

Neural network models of perception, action and embodied knowledge

Department of Psychology, University of Bologna
Summer School, July 13–19, 2005

GENERAL INFORMATION

This one-week summer school will introduce students to neural network models, also known as “connectionist” models. These models have become widespread research tools in psychology and related disciplines, yet are not covered by many study programmes. The school combines background lectures on key topics in psychology, ethology and cognitive science, lectures on how these topics are studied with neural networks, and tutorials on neural network theory and simulation.

APPLICATIONS

The school is open to advanced undergraduates, graduate students and post-docs with an interest in psychology, ethology, cognitive science and related disciplines. A maximum of 30 students will be selected based on CV and their potential to make innovative use of neural networks. Apply by May 1st, 2005 by sending your CV (PDF preferred) to Anna Borghi (annamaria.borghi@unibo.it) or Stefano Ghirlanda (stefano.ghirlanda@unibo.it), and explain in one paragraph why you want to take part in the school.

FEES

The participation fee is 500€ and includes accommodation in double rooms, coffee breaks and study material. A few studentships are available, to be awarded preferentially to students from developing countries and Eastern Europe. Please state whether you wish to apply for a studentship. Studentships only cover the participation fee.

NOTE

Fund raising continues, and we may be able to offer more studentships and/or reduced prices to all students.

FURTHER INFORMATION: <http://www.unibo.it/Portale/Relazioni+Internazionali/Summer+School/summer/NeuralNetModels.htm>

SPONSORS: University of Bologna, Italian Association for Cognitive Science, Italian Psychological Association

SCHOOL PROGRAMME

JULY 13

9:00–9:15 Welcome

P. C. Cicogna, Head of Psychology

9:15–11:00 Neural networks and psychology

D. Parisi

11:30–13:00 Stimulus generalization *M. Enquist*

14:30–18:00 Introduction to neural networks, with models of generalization *S. Ghirlanda*

JULY 14

9:00–11:00 Associative learning

M. Enquist, S. Ghirlanda

11:30–13:00, 14:30–16:00 Neural network models of learning *M. Zorzi*

16:30–18:00 Neural network analysis

A. Di Ferdinando

JULY 15

9:00–11:00 Motor control and spatial effects

L. Craighero

11:30–13:00 Principles of grasping *U. Castiello*

14:30–16:00 Neural network models of spatial effects *M. Casarotti*

16:30–18:00 Neural network models of grasping

G. Tsiotas

JULY 16

9:00–11:00 Spatial behavior and spatial cognition

G. Vallortigara

11:30–13:00 Neural network models of internal and self-generated stimuli in spatial behavior

O. Miglino

14:30–18:00 Free afternoon

20:00 Social dinner

JULY 17

9:00–11:00 Concepts and perception

L. Barsalou

11:30–13:00 Categorization in humans and other animals *I. P. L. McLaren*

14:30–16:00 Neural network models of categorization and perception *R. Goldstone*

16:30–18:00 Neural network models of categorization *S. Nolfi*

JULY 18

9:00–11:00 What it takes to make a neural network embodied: lessons from language comprehension *A. Glenberg*

11:30–13:00 Object concepts and action *A. Borghi*

14:30–16:00 Acting on visual objects *R. Ellis*

16:30–18:00 Neural network models of sensorimotor processes *S. Cutini*

JULY 19

9:00–11:00 Language and action *M. Gentilucci*

11:30–13:00 Neural network models of language and action *A. Cangelosi*

14:30–16:00 Neural network models of language evolution *D. Marocco*

16:30–17:45 Neural network models of numerical cognition *I. Stoianov*

17:45–18:00 Closing address

A. Borghi, S. Ghirlanda

Coffee breaks: 11:00–11:30 and 16:00–16:30

Lunch breaks: 13:00–14:30

SPEAKERS

Larry Barsalou Department of Psychology, Emory University; **Anna Borghi** Department of Psychology, University of Bologna; **Angelo Cangelosi** School of Computing, Communications and Technology, University of Plymouth; **Marco Casarotti** Department of General Psychology, University of Padua; **Umberto Castiello** Department of General Psychology, University of Padua; **Laila Craighero** Department of Biomedical Sciences, University of Ferrara; **Simone Cutini** Department of General Psychology, University of Padua; **Andrea Di Ferdinando** Department of General Psychology, University of Padua; **Rob Ellis** School of Psychology, University of Plymouth; **Magnus Enquist** Zoology Institution, Stockholm University; **Maurizio Gentilucci** Department of Neurosciences, University of Parma; **Stefano Ghirlanda** Department of Psychology, University of Bologna; **Art Glenberg** Department of Psychology, University of Wisconsin; **Rob Goldstone** Department of Psychology, Indiana University; **Daide Marocco** Institute for the Science and Technologies of Cognition, CNR, Rome; **Ian P. L. McLaren** Department of Experimental Psychology, Cambridge University; **Orazio Miglino** Department of Psychology, Second University of Naples; **Stefano Nolfi** Institute for the Science and Technologies of Cognition, CNR, Rome; **Domenico Parisi** Institute for the Science and Technologies of Cognition, CNR, Rome; **Ivlin Stoianov** Department of General Psychology, University of Padua; **Giorgio Tsiotas** Department of Psychology, University of Bologna; **Giorgio Vallortigara** Department of Psychology, University of Trieste; **Marco Zorzi** Department of General Psychology, University of Padua.