MAX-PLANCK-GESELLSCHAFT

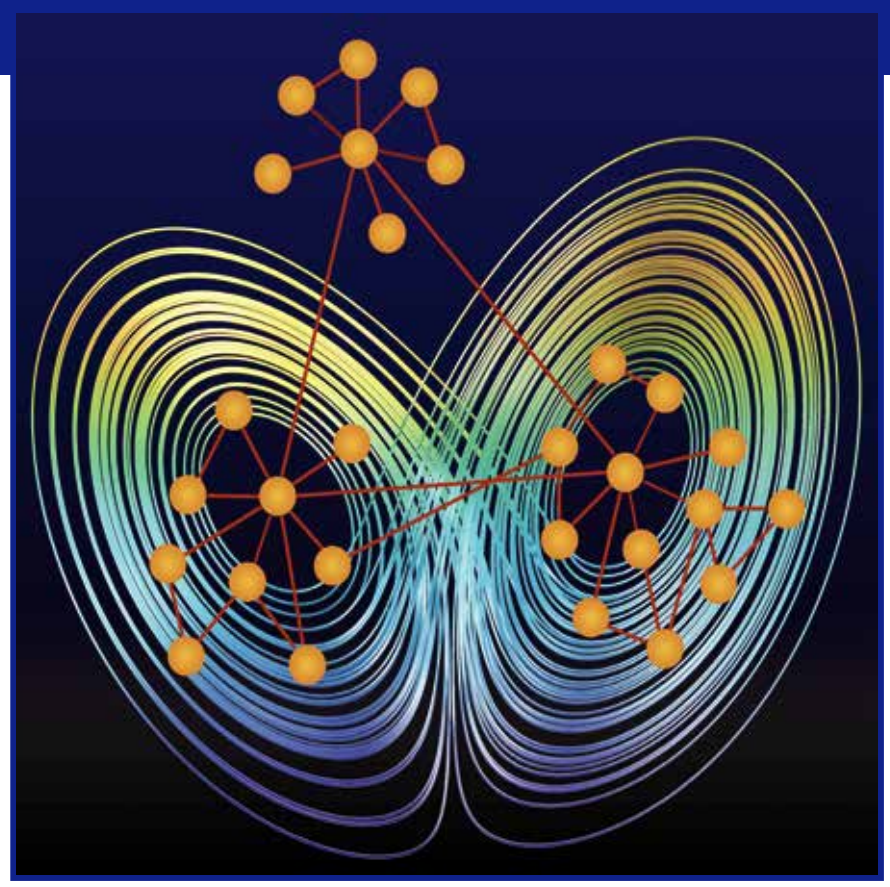
mpipks

Dynamical Methods in Data-based Exploration of Complex Systems

Max Planck Institute for the Physics of Complex Systems

International Workshop
07 - 11 October 2019

Understanding underlying complex nonlinear dynamical processes from observations is a challenging problem even in the era of Big Data. Recently, novel approaches have been developed at the overlap of dynamically based techniques and methods from machine learning and data assimilation. At the workshop, general advanced tools of data-based understanding of complex systems and their particular applications will be discussed.



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Topics:

- machine learning of dynamical systems
- reservoir computing
- Koopman operator approach
- compressive sensing
- data assimilation
- nonlinear time series analysis of spatio-temporal data
- network reconstruction
- coupling function inference
- nonstationarity and hidden variables
- applications in physiology, neuroscience, social networks, power grids, climate, etc.

Invited speakers:

H. Abarbanel (US)
R. Andrzejak (ES)
J. Bröcker (UK)
S. Daun (DE)
C. Grebogi (UK)
P. Ivanov (US)
J. Kurths (DE)
Y.-C. Lai (US)
K. Lehnertz (DE)
C. Letellier (FR)
Z. Levnajic (SI)
C. Masoller (ES)
A. Mauroy (BE)
E. Ott (US)
J. Peinke (DE)
M. Rosenblum (DE)
T. Sauer (US)
B. Schelter (UK)
I. Sendiña-Nadal (ES)
A. Stefanovska (UK)
M. Timme (DE)
J. Timmer (DE)
P. van Leeuwen (UK)
A. Witt (DE)

Scientific coordinators:

Holger Kantz
Dresden, Germany

Ulrich Parlitz
Göttingen, Germany

Arkady Pikovsky
Potsdam, Germany

Organisation:

Mandy Lochar
MPIPKS Dresden

Applications received before 15 June 2019 are considered preferentially.

Applications are welcome and should be made by using the application form on the event's web page. The number of attendees is limited. The registration fee for the international workshop is 140 Euro and should be paid by all participants. Costs for accommodation and meals will be covered by the Max Planck Institute. Limited funding is available to partially cover travel expenses.

For further information please contact:
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We also offer individual fellowships (phd, postdoc, sabbatical). Applications are accepted continuously. For details, please check www.pks.mpg.de/visitors