MCRN Newsletter

November 22, 2015 - Issue 4

MCRN Colloquium Webinar

<u>Monday, November 23rd, 10:30am EST</u>:

Global Warming Could Be Nonlinear

Jonah Bloch-Johnson (University of Chicago, Department of the Geophysical Sciences)

It is widely acknowledged that many components of the Earth's climate system exhibit nonlinear behavior when forced, with examples ranging from ice sheets to ocean circulations to savanna. These changes, as profound as they are, are not expected to greatly impact global climate, as characterized by values such as the global mean annual surface temperature. This value is usually assumed, and often modeled, to be roughly proportional to the greenhouse gas-induced radiative forcing . In the limit of large (i.e. greater than anthropogenic) forcing, this approximation is expected to break down dramatically. In this talk, I will use a simple conceptual model to argue that this threshold might be closer than one might expect. I will demonstrate how the effect of a temperature-dependent sensitivity can be confused with model error, creating selection bias, with examples drawn from preliminary results of a perturbed physics ensemble. I will also show the importance of this effect for determining the risk of high warming. I will discuss evidence from paleoclimate that can help constrain this temperature dependence. Finally, I will briefly discuss how regional patterns of feedbacks can complicate attempts to diagnose nonlinear sensitivity.

Webinar Link: <u>https://renci.webex.com/renci/j.php?MTID=m135f77b252acaa0bfa0edfea48a6aef2</u>

Password: **mcrn**

The next colloquium speaker is **Rachel Kuske** (UBC). Her talk will be on <u>Thursday, December 3rd, 7:00pm EST</u>.

In case you missed it...
Luke Bennetts' talk *Modelling the Marginal Ice Zone* is <u>HERE</u>.

MCRN HUB Update

The HUBzero CMS 2.0 upgrade brought about many unexpected bugs. The mail function, video viewing and numerous links were broken. Our sincere apologies for all the inconveniences and confusion this caused. The MCRN Hub team is working on fixing

Email <u>hubmins@mathclimate.org</u> to submit information for distribution to MCRN members.

Recent News

<u>FYI:</u> NSF Funding Announcements: MSII and INSPIRE

<u>Member News:</u> Alejandro Aceves elected Optical Society Fellow

Recent job postings

<u>The list</u> includes:

* a unique opportunity for early career researchers to join the **Alan Turing Institute** (UK's new national data science institute, established to bring together world-leading expertise to provide leadership in the emerging field of data science), and

* two types of Data Science postdoctoral fellowships at the **University of Washington eScience Institute**.

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these issues. Many thanks to all the MCRN members who promptly submitted tickets to alert the team of all the issues. Again, we encourage all users to please submit a ticket if you notice any bugs or issues.

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