

First Announcement
3rd European Neuro-IT and Neuroengineering School
– Neuroengineering of Cognitive Functions –
June 18-25, 2005
Venice (Italy)

Organizers

Andreas K. Engel (Hamburg, Germany)
Alois Knoll (München, Germany)
Guy Orban (Leuven, Belgium)
Peter König (Osnabrück, Germany)
Gulio Sandini (Genoa, Italy)
Fabrizio Davide (Rome, Italy)
Marc de Kamps (München, Germany)

Goals

The school will focus on a new and rapidly growing field – the area of ‘Neuro-IT’ and ‘neuroengineering’ where neuroscience, information technology and robotics are approaching each other and starting to merge in interdisciplinary projects. The school is organized and funded by Neuro-IT.net, an EU Thematic Network (<http://www.neuro-it.net>), which aims at building a critical mass of new interdisciplinary research excellence at the interface between neurosciences and information technologies within the European Union and its associated states. The 2005 school will thematically focus on the neuroengineering of cognitive functions.

Venue

The school will be hosted by the Telecom Italia Learning Services SpA. It will take place at the Future Centre of the Telecom Italia, located in San Marco, Campo San Salvador (<http://www.futurecentre.telecomitalia.it/eng/index.htm>), a beautiful historical site near the famous Rialto Bridge in the heart of Venice. The Future Centre provides state-of-the-art meeting facilities as well as accomodation for part of the attendants.

Programme

The school will have a duration of 8 days in total. While the first and the last day are used for travel, welcome and organizational matters, 6 days will be devoted to teaching. The school will be organized in two parts. The first two days will feature *advanced tutorials* with the goal of providing background knowledge for students from different disciplines. These tutorials will focus on background materials directly relevant to the topic of the summer school, that will improve understanding of the expert presentations that will follow in subsequent days of the school. One day will be devoted to presenting important concepts and data from neuroscience for students from technical disciplines, the second day will be reserved for presenting topics in neuroengineering and robotics. The other four days of the school feature *expert lectures* on key topics in the Neuro-IT field, with a focus on cognitive functions and their technical realization in artificial systems. All issues will be dealt with, in an interdisciplinary way, both from the biological and the IT/engineering perspective.

Topics

The topics for tutorials and lectures will include:

- Sensory integration – multimodal interaction – attention – awareness
- Sensorimotor interaction – action planning – decision making
- Learning – memory – development
- Neuroprosthetics – brain-machine interfaces

- Biologically inspired robots – evolutionary approaches – architectures

Participants

The school is intended for junior and senior researchers and other professionals working in the field of Neuro-IT, as well as for students of engineering, physics, medicine, biology, or psychology. A total of 50 PhD students or postdocs will be admitted. Selection will be on a competitive basis.

Faculty

Igor Aleksander (London, UK)
Helder Araujo (Coimbra, Portugal)
Christian Büchel (Hamburg, Germany)
Gabriel Curio (Berlin, Germany)
Andreas Engel (Hamburg, Germany)
Wolfram Erlhagen (Guimaraes, Portugal)
Eduardo Fernandez (Alicante, Spain)
Pascal Fries (Nijmegen, The Netherlands)
Vittorio Gallese (Parma, Italy)
Rainer Goebel (Maastricht, The Netherlands)
Auke Ijspeert (Lausanne, Switzerland)
Alois Knoll (München, Germany)
Peter König (Osnabrück, Germany)
Andrej Kral (Hamburg, Germany)
Henry Markram (Lausanne, Switzerland)
Klaus-Robert Müller (Berlin, Germany)
Miguel Nicolelis (Durham, USA)
Guy Orban (Leuven, Belgium)
Frank Pasemann (St. Augustin, Germany)
Tim Pearce (Leicester, UK)
Rolf Pfeifer (Zürich, Switzerland)
Gulio Sandini (Genoa, Italy)
Vittorio Sanguineti (Genoa, Italy)
Jürgen Schmidhuber (München, Germany)
Paul Verschure (Zürich, Switzerland)
Barbara Webb (Edinburgh, UK)
Matthew Wilson (Boston, USA)
Jonathan Wolpaw (Albany, USA)

Registration

Conditions for acceptance of student applications, as well as details regarding programme, registration fees and accomodation will be posted on the Neuro-IT website soon.

Applications can be submitted through the Neuro-IT website

(<http://www.neuro-it.net>) starting March 18.

Application deadline will be April 15.