



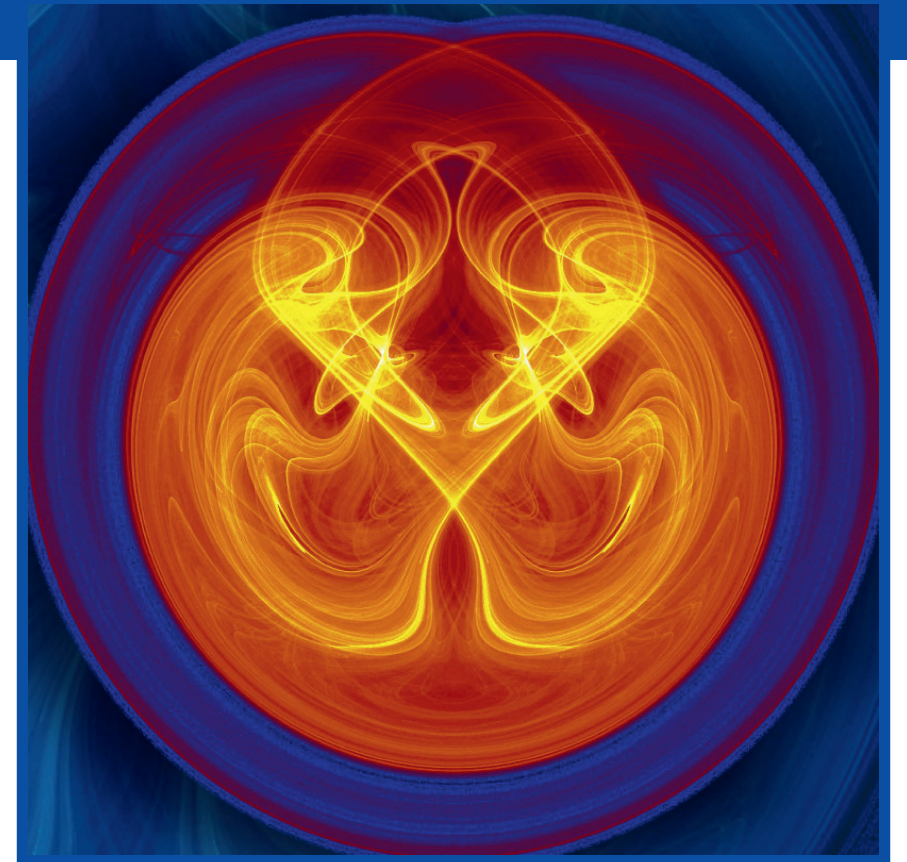
# Non-autonomous Dynamics in Complex Systems: Theory and Applications to Critical Transitions

## International Seminar & Workshop 09 - 27 October 2023 (Workshop week 16 - 20 October)

This workshop aims to bring together scientists from various disciplines of the natural and physical sciences, particularly from research areas dealing with complex systems and applications to aspects of earth system science, biosciences and network dynamics. The workshop will focus on mathematical approaches, methodologies and applications where non-autonomous, multiple timescale and transient dynamics are important to understand and predict nonlinear behaviour such as critical transitions in complex systems.

### Topics

- properties of pullback and snapshot attractors
- random and input-driven dynamical systems
- rate-induced transitions and tipping points
- computational methods for non-autonomous systems
- early warning signals for critical transitions
- role of chaotic long-lived transients
- climate dynamics including atmosphere, ocean, cryosphere, and biosphere
- applications to neurodynamics, complex networks and medicine
- applications in engineering, physical sciences and learning systems
- control of critical transitions



### Confirmed invited workshop speakers (full list on the website)

Luonan Chen (CN)  
Henk Dijkstra (NL)  
Peter Ditlevsen (DK)  
Partha Sharathi Dutta (IN)  
Christopher K. R. T. Jones (US)  
Klaus Lehnertz (DE)  
Iacopo Longo (DE)  
Ehud Meron (IL)  
Marisa Montoya (ES)  
Juan-Pablo Ortega (SG)  
Stefano Pierini (IT)  
Martin Rasmussen (UK)  
Denise Sciamarella (AR)  
Mary Silber (US)  
Tamás Tél (HU)  
Peter Tino (UK)  
Anna von der Heydt (NL)  
Sebastian Wieczorek (IE)  
Alexey Zaikin (UK)

### Scientific coordinators

Peter Ashwin  
Exeter, UK

Ulrike Feudel  
Oldenburg, DE

Michael Ghil  
Paris, FR &  
Los Angeles, US

### Organisation

Claudia Domaschke  
MPIPKS Dresden

Applications received before 1st June 2023 are considered preferentially.

**We aim for an in-person event with all participants on-site.**

**Applications** are welcome and should be made by using the application form on the event web page (see contact details on the right). The number of attendees is limited. The **registration fee** for the international event is 200 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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