

MATHEMATICS OF PLANET EARTH

PRESS RELEASE

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THE MATHEMATICS OF CLIMATE DISRUPTION

Berkeley, California – Are the recent longer, hotter, California dry seasons, the declining snow pack, and events like Superstorm Sandy an indication that the world’s climate has been disrupted? More importantly, are these changes predictable?

On Monday, March 4, climate scientist [Dr. Emily Shuckburgh](#) will discuss the mathematics describing the underlying science that drives the observed changes in our weather patterns and show projections of future change. This public lecture, “[Climate Disruption: What Math and Science Have to Say](#),” will be held at the Palace of Fine Arts in San Francisco at 7:30 p.m. as part of the Simons Public Lecture Series celebrating [MPE2013](#) (the Mathematics of Planet Earth 2013), which is funded by the Simons Foundation.

Dr. Shuckburgh’s research is part of an international effort to make sense of these signs and to understand the mathematically sophisticated problem well enough to explain these effects and assess their impact. In addition to the anecdotal evidence of extreme events that appears in the news, physical measurements collected over the past few decades give a clear picture of the potential for strife for humanity. Moreover, Dr. Shuckburgh has first-hand experience of the changes in the Arctic and Antarctica. Striking reductions in Arctic sea ice and rising sea levels are just two examples of the global changes that have been observed. The risk is that future climate disruption will threaten both coastal properties and infrastructure, and severely impact food production in many parts of the world.

During the lecture, Dr. Shuckburgh will explain the nature of the data which are available, and describe the methods used to turn these data into prediction. The essential elements of this complex problem will be presented during this talk intended for a general audience.

Dr. Shuckburgh is a member of the mathematics faculty at the University of Cambridge, associate of the Cambridge Centre for Climate Change Mitigation Research, and a fellow of the Royal Meteorological Society. She leads the Open Oceans research group at the British Antarctic Survey, which is focused on understanding the role of the polar oceans in the global climate system. Shuckburgh also serves as an advisor to the UK government.

For more information and to purchase tickets, visit www.msri.org/simonslecture.

This event is made possible by the Simons Foundation and is hosted by the Mathematical Sciences Research Institute (MSRI) and the American Institute of Mathematics (AIM).

More about MPE2013

Mathematics of Planet Earth 2013 (see the “[Newsroom](#)”) is an initiative of over 120 scientific societies, research institutes, universities, and organizations all over the world. The mission of the project is to encourage research in identifying and solving fundamental questions about planet Earth, encourage educators at all levels to communicate the issues related to planet Earth, inform the public about the essential role of the mathematical sciences in facing the challenges to our planet, and to encourage young people interested in sustainability and global issues to consider mathematics as an exciting career choice. MPE2013 enjoys the patronage of UNESCO, the United Nations Educational, Scientific, and Cultural Organization. The [Simons Foundation](#) is a major supporter of MPE2013 and the sponsor of the international “MPE2013 Simons Public Lecture Series” at nine locations throughout the world in 2013.

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About AIM

The **American Institute of Mathematics (AIM)**, <http://www.aimath.org>, a nonprofit organization, was founded in 1994 by Silicon Valley businessmen John Fry and Steve Sorenson, longtime supporters of mathematical research. The goals of AIM are to expand the frontiers of mathematical knowledge through focused, collaborative research projects. In 2002 AIM became one of the eight National Science Foundation sponsored Mathematical Sciences Institutes. Each year AIM hosts twenty focused research workshops and thirty small research groups. AIM created the Math Teachers' Circle Network to develop and encourage problem solving in middle schools. In addition, AIM is interested in helping to preserve the history of mathematics through the acquisition and preservation of mathematical books and documents.

About MSRI

The **Mathematical Sciences Research Institute (MSRI)**, <http://www.msri.org>, in Berkeley, California, is one of the world's preeminent centers for research in the mathematical sciences and has been advancing mathematical research through workshops and conferences since its founding as an independent institute in 1982. Approximately 2,000 mathematicians visit the MSRI each year, and the Institute hosts about 85 leading researchers at any given time for stays of up to one academic year. The Institute has been funded primarily by the National Science Foundation with additional support from other government agencies, private foundations, corporations, individual donors, and more than 90 academic institutions. The MSRI is involved in K-12 math education through its annual Critical Issues in Mathematics Education conferences for educators, math circles, Julia Robinson Math Festivals, the National Association for Math Circles and its website (NAMC, www.mathcircles.org), and Olympiad math competitions; in undergraduate education through its MSRI-UP program; and in public education through its "Conversations" series and a variety of public events.