

Subject: Student-post doc applicants for workshop - After the extreme--Measuring and modeling impacts on terrestrial ecosystems when thresholds are exceeded

We invite applications to attend from US-based graduate students and postdoctoral researchers for the workshop "After the extreme: Measuring and modeling impacts on terrestrial ecosystems when thresholds are exceeded" to be held in Florence, Italy 12-15th April 2016. The workshop is organized by the two international research networks, INTERFACE and CLIMMANI. Meeting details are below.

To apply please submit a one-page CV that includes the name, email address, and phone number for your current dissertation or postdoctoral advisor, a short paragraph on why attending the meeting would enhance your career, a statement if you have received prior-INTERFACE support, and a poster abstract to Aimeé Classen (aimee.classen@snm.ku.dk). The application needs to be a single PDF titled "Lastname_INTERFACE_Florence" and the subject line of the email should be the same.

Application deadline is March 9, 2015. All students and postdocs will be REQUIRED to present a poster at the meeting.

INTERFACE is based in US and CLIMMANI in Europe, and both networks bring together researchers working on climate change effects in terrestrial ecosystems in order to facilitate interaction, syntheses of results and collaboration. In particular, facilitating interactions among experimentalists and ecosystem and earth system modelers has a special priority.

The international workshop in Florence 12-15th April 2016 is organized by Claus Beier, Aimee Classen and Klaus S Larsen, University of Copenhagen (DK), Jeff Dukes, Purdue University (US), Anke Jentsch from University of Bayreuth (DE) and Franco Miglietta, Institute for Biometeorology, National Research Council.

Extreme events – the topic

Ecosystem experimentation related to climate change has been carried on for several decades providing valuable information on ecosystem responses to increased atmospheric CO₂ and temperatures and altered precipitation. Experiments have been carried out in a wide range of ecosystems and climatic conditions and for time ranges of years to decades. They include many single factor experiments as well as a more limited number of multifactor experiments in which interactions among factors have been addressed. These experiments have generated significant knowledge about ecosystem responses to the main climatic stressors, have informed and tested models, and have built the foundation for major policy advice e.g. in the IPCC assessment reports.

Common to these experiments is that they have in most cases been based on "most likely scenarios" or "average scenarios" and in cases where extreme weather conditions have been addressed, these extremes are mostly "moderately extreme". This means that our knowledge about the harshest, most extreme conditions that surpass thresholds and tipping points is generally limited and mostly lacks experimental confirmation. Further, this means that ecosystem models also lack that knowledge and/or validation against measurements.

Therefore, the workshop in Florence will focus on "extreme extremes". What is our current understanding of such events, and their corresponding thresholds and tipping points? How do thresholds differ across ecosystems and successional states? How do organisms and ecosystems respond and recover when thresholds are exceeded, and how will global changes affect the recovery trajectories? How have and can we address these questions experimentally and in models? What is our current understanding of plant and ecosystem responses to very extreme events and how do we close the gaps in knowledge from an experimental and modelling point of view?

Session details

The workshop will consist of 4 sessions that could be seen as a road map for identifying the gaps and the answers:

1. What is the current conceptual understanding of ecosystem responses to very extreme conditions and ecosystem recovery?
2. Long term ecosystem responses to climate change - what do current models tell us?
3. Interactions between climate change, disturbance regimes and successional stages – what does the experimental evidence tell us?
4. Impacts of extremes - how do we design future experiments and models to tackle the unknowns?

The meeting will be devoted into a 50:50 division of time between scientific presentations (incl.

posters) and group discussions. This means that we specifically designed the workshop with ample time for discussions and interactions among participants. Talks will vary in length with most talks being short and “statement-like” rather than long and comprehensive.

Breakout sessions: The group discussions will be organized in smaller breakout sessions with the goal of outlining a plan or a synthesis paper identifying key messages related to the overall topic.

Each breakout group should ideally synthesize and discuss the state of knowledge within the area and identify gaps in knowledge and abilities to model it at a local and global scale. The breakout groups will be given sufficient time to discuss and condense their thoughts and outline a plan for developing a product after the end of the meeting. All participants have been specifically chosen because of their past and/or ongoing work of relevance to the topic. In order to organize the breakout sessions most efficiently and with the greatest relevance to the participants’ interests, we will ask all participants to share their views on the most urgent science questions and gaps in knowledge as part of the meeting registration process.

Poster session: The poster session will be initiated with a “pitch-presentation” where each presenter will be given 1 minute to show one slide and highlight the poster.

Field trip: The workshop will start on the 12th with an excursion in the area around Florence with both scientific and historical/cultural highlights.