



## Proposing an IMAGE Theme-of-the-Year

These guidelines explain how to propose a program sponsored through IMAGE. The Theme-of-the-Year (TOY) program currently forms a backbone for IMAGE outreach to the mathematical and geosciences communities. (See the vision statement below.) Typically the TOY is a year-long focus on some aspect of applied mathematics and the geosciences, designed to advance research and education between the mathematical and the geoscience communities. Novel and innovative ideas for reaching mathematical scientists and engaging them on aspects of the large and challenging scientific problems related to understanding the Earth system are particularly encouraged. Ideally the TOY should also leverage and enrich the scientific programs within NCAR and include participation of the NCAR scientific staff.

### Proposal contents

A proposal for a TOY should be made approximately 1 year in advance of the the start date and should include:

1. Title and an abstract describing how the activities fit into the overall goals of IMAGE (see below) and support the NCAR scientific mission. The time period over which the thematic activities will occur.
2. Identify an external Co-director for the TOY and provisional membership of an organizing committee.
3. Outline the TOY activities. Workshops and summer schools should include a short description of the mathematical and scientific content and the number of potential participants. Other novel and innovative activities are strongly encouraged but should be accompanied with an adequate description of of their impact.
4. Describe substantive connections of the TOY to groups outside of NCAR. These can include NSF mathematics Institutes, National Laboratories and university departments and Institutes.
5. Explain how the TOY will be advertised and a plan for including members of underrepresented groups.
6. Describe sources and/or opportunities for external funding and support.

Please submit the proposal to the IMAGE director: (Doug Nychka [nychka@ucar.edu](mailto:nychka@ucar.edu)).

## **Some notes**

The proposal can be brief provided it covers each of the topics listed above. The activities for previous TOYs can be perused at <http://www.image.ucar.edu/ThemeOfTheYear/2008> to get an idea of scope. Although past TOYs have been built around workshops and schools other models are encouraged.

It is not necessary to outline activities completely. Please suggest potential senior participants and speakers but these people need not be confirmed at the proposal stage.

## **The IMAGE vision:**

IMAGE brings mathematical and conceptual tools to bear on fundamental problems in the geosciences and serves to integrate the mathematical and geophysical communities. IMAGE activities emphasize the grand scientific challenges that are faced in understanding the Earth system and the subsequent enrichment of the mathematical sciences achieved by tackling such problems. Based on this vision, the Institute posits a broad definition of applied mathematics including statistics, probability, scientific computation, algorithm development and machine learning, along with more traditional disciplines based on differential equations and mathematical physics.