

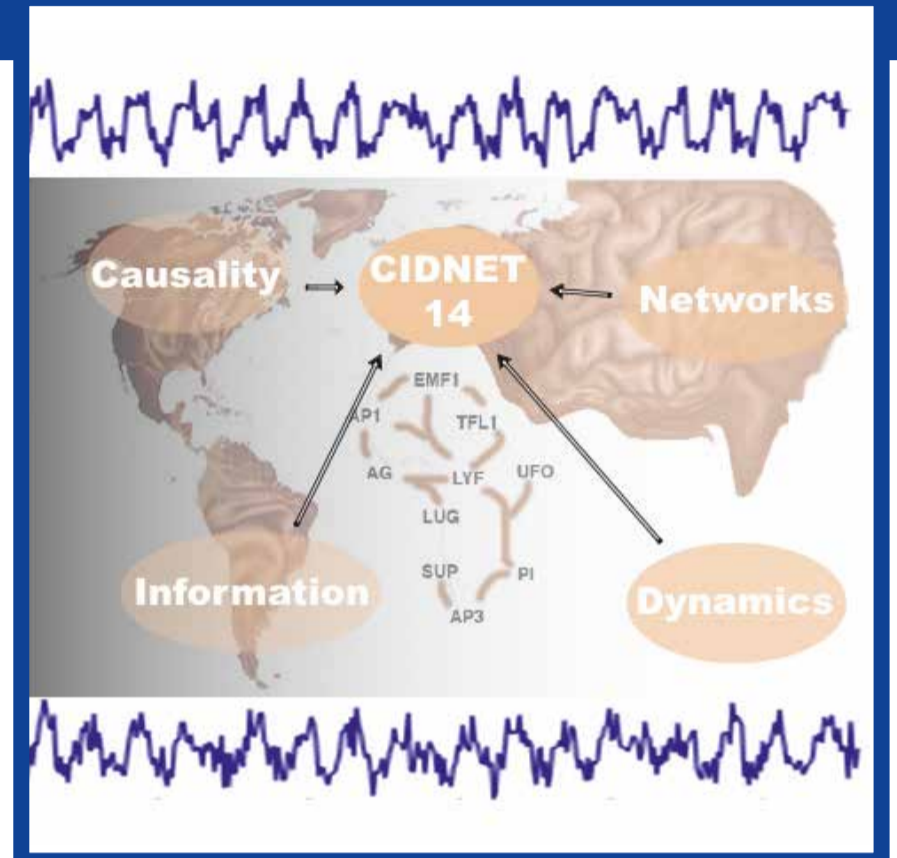


MAX-PLANCK-GESELLSCHAFT

Causality, Information Transfer and Dynamical Networks

International Seminar
12 May - 04 July 2014
Embedded Workshop
16 - 20 June 2014

Inferring cause-effect relationships from observations is one of the fundamental challenges in natural sciences and beyond. This seminar and workshop aim to bring together a diverse group of scientists from various disciplines to increase communication between different fields as well as to stimulate novel research work and to initiate new cross-disciplinary collaborations.



Topics include

- Estimating causal influences, interactions and connectivity from general multivariate recordings
- Information measures for detecting causality
- Permutation entropy and its applications
- Dynamical networks and their functionality
- Scale-dependent properties of dynamical networks
- Feedback between dynamics and connectivity
- Information transmission, neuronal avalanches and the critical brain
- From dynamical network structure to brain function
- Inferring network structure from calcium signals and spike trains
- Information theoretic approaches to sequence alignment and genetic network inference
- Information flow in genetic networks
- Self-similar networks for information transfer in geosciences
- Inference of climate networks

Invited speakers

Ch. Bandt (Germany)
J.M. Beggs (USA)
S. Boccaletti (Spain)
D. Chialvo (Spain/USA)
T.P. Coleman (USA)
M. Colicos (Canada)
M. Ding (USA)
M. Eichler (Netherlands)
C. Grebogi (UK)
S.K. Han (South Korea)
J. Kantelhardt (Germany)
H. Kantz (Germany)
S. Kiebel (Germany)
L. Kocarev (Macedonia)
K. Lehnertz (Germany)
I. Nemenman (USA)
M. Palus (Czech Republic)
A. Pikovsky (Germany)
D. Plenz (USA)
B. Pompe (Germany)
M. Rosenblum (Germany)

J. Runge (Germany)
T. Sauer (USA)
S.J. Schiff (USA)
A.K. Seth (UK)
C. Shalizi (USA)
O. Sporns (USA)
P.F. Stadler (Germany)
C.J. Stam (Netherlands)
M.P.H. Stumpf (UK)
I. Zaliapin (USA)
M. Zochowski (USA)

Scientific coordinators

J. Davidsen
Calgary, Canada
P. Grassberger
Jülich, Germany
B. Schelter
Aberdeen, UK

Organisation

C. Pönisch

Applications received before 28 February 2014 are considered preferentially.

Applications are welcome and should be made by using the application form on the conference web page (please see URL below). The number of attendees is limited. The registration fee for the international workshop is 120 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. Please note that childcare is available upon request.

For further information please contact:

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