New research directions in robotics

From special purpose machine to communication media

- Navigation and interaction
- Tasks – communication = special purpose machines
- Do we need intelligence for the special purpose machine?
- Communication is a general task.
- Communication is not a well-defined task.
- Why dose the robot need a humanoid body?

Human is designed for recognizing human
Communication is for social relationships

Two big issues

Social relationships with humans

Behavior and appearance

Social relationships

- Communication is for establishing social relationships.
- How do we accept an interactive robot?
- Do we have social relationships with robots?
- What is the tasks of the robots?
- Is the computer our social partner?
- What is information infrastructure?
- Distributed cognition vs. stand-alone cognition

Behavior or appearance

- Human adapts each other and adapts to the robot.
- Communication is mutual adaptation.
- Dose the appearance influences the interactions?
- Do we feel enough presence from the behaviors?
- Dose the better communication need a human-like appearance?
- How to maintain the balance between appearance and behavior?