

4th International Conference

Neural Field Theory - The Interplay of Models and Data Assimilation

July 3-5, 2017, University of Reading, United Kingdom

Neural Mass Modelling and Neural Field Theory is a growing and very active area of research with important applications in medicine and technology. Activities range from the simulation of neural populations to the analysis of neural field equations, from neural modelling of cognitive and psychological processes to controlling artificial devices.



The connection between **models and measurement data**, including large-scale data assimilation tasks, is of high interest to many researchers and a key challenge to move into real-world applications. The integration of models with data assimilation is a core milestone of systems to achieve a **high-quality forecast skill**.

The 4th ICNFT includes a tutorial afternoon with introduction to theory and practice of data assimilation by leading experts in the field.

The community includes researchers from medicine, psychology, physics, mathematics and engineering. *The International Conferences on Neural Field Theory* at the University of Reading contribute to the further development and shaping of this community by bringing together well-known and young researchers. Ideas from different fields meet here in a truly interdisciplinary and inspiring environment.

The 4th *International Conference on Neural Field Theory* is following a highly successful series of conferences which took place in 2010, 2012, and 2014 at Reading. Confirmed invited speaker for this conference include the well-known colleagues listed below.

Invited Speakers include: John Spencer (East Anglia U), Wilhelm Stannat (TU Berlin), Timothy Sauer (George Mason University), Rosalyn Moran (Uni Bristol), David Grayden (Uni Melbourne), Dietmar Heinke (U. Birmingham); **Tutorial Speakers:** Stephen Coombes (University of Nottingham), Ingo Bojak (University of Reading), Roland Potthast (DWD/Uni Reading), Axel Hutt (DWD/Uni Reading)

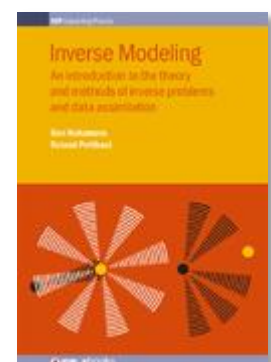
Organizers: Roland Potthast, Axel Hutt, Stephen Coombes, Ingo Bojak, Peter beim Graben, Douglas Saddy and Ingeborg Lasser

Preliminary Schedule

Time	Monday	Tuesday	Wednesday
09:00-12:30	Brain Dynamics – Simulation and Numerics	Measurements and Data Assimilation: Prediction Framework	Applications in Cognition
	Coffee	Coffee	Coffee
14:00-18:00	Big Brain Computations 1-Slide-Forum	Tutorials on Neural Field Models and Data Assimilation	Neural Basis of Cognition
18:00	Icebreaker		

Inverse Modeling Prediction Framework

- [1] Model Hierarchy & Numerics
- [2] Measurement Data & QC
- [3] Observation Operators
- [4] Analysis Technique and Uncertainty Estimation
- [5] Data Assimilation Cycle
- [6] Prediction
- [7] Verifikation



Fee for Participants GBP 45,-. Lunches and Coffee will be provided. Please register before April 15 online. Poster contributions welcome, reserve space before April 15!