Chaos

Submit Today!

Invitation to Submit: Theory-informed and Data-driven Approaches to Advance Climate Sciences
Submission Deadline: March 1, 2022

Dear Colleague,

We are pleased to announce that our Focus Issue, "Theory-informed and Data-driven Approaches to Advance Climate Sciences" is now open for submissions! As a distinguished researcher in this field, we hope you consider submitting a paper.

The understanding of the fundamental dynamical and statistical properties of the climate system is a grand scientific challenge of contemporary science. Despite substantial progress, reaching a complete theory able to relate climate variability and climate response across scales is proving elusive. While a lot of progress has been made, various fundamental theoretical and practical problems still need to be addressed. In the context of numerical weather forecast, accurate and efficient parametrizations are key to achieving high skill in prediction. We are now living in the time when machine learning is revolutionizing the way we look at complex systems, in terms of both modelling and data processing. A critical appraisal of its potential and pitfalls in the context of climate-related research is extremely timely. The goal of this special issue is to collect contributions that, using theory-informed and/or data-driven methods, aim at advancing: i) our understanding of the dynamical properties of the climate system and of its individual components, ii) our ability to model the climate system and of its individual components and to achieve accurate predictions at different spatial and temporal scales; iii) our ability to merge optimally data and model outputs using innovative data assimilation methods across scales and/or involving one or more components of the climate systems.

To submit a paper for consideration, please take note of the following instructions:

1) Go to the submission site for the journal (https://chaos.peerx-press.org) to submit your paper

2) During the submission process, when asked if your paper is part of a Focus Issue, please answer "yes" and select "Theory-informed and Data-driven Approaches to Advance Climate Sciences" from the subsequent drop down menu.

Since this Focus Issue will publish as a virtual collection, papers will publish immediately after acceptance. All submitted articles should conform to the [Chaos author guidelines](). Please be sure to write a lead paragraph – see guidelines for more detail.

We look forward to [receiving your submission]() by **March 1, 2022**. Your manuscript will be reviewed within 4-6 weeks of submission.

We hope that you will be able to contribute to this exciting Focus Issue in Chaos.

With warm regards,

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