

# Network Analysis in Natural Sciences and Engineering

part of

## AISB'06: Adaptation in Artificial and Biological Systems

**Bristol, UK**

**April 5-6, 2006**

### Symposium Chairs:

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### Symposium Location:

University of Bristol  
Bristol, UK

### Symposium Sponsor:



<http://www.nisis.de/>

Network analysis and modelling address a wide spectrum of techniques for studying domains consisting of individuals that are linked together into complex networks. Networks refer to artificial and natural systems like communication networks, social networks and biological networks. They constitute a very active area of research in a variety of scientific disciplines, including Physics, Biology, Artificial Intelligence and Mathematics. Both graph theory and techniques recently developed for the analysis of networks provide a substantial background for studying complex network structures and dynamics in artificial and biological systems. They allow us to answer questions in common to these networks like aspects of adaptability, error and attack tolerance, complexity, community structures, and propagation patterns.

One of the key features of natural networks is their ability to adapt to changing environments, maintaining an appropriate pattern of behaviour. Examples of such adaptive capacity span the whole range of natural networks, from gene-protein interaction networks within individual cells, through physiological systems, to ecosystems.

The aim of this symposium is to provide a forum to bring together researchers in biology, computer science and related disciplines in order to discover related mechanisms in natural and artificial networks and to initiate, combine and promote research in both fields.

### Topics of Interest:

- Adaptability in biological networks
- Mining and learning from network data
- Prediction of structural network properties
- Network dynamics
- Network topology
- Community structures
- Topological motifs
- Pattern mining
- Massive graph mining
- Social network analysis in human and animal societies
- Genetic regulatory and protein interaction networks
- Robustness issues
- Complexity issues
- Model selection and sampling in networks
- Information networks
- Applications of network theory

### Important Dates:

January 22, 2006

Deadline for submission of extended abstracts

February 12, 2006

Notification of decision

March 3, 2006

Deadline for submission of camera ready copies

### Submission of Contributions:

All submissions must be done electronically. Detailed information on the submission procedure and the reviewing process can be found on the symposium website:

<http://irgroup.cs.uni-magdeburg.de/NAINE/>

### Main Convention:

The convention is organized by the Society for the Study of Artificial Intelligence and Simulation of Behaviour (AISB; <http://www.aisb.org.uk>).