT NITMB

Long programs at the NITMB will consist of 4-10 weeks of concentrated activity in a specific area of current research interest at the intersection of biological and mathematical sciences. Long Programs offer the opportunity for faculty, postdocs, and students to be in residence at the NITMB. Those in residence conduct research, collaborate with NITMB faculty and NITMB fellows, provide training opportunities for students, and engage with additional visitors, who are invited to attend their week-long workshops.

Long programs at the NITMB take place in Fall (September - December) and in Spring (March - June). Each program begins with a Tutorial workshop, with the purpose of introducing the subject to the broader scientific community. In addition to the Tutorial workshop, long programs include 1-3 additional week-long workshops. Long programs receive administrative and financial support from the Institute, allowing organizers to focus on the scientific aspects of the activities.

2. HOW TO APPLY?

There are two stages:

1. **Pre-proposal:** provide the information described in the NITMB program template available on the NITMB website at <https://www.nitmb.org/NITMB-program-template.pdf>, and submit your pre-proposal to programs@nitmb.org.
2. **Full-proposal:** If your pre-proposal is selected by the Workshop Committee for full proposal submission, you will receive additional guidance from NITMB leadership on developing a competitive full proposal.

3. DEADLINES

The Selection Committee accepts applications of pre-proposals on a rolling basis. This committee also meets in January, May, and November each year to consider full proposals for programs. The deadlines for submission of full proposals are January 1st, May 1st, and November 1st.

4. SELECTION CRITERIA

The following are factors in the evaluation of long program proposals.

Mathematics and Biology in balance: we seek proposals in topics with potential for generating new mathematical frameworks that will lead to new biological understanding, through theory, data-informed mathematical modeling, and computational and statistical tools.

Connection with our scientific research themes: (1) Fidelity and Variation, (2) Fitness and Optimization, (3) Information Processing, (4) Learning and Adaptation, (5) Prediction and Anticipation. More information can be found at <https://www.nitmb.org/research>.

Programs structured to enhance communication between domains: successful proposals lay out a plan for facilitating productive interactions between mathematical and biological scientists. This includes the plan for the kick-off Tutorial workshop.

Programs that reflect the values of the NITMB: competitive proposals have leadership and proposed participants from all backgrounds. Their activities include efforts at broadening participation, and developing future scientific leaders from all backgrounds.

Potential to Identify Emerging Research Directions: each winter the NITMB hosts an Emerging Directions Workshop described at <https://www.nitmb.org/convening-activities>, in rapid response to new biological discoveries and new advances in mathematical approaches. We anticipate that these are often identified for their rapid development during long program activities.

Potential to Seed New Research Collaborations Across Domains: the NITMB supports research collaboration between mathematics and biology that can lead to discovery in either or both domains. Successful long programs lead to research that is show-cased in future NITMB Synthesis Workshops described at <https://www.nitmb.org/convening-activities>, organized by some of the long program organizers and participants.