



THE MATHEMATICS COMMUNITY UNITES TO FOCUS ON GLOBAL ISSUES
From modelling to prediction, better math will help the world advance

MONTREAL, Quebec – The International Mathematics of Planet Earth 2013 ([MPE2013](#)) initiative was formally launched today at the Winter Meeting of the Canadian Mathematical Society ([CMS](#)). In the coming year, mathematical institutes and research networks across Canada and around the world will focus on problems ranging from the control of epidemics, future of fisheries, and protection of biodiversity to climate change.

“Mathematics touches every aspect of our lives and underpins the science that helps us understand how everything around us works”, noted Christiane Rousseau, Vice-President of the International Mathematical Union and former president of the CMS. Rousseau, a professor of mathematics at the University of Montreal, had the idea of organizing a special year back in 2009 when she was Director of Centre de Recherches Mathématiques ([CRM](#)). She brought North American institutes on board before reaching out across the globe. “My dream is now shared by so many scientists around the world that MPE2013 is developing on its own. This unprecedented collaboration will last past 2013. But time is pressing for the planet and mathematicians have to get more involved.”

Under the patronage of UNESCO, the MPE initiative brings together over 100 scientific societies, universities, research institutes, and organizations from around the world. The Director-General of UNESCO, Irena Bokova, said, “UNESCO strongly supports this extraordinary collaboration of mathematicians around the world to advance research on fundamental questions about planet Earth, to nurture a better understanding of global issues, to help inform the public, and to enrich the school curriculum about the essential role of mathematics in the challenges facing our planet.” The year-long MPE initiative is expected to develop the mathematics that is fundamental to the understanding of the dynamic processes that sustain our planet Earth. Whether dealing with the geophysical issues of our earth, the atmospheric issues of our weather, the biological issues of our species, or our human everyday issues, it is the mathematics that underpins our understanding and, in turn, our advancement. “By focusing on the role mathematical sciences play on our Earth, we will be able to encourage research that will help address the issues that affect us all,” says Rousseau. “That is why the MPE2013 initiative will highlight and showcase the contribution mathematics makes to the decisions surrounding the critical issues we face globally.”

The planned activities at the Canadian [launch](#) include:

- A panel discussion “Que peuvent faire les mathématiques pour la planète?” chaired by Pierre Chastenay;

- Two public talks: “Une longue histoire: la planète Terre et les mathématiques” by Ivar Ekeland (Paris-Dauphine and UBC), and “The Complex Challenge of Sustainability” by Doyne Farmer (Oxford);
- Six lectures for CEGEP professors on December 8,
- Plenary scientific lectures, “The Foundations of Probability and Statistics with Black Swans” by Graciela Chichilnisky (Columbia), “Evolution of Cooperation” by Martin Nowak (Harvard), and “The Dynamics of Ocean Waves” by Catherine Sulem (Toronto);
- And six special sessions, “Celestial Mechanics”, “Ecological Dynamics under Temporal Variation”, “Epidemiology - Genomics”, “Epidemiology – Infectious Diseases”, “Operations Research” and “Probability and Biology”.

Canadian MPE activities through 2013 will include:

- A series of [public MPE lectures](#) throughout Canada;
- A [national program on epidemiology, ecology and public health](#) involving all Canadian partners listed below;
- An [international program in celestial mechanics](#) involving the Canadian partners BIRS, CRM, Fields and PIMS;
- A [thematic program on the Mathematics of Oceans](#) involving Fields, AARMS and other partners;
- Scientific programs at each of the Canadian partners: Atlantic Association for Research in the Mathematical Sciences ([AARMS](#)) Banff International Research Station ([BIRS](#)), Centre de Recherches Mathématiques ([CRM](#)), The Fields Institute ([Fields](#)), Network of Excellence in the Mathematical Sciences ([Mprime](#)), and Pacific Institute for Mathematical Sciences ([PIMS](#));
- And activities for the schools including special issues of the high school mathematical magazines [Accromath](#) and [Pi in the Sky](#).

Information

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