HRI: a bridge between Robotics and Neuroscience

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The neuroscientist’s perspective:
The engineer’s perspective:
The HRI perspective:
The robot as ...

- *model* or the robotics perspective.
- *stimulus* or the neuroscientific perspective.
- *interaction partner*, the result of the integration of the former two.
QUESTIONS

• Which outcomes should provide neuroscientific research to be useful to robotics?
  • How can robotics research contribute to/influence neuroscience and/or psychology?

• Where the bridge between robotics and neuroscience is more useful, and where is it not (or less)?
  • How this bridge should be built? At the level of the single individual, at the level of a group, at the level of a department or a mix of the previous?
Morning session (1)

9:00 – 9:15 Opening

9:15 – 9:50 Invited talk by Prof. Malinda Carpenter

9:50 – 10:10 Bridging the Gap between HRI and Neuroscience in Emotion Research: Robots as Models (Lola Canamero)

10:10 – 10:30 The Cognitive Correlates of Anthropomorphism (Séverin Lemaignan, Julia Fink, Pierre Dillenbourg, Claire Braboszcz)

10:30 – 11:00 Coffee Break [10:30 – 10:50]
Morning session (2)

11:00 – 11:35  Invited talk by Prof. Giulio Sandini

11:35 – 11:55  A Robot for Brain–Controlled Grasping
(Matthias Kennel, Christoph Reichert, Ulrich Schmucker, Hermann Hinrichs, Jochen W. Rieger) [S4]

11:55 – 12:05  Poster Teasers

12:05 – 13:00  Poster Session

13:00 – 14:35  Lunch Break  [13:00 – 13:30]
Posters

- Neuroscience-inspired robot empathy
- Exploring the Estimation of Cognitive Load in Human Robot Interaction
- Memories and Dreams of Social Interaction
- Evaluating the Influence of Automatic Attentional Mechanisms in Human-Robot Interaction
- Toward analysis of emotional development using physiological and behavioral data
- A Biologically Inspired Model for Coding Sensorimotor Experience Leading to the Development of Pointing Behaviour in a Humanoid Robot
- Building a Literal Bridge Between Robotics and Neuroscience using Functional Near Infrared Spectroscopy (NIRS)
- Neuro-Robotic Technologies and Social Interactions
- Autism assessment through a small humanoid robot
Afternoon session

14:35 – 15:10 Invited talk by Prof. Brian Scassellati

15:10 – 15:30 Affective Developmental Robotics: How can we design the development of artificial empathy? (Minoru Asada)

15:30 – 16:00 Coffee Break [15:30 – 15:50]

16:00 – 16:35 Invited talk by Dr. Alessandro D’Ausilio


16:55 – 17:30 Closing Remarks and Discussion
WELCOME!