

RobotDoC

TM1 Robotics Research Methods Workshop

Plymouth 9-11 March 2010

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Overview

1. RobotDoC overview

- Vision and Aims
- The RobotDoc Collegium
- Nodes and Partners

2. Management

- Calendar
- Ethics requirements
- Management & Website
- Budget
- Time plan

3. Plymouth Node

- Embodied higher-order cognition

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RobotDoC

Robotics for Development of Cognition

- **Aims**

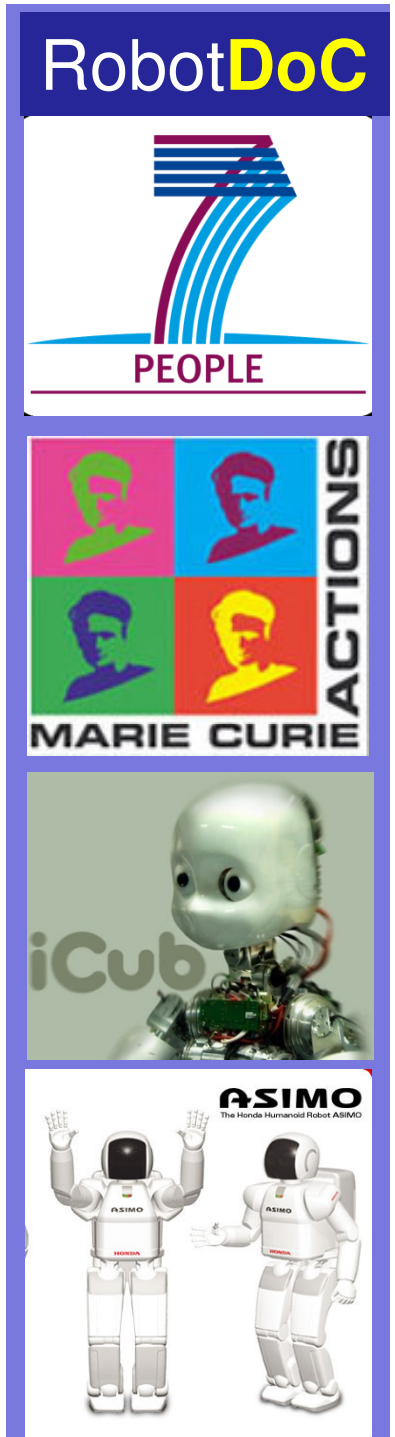
*Establishment of open **doctoral training network** for research in developmental and cognitive robotics*

*Provide **interdisciplinary training** and research opportunities in the core disciplines involved in developmental robotics*

*Training centred around **training nodes**, specialising for research areas of developmental robotics*

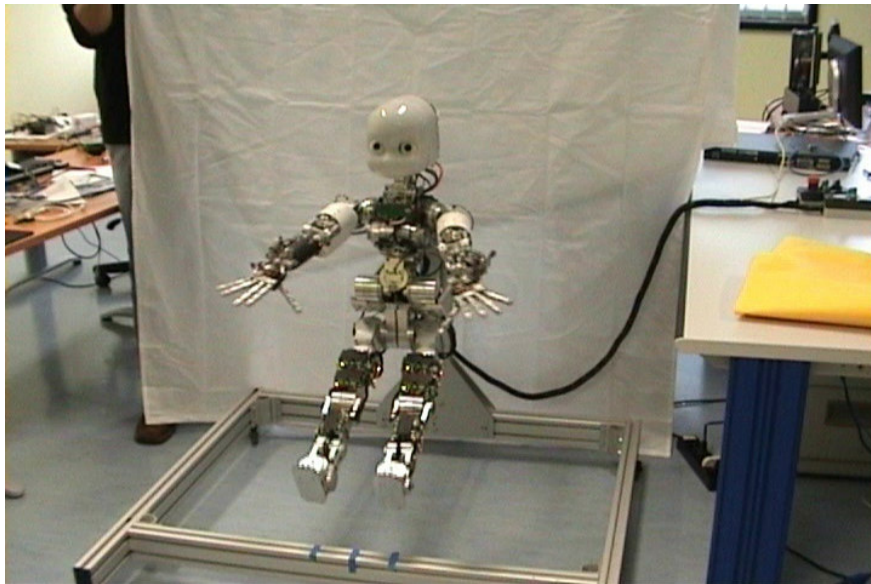
- **Vision & Principles**

- Embodiment and Situatedness
- Developmental Learning
- Bottom-up Cognitive Bootstrapping
- Bio-Inspired Robotics Design
- Shared Humanoid Platform Training (iCub)



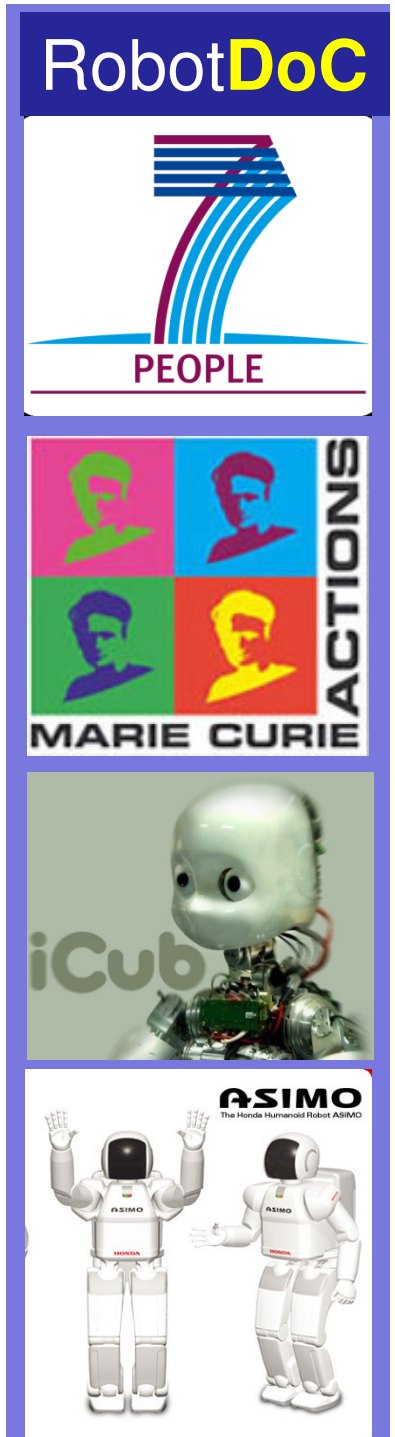
iCub & ITALK Project

- EU benchmark platform for cognitive robotics reserach (Metta et al. 2004)
- Physical and simulated iCub (Tikhanoff et al. 2004)

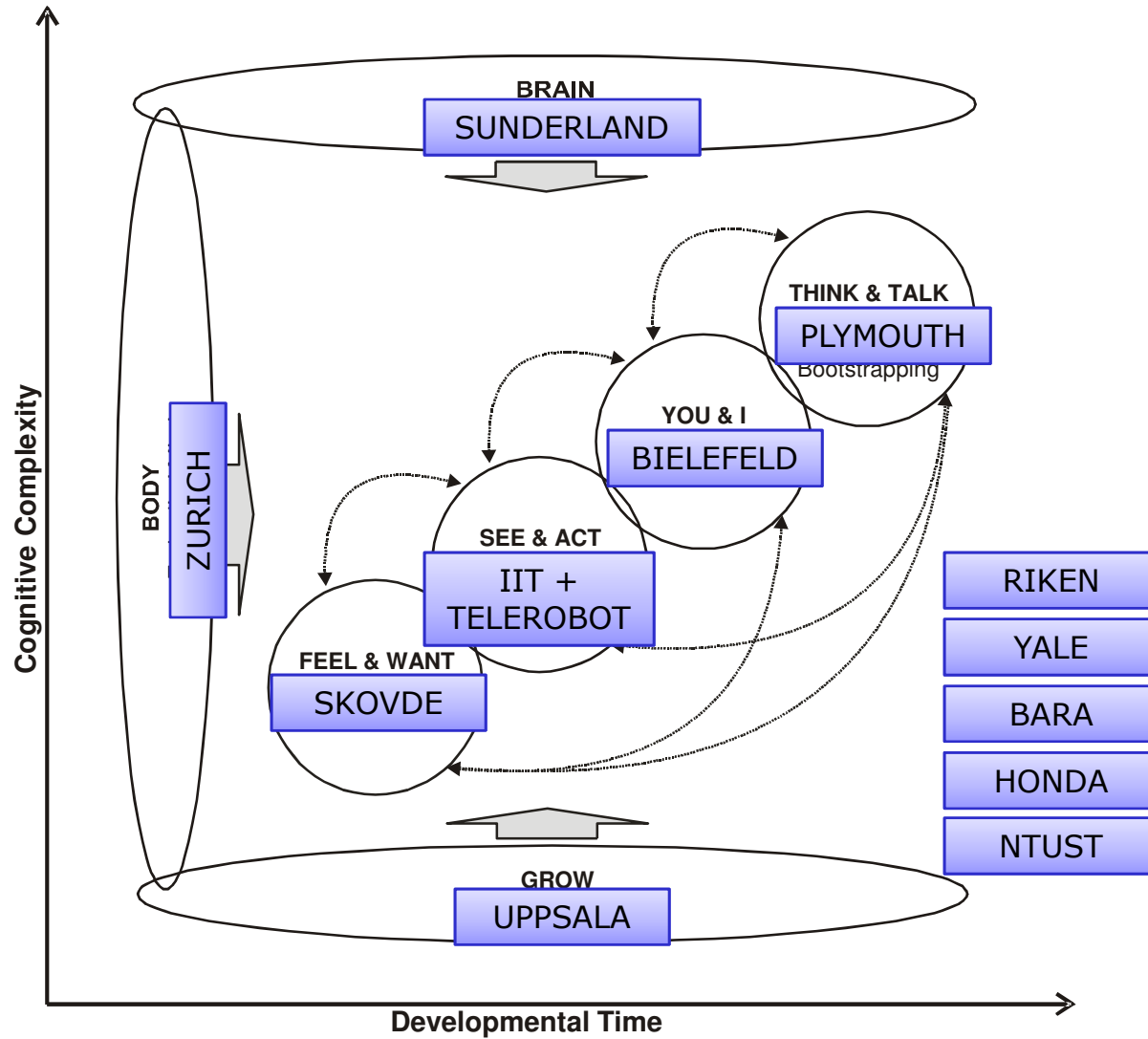


The RobotDoC Collegium

- The Collegium
 - A virtual doctoral network (“college”)
 - Marie Curie Initial Training Network (ITN)
 - EU and International partners
 - 6 EU universities
 - 3 extra–EU: USA, Japan, Taiwan
 - 3 industrial partners
 - Grant of €3.5 Million
 - To hire 13 PhD students and 3 junior postdocs (“Fellows”)
 - To organise six-monthly training workshops, summer schools, and two conferences
 - Funding for external students/researchers



Themes and Training Nodes



RobotDoC Partners



University of Plymouth (UK)
Cangelosi, Belpaeme, Marocco, Dell'Aquila
Rucinski, Stramandinoli



RIKEN Brain Science (Japan)
Tani



University of Zürich (CH)
Pfeifer, Aryananda, Lungarella,
Alessandro, Kuppaswamy



NTUST (Taiwan)
Lin



Italian Institute of Technology (IT)
Metta, Sandini, Fadiga, Natale, Nori



Yale University (USA)
Scassellati



Skövde University (SE)
Ziemke, Lowe
Cai, Kiryazov



University of Bielefeld (D)
Sagerer, Rohlfing, Wrede, Kopp, Hanheide
Narayan



Uppsala University (SE)
von Hofsten, Rosander
Elsner, Handl



Hamburg University (D)
Wermter, Cornelius

INDUSTRIAL PARTNERS



Telerobot SME (IT)
Becchi



HONDA Research Institute (D)
Goerick



**British Automation
and Robot Association (UK)**
Robinson, Young

What is an ITN ?



- Not a standard FP7 “Cooperation” project
 - STREP & IP have main focus on research output
- An FP7 “People” project
 - ITN Initial Training Networks focus on **research training** (PhD + early postdocs)
 - Of course we and our ESR/ER Fellows will carry out standard research projects
 - Training on **research and academic skills** is core
 - Training on **industrial and professional skills** a requirement
 - Train future leaders of developmental robotics!

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Calendar

Date	Month	Event	Leader	Location	Externaal
27 Sept 2009	0	Collegium Kick-Off and Recruitment Planning Meeting (TM0)	ZURICH	Zurich	
9-11 March 2010	6	Cognitive Robotics Research Methods Workshop (TM1)	PLYMOUTH	Plymouth	
~ June 2010	9	Meeting of all Fellows	PLYMOUTH	Plymouth	
September 2010	12	Project Proposal Workshop (TM2)	BIELEFELD	Bielefeld	
March 2011	18	Interdisciplinary Methods Spring School (TM3)	UPPSALA	Uppsala	15x3
September 2011	24	PhD Transfer Workshop (TM4)	IIT	Genoa	
September 2011	~24	First review meeting	PLYMOUTH	tba	
May 2012	30	DOC-PhD Conference (TM5)	HAMBURG	Sunderland	15x3
June 2012	33	Entrepreneurship Workshop (TM6)	TELEROBOT	Genoa	
September 2012	26	ITALK-ROBOTDOC Summer School on Cognitive Bootstrapping (TM7)	PLYMOUTH	Plymouth	15x3
March 2013	42	ROBOT-DOC International Conference on Development of Cognition (TM8)	PLYMOUTH	tba	15x3
September 2013	48	Final review meeting	PLYMOUTH	tba	

The Training Milestone 1

- Robotics Research Methods Workshop
Plymouth, 9-11 March 2010
- Aim
 - Focus on research methods and cognitive robotics:
 - ethics in experimental research
 - experimental design and data analysis and basic statistics
 - initial training on the robotics platform iCub
 - machine learning techniques (neural computation, acoustic packaging)
 - Robotics principles and methods
 - First coaching session
 - Individual skills development plans
 - The opportunity for all fellows to meet the Supervisory Body members and all the Collegium staff.

Contractual Requirements Ethics

- For all partners planning experiments with **human participants**
 - Psychology experiments with children (UPPSALA, UNIBI?)
 - HRI experiment (UNIBI, possibly PLYMOUTH, IIT etc.)
- Our contractual **obligation**
 - Must follow own country/institution ethics approval procedure **before experiment starts**
 - Must send copy of approved ethics documents to Commission **before experiment starts**
- Planning: Drafting of experiment plan as soon as feasible to plan ethics approval

Management

- Network Coordinator: me! 😊
- Node Coordinator: one per partner site
 - Genoa: one node, two coordinators!
- Coaching Tutor & Network Admin: Elena
- SMC: Scientific and Management Committee
 - For all scientific, management, financial issues (one Fellows' rep)
- KMC: Knowledge Management Committee
 - For all dissemination and knowledge transfer activities
- SB: Supervisory Body
 - Coordination of all network staff with supervision roles
- IST: Individual Supervision Team
 - 3 supervisors; First is local, at least 1 from other nodes (1 from industrial partners for ERs)

RobotDoC

Robotics for Development of Cognition

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The RobotDoc Collegium

The RobotDoC Collegium is a multi-national doctoral training network for the interdisciplinary training on developmental cognitive robotics. The RobotDoc Fellows will develop advanced expertise of domain-specific robotics research skills and of complementary transferrable skills for careers in academia and industry. They will acquire hands-on experience through experiments with the open-source humanoid robot iCub, complemented by other existing robots available in the network's laboratories.

The Collegium will employ 16 RobotDoC Fellows, of which 13 will be PhD students (Early Career Researchers) and 3 postdocs (Experience Researcher). Research training will be centred on a series of training milestones such as two summer schools, international conferences and interdisciplinary research methods workshops. Fellows will also be directly involved and closely supervised for research in novel projects on embodied cognition, motivational and affective mechanisms, neuro-robotics modelling, developmental psychology, sensorimotor learning, social interaction and higher-order cognitive modelling. An individual coaching programme will support each Fellow's training progress as well as professional and personal enhancement through individualised skill development plans.

Kick-Off Meeting

September 29, 2009

The kick-off meeting of the RobotDoC Collegium will be held in Zurich on September 29, 2009. This is in preparation of the first training event, the "Robotics Research Methods Workshop", to be held in Plymouth (UK) on March 9-11, 2010.

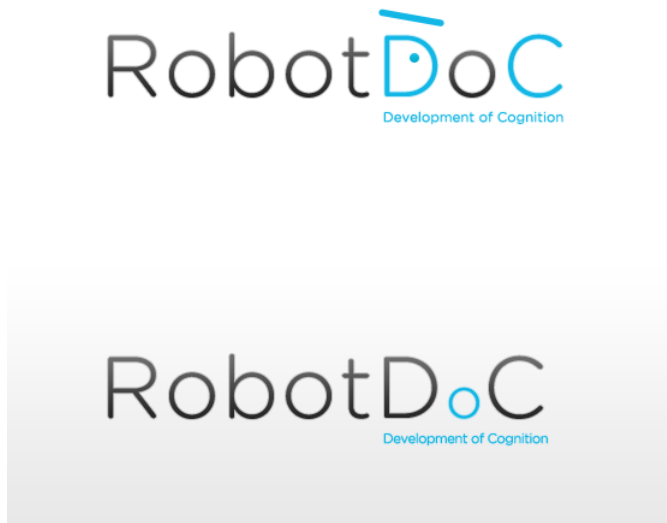
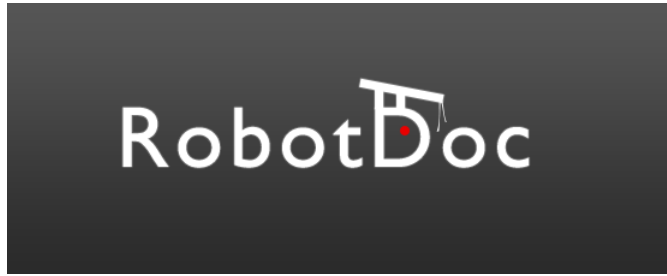
Developmental Robotics

Developmental robotics is a novel approach to the design of robots that takes direct inspiration from developmental mechanisms studied in children by psychologists and cognitive neuroscientists.

Sponsors

EU Marie Curie ITN

EU FP7 Programme



More on <http://robotdoc.org//logo3.html>

Budget: Fellows' costs

- Category A: Monthly **living and mobility** allowances (“employment contract”)
 - Living allowance (Salary): ESR €34,500 / ER €53,000
 - Mobility Allowance: €500 per month (€800 with family)
- Category B: **Travel** allowance
 - Moving allowance per distance: ~ €1000 (per year)
- Category C: **Career exploratory** allowance
 - €2000 for job interviews, fairs, courses (paid once)
- Category D: Expenses of **researchers**
 - €7200 per year per Fellow
 - “contribution to research-related costs, meetings, conference attendance, training actions, etc”

Budget: Training Costs

- **Category E: Expenses of host organisation**
 - €7200 per year per Fellow
 - “overall expenses related to the execution of the training project (publication of vacant positions, internal joint training actions, teaching material, etc.)”
 - “and to the co-ordination between participants (network meetings, detachment of staff, etc).”
- **Category F: External researchers**
 - 15 external x 3 days x 4 events (€300 per day)
- **Category G: Management**
 - Plymouth (administration, associate partners’ travel ...)
 - Audit costs to all

Time Plan

