

**EUROPEAN
CURRICULUM VITAE
01/06/2020**



PERSONAL INFORMATION

Name	GIANLUCA BALDASSARRE
Current affiliation and work address	ISTITUTO DI SCIENZE E TECNOLOGIE DELLA COGNIZIONE, CONSIGLIO NAZIONALE DELLE RICERCHE VIA SAN MARTINO DELLA BATTAGLIA 44, 00185 ROME, ITALY
Position	Researcher
Phone (work)	06 44 595 231
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E-mail	gianluca.baldassarre@istc.cnr.it
Web (Personal web pages)	http://www.istc.cnr.it/people/gianluca-baldassarre
Web (Research group web pages)	http://www.istc.cnr.it/group/locen
Sex	Male
Birth date	21 February 1969
Birth place	Rome, Italy
Nationality	Italian

BIBLIOMETRIC INFORMATION

• Date	01/06/2020
H-Index (Google Scholar)	37
Citations count (Google Scholar)	4795
I-10 index (Google Scholar)	93
Link Google Scholar	https://scholar.google.com/citations?user=8w3vnUcAAAAJ&hl=en
Link to ORCID	http://orcid.org/0000-0002-1277-4447

ACADEMIC POSITIONS

• Dates	18/11/2019 – Today
Name and address of Institute	Istituto di Scienze e Tecnologie della Cognizione, Consiglio Nazionale delle Ricerche (Istitute of Cognitive Sciences and Technologies, Italian National Research Council), Rome, Italy
Position held	Senior Researcher ("Primo Ricercatore")
Main research topics	"Computational neuroscience" and "developmental robotics" models on: cumulative learning, open-ended development, simple and hierarchical reinforcement learning, intrinsic and extrinsic motivations, eye-hand coordination in organisms and robots, bottom-up and top-down attention in organisms and robots, brain mechanisms underlying classic and operant conditioning, brain hierarchical organization underlying motor behavior and embodied cognition, mental diseases
• Dates	16/02/2009 – 17/11/2019
Name and address of Institute	Istituto di Scienze e Tecnologie della Cognizione, Consiglio Nazionale delle Ricerche (Istitute of Cognitive Sciences and Technologies, Italian National Research Council), Rome, Italy
Position held	Researcher (permanent position; "Ricercatore")

Main research topics	"Computational neuroscience" and "developmental robotics" models on: cumulative learning, open-ended development, simple and hierarchical reinforcement learning, intrinsic and extrinsic motivations, eye-hand coordination in organisms and robots, bottom-up and top-down attention in organisms and robots, brain mechanisms underlying classic and operant conditioning, brain hierarchical organization underlying motor behavior and embodied cognition, mental diseases
• Dates	21/03/2006 – 15/02/2009
Name and address of Institute	Istituto di Scienze e Tecnologie della Cognizione, Consiglio Nazionale delle Ricerche (Istitute of Cognitive Sciences and Technologies, Italian National Research Council), Rome, Italy
Occupation or position held	Researcher (funded by European Project "ICEA")
Main research topics	Computational neuroscience and robotic models of: classic and operant conditioning, drives and emotions, spatial orientation, eye-hand coordination, bottom-up and top-down attention, prediction and planning
Project Team Leader	Gianluca Baldassarre
• Dates	02/03/2005 – 01/03/2006
Name and address of Institute	Istituto di Scienze e Tecnologie della Cognizione, Consiglio Nazionale delle Ricerche (Istitute of Cognitive Sciences and Technologies, Italian National Research Council), Rome, Italy
Occupation or position held	Researcher (funded by European Project "MindRACES")
Main research topics	Neural and robotic models of: eye-hand coordination, bottom-up and top-down prediction and planning
Project coordinators	Rosario Falcone, Cristiano Castelfranchi (Gianluca Baldassarre: Sub-Group Leader)
• Date	02/03/2004– 01/03/2005
Name and address of Institute	Istituto di Scienze e Tecnologie della Cognizione, Consiglio Nazionale delle Ricerche (Istitute of Cognitive Sciences and Technologies, Italian National Research Council), Rome, Italy
Occupation or position held	Researcher (funded from European Project "ECAgents")
Main research topics	Collective robotics, auto-organization, neural networks, genetic algorithms
Project coordinators and supervisors	Stefano Nolfi and Domenico Parisi
• Dates	01/11/2001 – 01/03/2004
Name and address of Institute	Istituto di Scienze e Tecnologie della Cognizione, Consiglio Nazionale delle Ricerche (Istitute of Cognitive Sciences and Technologies, Italian National Research Council), Rome, Italy
Occupation or position held	Postdoc (funded by European Project "Swarm-bots")
Main research topics	Collective robotics, self-organization, neural networks, genetic algorithms
Project team leaders and supervisors	Stefano Nolfi and Domenico Parisi

ACADEMIC EDUCATION

• Dates	10/1998 – 10/2001
Name and type of organisation providing education	Department of Computer Science, University of Essex, Colchester (UK)
Title or awarded qualification	PhD in Computer Science (Diploma: 03/04/2003)
Main knowledge acquired	Robotics, C++ programming, neural networks, reinforcement learning, planning, navigation
Title of thesis	"Planning with neural networks and reinforcement learning"
Supervisor	Prof. Jim Doran
• Dates	11/1997 – 09/1998
Name and type of organisation providing education	Istituto di Scienze e Tecnologie della Cognizione, Consiglio Nazionale delle Ricerche (Istitute of Cognitive Sciences and Technologies, Italian National Research Council), Rome, Italy
Title or awarded qualification	Research Training
Main topics	Neural networks, selective attention, agent models for studying cultural evolution
Supervisor	Prof. Domenico Parisi
• Dates	11/1996 – 06/1997 (Diploma: 23/02/1998)

Name and type of organisation providing education	Facoltà di Psicologia, Università di Roma "La Sapienza" Department of Psychology, University of Rome "La Sapienza", Rome, Italy
Title or awarded qualification	Specialization course in Cognitive Psychology and Neural Networks
Main subjects	Cognitive psychology, neural networks, simulation of eye-hand coordination
Title of thesis	"Apprendimento per rinforzo e coordinazione sensomotoria" (Reinforcement learning and sensorimotor coordination)
Supervisors	Prof. Eliano Pessa, Prof.sa Lucia Zanello
• Dates	11/1988 – 04/1997
Name and type of organisation providing education	Facoltà di Economia e Commercio, Università di Roma "La Sapienza", Rome, Italy (Department of Economics, University of Rome "La Sapienza", Rome, Italy)
Title or awarded qualification	Laurea in Economia e Commercio (BA and MA in Economics; Viva and Diploma: 16/04/1997)
Main subjects	Mathematics, Statistics, Econometrics, Microeconomics, Macroeconomics, Accounting, Business Economics, Law (Additional courses attended for personal interest: Philosophy of Science, Logics, Psychology, Neural Networks)
Title of thesis	"Reti neurali ed algoritmi genetici per i modelli simulativi di teoria della razionalità limitata - Applicazioni ai mercati oligopolistici" (Neural networks and genetic algorithms for the simulation models of bounded rationality theory - An application to oligopolistic markets)
Supervisors	Prof. Mario Baldassarri, Prof. Giovanni Dosi, Prof. Eliano Pessa
Final Mark	110/110 e lode (summa con laude)
• Dates	09/1983 – 07/1988
Name and type of organisation providing education	Liceo Scientifico "Cavour", Rome, Italy
Title or awarded qualification	High school diploma
Main subjects	Mathematics, Geometry, Biology, Astronomy, Physics, Italian, Latin, English
Final Mark	55/60

SCIENTIFIC AND PROFESSIONAL ROLES

SCIENTIFIC PROJECTS

• Dates	01/01/2021 – 31/12/2022 (2 years)
Role	Coordinator
Type of project	EIC FETPROACT
Call	H2020-EIC-FETPROACT-2019
Type of Action	RIA
Acronym and Title	"IM-TWIN - Transitional Wearable Companions for the therapy with children with Autism Spectrum Disorders"
Grant Agreement no.	952095
Funding agency	EIC – European Innovation Council, 8 th Framework Programme (H2020)
Total budget	1,999,965.00 €
ISTC Budget	879,541.67 €
Number of partners	5
Web-site	https://cordis.europa.eu/project/id/945887
• Dates	01/09/2020 – 28/02/2022 (1.5 years)
Role	Coordinator
Type of project	EIC Pathfinder Pilot
Call	H2020-FETOPEN-2018-2019-2020-03
Type of Action	CSA
Acronym and Title	"PlusMe - Transitional Wearable Companions for the therapy with children with Autism Spectrum Disorders"
Grant agreement no.	945887
Funding agency	EIC – European Innovation Council, 8 th Framework Programme (H2020)
Total budget	99,375.00 €

Number of partners	1
Web-site	https://cordis.europa.eu/project/id/945887
• Dates	01/09/2019 – 28/02/2022 (2.5 years)
Role	Team Leader (of Parner)
Type of project (programme)	Erasmus+
Key Action	KA2 - Cooperation for innovation and the exchange of good practices
Action Type	KA202 - Strategic Partnerships for vocational education and training
Acronym and title	“ARIS - Artificial Intelligence skills for ICT professionals”
Grant agreement no.	2019-1-BE01-KA202-050425
Funding agency	European Commission, 8 th Framework Programme (H2020)
Coordinator	BUSINESS TRAINING SA (OID: E10117934)
Total budget	374,710.00 €
National ID for Erasmus+ actions	19PP0005
ISTC-CNR budget	82,300.00 €
Number of partners	5
• Dates	05/11/2018 – 21/10/2020 (2 years)
Role	Coordinator
Type of project	Regional project “Lazio Innova”
Acronym and Title	“+me: motivating children with autism spectrum disorders to communicate and socially interact through interactive soft wearable devices”
Funding agency	Regione Lazio
Total budget	149,298.00 €
Number of partners	1
Web-site	http://www.plusme.it/
• Dates	01/05/2018 – 01/05/2020 (2 years)
Role	Coordinator
Call	H2020-MSCA-IF-2017
Type of action	MSCA-IF-EF-ST
Acronym and Title	MetaBot”
Grant Agreement no.	795919
Funding agency	European Union
Total budget	168,277.20 €
• Dates	01/06/2018 – 31/05/2019 (1 year)
Role	Team Leader
Type of project	ESA – European Space Agency project
Acronym and Title	“IMPACT – Intrinsically Motivated Planning Architecture for Curiosity-driven robots”
Grant Agreement no	IMPACT-2019
Funding agency	ESA - European Space Agency
Total budget	49,898.00 €
Number of partners	2
Web-site	https://www.istc.cnr.it/it/content/impact-intrinsically-motivated-planning-architecture-curiosity-driven-robots
• Dates	01/11/2016 – 31/10/2020 (4 years)
Roles	Coordinator; Team Leader
Type of project	European FET-OPEN Project
Call	H2020-FETOPEN-2014-2015-RIA
Type of action	RIA
Acronym and Title	“GOAL-Robots – Goal-based Open-ended Autonomous Learning Robots”
Grant Agreement no.	713010
Funding agency	European Commission, 8th Framework Programme (H2020)

EU budget of project	3,481,875.00 €
EU budget for CNR-ISTC	1,278,708.00 €
Number of partners	4
Web-sites	https://cordis.europa.eu/project/rcn/203543/factsheet/en http://www.goal-robots.eu/
• Dates	01/01/2009 – 29/04/2013 (4 years and 4 months)
Roles	Coordinator; Team Leader
Type of project	European Integrated Project (IP)
Call	FP7-ICT-2007-3
Type of Action	RIA
Name and Title	"IM-CLeVeR – Intrinsically Motivated Cumulative Learning Robots",
Grant Agreement no.	231722
Funding agency	European Commission, 7th Framework Programme, "Challenge 2 - Cognitive Systems, Interaction, Robotics"
Total budget project	7,726,783.00 €
EU "Requested Funds" project	5,899,884.00 €
Total budget project ISTC	2,151,136.00 €
EU "Requested Funds" ISTC-CNR	1,681,479.00 €
Number of partners	7
Web-sites	https://cordis.europa.eu/project/rcn/89252/factsheet/en www.im-clever.eu
• Dates	01/01/2006 – 31/12/2009
Role	Team Leader
Type of project	European Integrated Project (IP)
Acronym and Title	"ICEA-Integrating Cognition Emotion and Autonomy"
Grant Agreement no.	027819
Funding agency	European Commission, 7th Framework Programme (FP7/2007-2013) "Challenge 2 - Cognitive Systems, Interaction, Robotics"
Research Group of ISTC-CNR	Consiglio Nazionale delle Ricerche, Istituto di Scienze e Tecnologie della Cognizione (National Research Council, Institute of Cognitive Sciences and Technologies), LOCEN-Laboratory of Computational Embodied Neuroscience (research group)
Total budget of ISTC-CNR	1,248,067.00 €
EU "Requested Funds" of LOCEN	630,000.00 €
Number of partners of whole project	8
Web-site	https://cordis.europa.eu/project/rcn/81165/factsheet/en
• Dates	30/09/2004 – 30/12/2007 (3 years and 3 months)
Role	Sub-Group Leader
Type of project	Specifically Targeted Research European Project (STREP)
Name and Title	"MindRACES – from Reactive to Anticipatory Cognitive Embodied Systems"
Grant Agreement no.	511931
Funding agency	European Commission, 6th Framework Programme (FP6/2000-2006)
Unit	Consiglio Nazionale delle Ricerche, Istituto di Scienze e Tecnologie della Cognizione (National Research Council, Institute of Cognitive Sciences and Technologies), Rome, Italy
Total budget of ISTC-CNR	1,194,506.00 €
EU "Requested Funds" ISTC-CNR	638,693.00 € (Sub-group: 120,000.00 €)
Number of partners whole project	7
Web-page	http://www.mindraces.org/

RESEARCH DIRECTION EXPERIENCES

- Date 2006 – Today

Role	Coordinator of Reserch Group
Research Group name	Laboratory of Computational Embodied Neuroscience (LOCEN)
Institute	Istituto di Scienze e Tecnologie della Cognizione, Consiglio Nazionale delle Ricerche (Istitute of Cognitive Sciences and Technologies, Italian National Research Council), Rome, Italy
Group composition	6 Researchers, 4 Research Fellows (Assegni Ricerca), 6 Master students, 1 PhD student
Web site	http://www.istc.cnr.it/group/locen
• Dates	01/2009 – Today
Role	Responsabile of iCub Humanoid Robot and Laboratory of Robotics
Experimetal equipment and infrastructure	iCub Humanoid Robot, Robotics lab
Institute	Istituto di Scienze e Tecnologie della Cognizione, Consiglio Nazionale delle Ricerche (Istitute of Cognitive Sciences and Technologies, Italian National Research Council), Rome, Italy
Value of equipment and infrastructure	ICub value: 200.000 €. Laboratory instruments: 10.000 Euro
Web site on the robot	http://www.icub.org/
• Dates	2010 – Today
Role	Responsible of CNR-ISTC Research Project Module
Name of Research Project Module	Computational Embodied Neuroscience
Code	SV.P16.008
Project	Animal models for the study of behavioural and physiopathological processes
Institute Running the Project	Dipartimento Scienze della Vita, Consiglio Nazionale delle Ricerche (Department of Life Science, National Research Council)
Implementing Institute	Istituto di Scienze e Tecnologie della Cognizione, Consiglio Nazionale delle Ricerche (Istitute of Cognitive Sciences and Technologies, Italian National Research Council) Rome, Italy
Web site	http://www.cnr.it/commesse/Scheda_Commissa.html?id_comm=7902
• Dates	2010 – Today
Role	Responsible of CNR-ISTC Research Project Module
Nome Modulo	Innovative computational models for Bioinformatics
Code	INT.P02.013
Name of Research Project Module, and code	Bioinspired self-organising architectures and algorithms for the control of robotos and machines, INT.P02.013.002
Project	Bioinformatics
Institute Running the Project	Dipartimento di Tecnologie dell'Informazione e Comunicazione, Consiglio Nazionale Ricerche (Department of Information and Communication Technology, National Research Council)
Implementing Institute	Istituto di Scienze e Tecnologie della Cognizione, Consiglio Nazionale delle Ricerche (Istitute of Cognitive Sciences and Technologies, Italian National Research Council), Rome, Italy
Web site	http://www.cnr.it/commesse/Scheda_Modulo.html?id_mod=6482

COMMITTEES CNR

• Date	2018 – Today
Role	Member of “Struttura di coordinamento dell'Area Progettuale Robotica & Automatica”
Institute	Department of Engineering, ICT, and Technologies for Energy and Transportation - DIITET CNR
Legal act	Provvedimento n. 21/2018
Web site	http://www.istc.cnr.it/group/locen

PROFESSIONAL ROLES

• Date	01/10/2018 – Today
Role	President
Institution	Advanced School in AI
Nature of the School	A post-graduate Master on research and applications of natural and artificial intelligence, lasting 1 year, held yearly at ISCT-CNR.

Web-site	http://as-ai.org
• Date	08/07//2016 – Today
Role	President
Institution	Associazione culturale science2mind (non-profit association)
Nature of association	Association directed to support the scientific research and applications in the science and technologies of natural and artificial intelligence, through training, networking, and other activities.
Web-site	http://www.science2mind.org

INTERNATIONAL EXPERIENCE AND COLLABORATIONS, NATIONAL COLLABORATIONS

INTERNATIONAL EXPERIENCE

• Date	09/07/2015 - 09/08/2015
Role	Visiting professor
Institute	Institut des Systèmes Intelligents et de Robotique-Université Pierre et Marie Curie - CNRS (ISIR-UPMC/CNRS; http://www.isir.upmc.fr/).
Country, city	France, Paris
• Date	11/1998 – 10/2001
Role	PhD student
Institute	University of Essex, Department of Computer Science
Country, city	United Kingdom, Colchester

INTERNATIONAL COLLABORATIONS

• Date	2008-now
Institute, Department	University of Massachusetts Amherst, Computer Science Department, USA
Country, city	USA, MA, Amherst
Type of collaboration	Common EU projects and research collaboration on machine learning, hierarchical reinforcement learning architectures for robots, intrinsically motivated cumulative learning machines.
Reference person	Prof. Andrew Barto (Professor, Computer Science)
• Date	2010-now
Institute, Department	Federal University of Rio Grande do Sul (UFRGS), Institute of Informatics
Country, city	Brasil, Porto Alegre
Type of collaboration	Research collaboration on machine learning, hierarchical reinforcement learning architectures for robots, intrinsically motivated cumulative learning machines
Reference person	Bruno Castro da Silva (former PhD of Prof. Andrew Barto, now Associate Professor, Machine Learning and Robotics)
• Date	2016-now
Institute, Department	Technische Universität Darmstadt, Autonomous Systems Laboratory
Country, city	Germany, Darmstadt
Type of collaboration	Collaboration on dynamic movement primitives and policy search reinforcement learning methods for the control of humanoid robots
Reference person	Jan Peters (Professor, Autonomous Robotics)
• Date	2015-now
Institute, Department	University René Descartes, Laboratoire de Psychologie de la Perception
Country, city	France, Paris
Type of collaboration	Common EU project and research collaboration on theoretical issues of developmental psychology and computational models of developmental psychology experiments

Reference person	Prof. Kevin O'Regan (Professor, Developmental Psychology)
• Date	2013-now
Institute, Department	Frankfurt Institute of Advanced Studies
Country, city	Germany, Frankfurt
Type of collaboration	Common EU project and research collaboration on vision, attention, reinforcement learning, and learning supported by intrinsic motivations
Reference person	Jochen Triesch (Professor, Robotics and Computational Neuroscience)
• Date	2013-2015
Institute, Department	University of Sheffield, Department of Psychology
Country, city	Sheffield, UK
Type of collaboration	Common EU project and research collaboration on theoretical neuroscience and computational system-level models of brain (basal-ganglia and cortex)
Reference persons	Peter Redgrave (Professor, Neuroscience) Kevin Gurney (Professor, Computational System Neuroscience)
• Date	2005-now
Institute, Department	University of Manchester, Department of Computer Science (formerly: University of Plymouth, Department of Computer Science)
Country, city	Manchester, UK
Type of collaboration	Collaboration on Developmental Robotic issues: robot grounded cognition, robot planning, robot mental simulation, social scaffolding of robot learning
Reference person	Angelo Cangelosi (Professor, Developmental Robotics)

NATIONAL COLLABORATIONS

• Date	2019-now
Institute, Department	University Campus Biomedico
Country, city	Italy, Rome
Type of collaboration	Research collaboration on machine learning analysis of biomedical data, within projects of the Advanced School in IA of which Gianluca Baldassarre is President
Reference persons	Mario Merone (Researcher, Bio-Engineering)
• Date	2018-now
Institute, Department	University of Rome Sapienza, Department of physics
Country, city	Italy, Rome
Type of collaboration	Research collaboration on machine learning analysis of biomedical data, within projects of the Advanced School in IA of which Gianluca Baldassarre is President
Reference persons	Prof. Stefano Giagu (Physics) Prof. Pier Stanislaio Paolucci (Physics; collaboration since 2020)
• Date	2018-now
Institute, Department	Istituto Superiore di Sanità
Country, city	Italy, Rome
Type of collaboration	Research collaboration on machine learning analysis of biomedical data, within projects of the Advanced School in IA of which Gianluca Baldassarre is President
Reference persons	Prof. Paolo del Giudice (Physics)
• Date	2017-now
Institute, Department	University of Rome "Sapienza", Department of Biology and Biotechnology
Country, city	Italy, Rome
Type of collaboration	Research collaboration on theoretical neuroscience and computational models of brain
Reference person	Andrea Mele (Professor, Neurobiology)
• Date	2009-now

Institute, Department	Italian Institute of Technology
Country, city	Italy, Genoa
Type of collaboration	Common EU project and research collaboration centred on the iCub robot and involving hardware and open-ended learning robots
Reference person	Giorgio Metta (Professor, Head of the iCub Facility, Autonomous Robotics)
• Date	2009-now
Institute, Department	University Campus Biomedico
Country, city	Italy, Rome
Type of collaboration	Research collaboration on robotic hardware and mechatronic devices, robot control, experiments with children on intrinsic motivations
Reference persons	Eugenio Guglielmelli (Professor, Bio-Engineering) Loredana Zollo (Associate Professor, Bio-Engineering)
• Date	2007-now
Institute, Department	University of Rome "Sapienza", Department of Psychology
Country, city	Italy, Rome
Type of collaboration	Research collaboration on theoretical neuroscience and psychobiological experiments with rats on instrumental learning and stress
Reference person	Stefano Puglisi Allegra (Professor, Psychobiology) Simona Cabib (Professor, Psychobiology).

TEACHING EXPERIENCE

TEACHING EXPERIENCE

• Dates	11/2019 – 05/2020 (1 academic year)
Institute	"Advanced School of AI" (www.as-ai.org). Post-graduate master held by the "Istituto di Scienze e Tecnologie della Cognizione - CNR" and the "Associazione culturale science2mind"
Position	Teacher
Main activities and responsibilities	Teacher of Courses: (1) Soft Skills (6 hours); (2) Computational Embodied Neuroscience (12 hours); (3) Python for beginners (10 hours).
• Dates	11/2018 – 04/2019 (1 academic year)
Institute	"Advanced School of AI" (www.as-ai.org). Post-graduate master held by the "Istituto di Scienze e Tecnologie della Cognizione - CNR" and the "Associazione culturale science2mind"
Position	Teacher
Main activities and responsibilities	Teacher of Courses: (1) Soft Skills (6 hours); (2) Computational Embodied Neuroscience (10 hours); (3) Python for beginners (10 hours).
• Dates	11/2018 – 07/2019 (1 academic year)
Institute	Università di Roma "Sapienza", Facoltà di Scienze Matematiche Fisiche e Naturali, Dipartimento di Biologia e Biotecnologie "Charles Darwin", Laurea Magistrale in Neurobiologia, Roma
Position	Lecturer (non-permanent position)
Main activities and responsibilities	Lecturer of University Course: "Neuroscienze Computazionali - Modulo II" (3 crediti formativi) ("Computational Neuroscience – Module II")
• Dates	11/2010 – 07/2014 (4 academic years)
Institute	Facoltà di Psicologia, Università di Roma "La Sapienza", Roma (Department of Psychology, University of Rome "La Sapienza", Rome, Italy)
Position	Lecturer (non-permanent position)
Main activities and responsibilities	Lecturer of University Course: "Embodied Computational Neuroscience"
• Dates	11/2001 – 07/2003 (2 academic years)
Institute	Facoltà di Psicologia, Seconda Università di Napoli, Caserta (Department of Psychology, Second University of Naples, Caserta, Italy)
Position	Lecturer (non-permanent position)

Main activities and responsibilities Lecturer of University Course: "Computer Science for Psychologists"

• Dates 11/1999 – 10/2001
Institute Department of Computer Science, University of Essex, Colchester, UK
Occupation or position held Teaching Assistant in university and master courses
Main activities and responsibilities Teaching courses:
CC 181 Introduction to Artificial Intelligence (Dr. Paul Scott)
CC 262 Robot programming (Dr. Husheng Hu)
CC 362 Mobile robotics (Dr. Husheng Hu)
CC 462 Behaviour-based robotics (Dr. Dong Bin)

PHD SUPERVISOR AND CO-SUPERVISOR

• Dates 05/2019 – 04/2021 (planned)
Role Supervisor
Degree PhD in Computer Science
Institute Department of Computer Science, University of Plymouth, Plymouth, UK
Candidate Giovanni Granato
Title of thesis Consciousness and Representation Internal Manipulation

• Dates 10/2012 – 09/2018 (suspended)
Role Supervisor
Degree PhD in Computer Science
Institute Department of Computer Science, University of Plymouth, Plymouth, UK
Candidate Valerio Sperati
Title of thesis Gaze control and intrinsic motivations

• Dates 10/2011 – 06/2015 (Viva: 9 December 2015)
Role Co-supervisor (Supervisor: Angelo Cangelosi)
Degree PhD in Computer Science
Institute Department of Computer Science, University of Plymouth, Plymouth, UK
Candidate Kristsana Seepanomwan
Title of thesis Mental imaging in humanoid robots

• Dates 10/2012 – 01/2016 (Viva: 14 January 2016)
Role Co-supervisor (informal; Supervisor: Marco Mirolli)
Degree PhD in Computer Science
Institute Department of Computer Science, University of Plymouth, Plymouth, UK
Candidate Vieri Giuliano Santucci
Title of thesis Autonomous learning of multiple skills through intrinsic motivations: A study with computational embodied models

• Dates 10/2006 – 01/2009 (Viva: 11 January 2009)
Role Co-supervisor (Supervisor: Stefano Puglisi-Allegra)
Degree PhD in Psychobiology and Psychopharmacology
Institute Department of Psychology, University of Rome "La Sapienza", Rome, Italy
Candidate Vincenzo Fiore
Title of thesis Corticolimbic catecholamines in stress: modelling the appraisal of controllability

• Dates 01/2008 – 04/2011 (Viva: 13/04/2011)
Role Co-supervisor (Supervisor: Eugenio Guglielmelli)
Degree PhD in Biomedical Engineering
Institute University Campus Bio-Medico, Rome, Italy
Candidate Daniele Caligiore

Title of thesis TRoPICALS: A Computational Embodied Neuroscience Model of Compatibility Effect

- Dates 10/2006 – 12/2009 (Viva: 15 December 2009)
- Role Co-supervisor (Supervisor: Stefano Puglisi-Allegra)
- Degree PhD in Psychobiology and Psychopharmacology
- Institute Department of Psychology, University of Rome "La Sapienza", Rome, Italy
- Candidate Francesco Mannella

Title of thesis Exploring the Psychobiology of Emotions and Motivations through Computational Models

- Dates 01/2006 – 04/2009 (Viva: 8 April 2009)
- Role Co-supervisor (Supervisor: Giulio Sandini)
- Degree Scuola di Dottorato di Scienze e Tecnologie per la Società dell'Informazione (PhD in Sciences and Technologies for Information Society)
- Institute University of Genoa, Genoa, Italy
- Candidate Dimitri Ognibene

Title of thesis Ecological adaptive perception from a neuro-robotic perspective: theory, architecture and experiments

MA SUPERVISOR AND CO-SUPERVISOR

- Dates 08/2018 – 10/2019 (Viva: 23/10/2019)
- Role Co-supervisor (Supervisor: Stefano Giagu)
- Degree Laurea Magistrale, Corso di Laurea Magistrale in Fisica
- Institute Facoltà di Scienze Matematiche Fisiche e Naturali, University of Rome "Sapienza", Rome, Italy
- Candidate Luca Badiali

Title of thesis Variational Autoencoders for the representation of complex systems and applications in robotics

- Dates 07/2016 – 07/2018 (Viva: 17/07/2018)
- Role Co-supervisor (Supervisor: Simona Cabib)
- Degree Laurea Magistrale - Corso di Neuroscienze Cognitive e Riabilitazione Psicologica (MA Science in Cognitive Neuroscience and Psychological Rehabilitation)
- Institute Department of Medicine and Psychology, University of Rome "La Sapienza", Rome, Italy
- Candidate Giovanni Granato

Title of thesis Coscienza e goal-directed behaviour: dalle neuroscienze teoretiche ai modelli computazionali (Consciousness and goal-directed behaviour: from theoretical neuroscience to computational models)

- Dates 09/2017 – 01/2018 (Viva: 14/06/2018)
- Role Co-Supervisor (Supervisor: Pawel Herman)
- Degree School of Engineering Sciences
- Institute KTH Royal Institute of Technology, Stockholm, Sweden
- Candidate William Lord

Title of thesis Open-ended Affordance Learning and Planning in a System with Active Vision

- Dates 07/2016 – 12/2017 (Viva: 15/12/2017)
- Role Co-Supervisor (Supervisor: Andrea Mele)
- Degree Corso di Laurea in Magistrale in Neurobiologia
- Institute Facoltà di Scienze Matematiche Fisiche e Naturali, Università degli Studi di Roma 'La Sapienza', Rome, Italy
- Candidate Ruggero Basanisi

Title of thesis Esperimenti e modelli computazionali sul goal-directed behaviour in un compito di apprendimento visuomotorio (Experiments and computational models of goal directed behaviour in a visuomotor learning task)

- Dates 02/2016 – 10/2017 (Viva: 26/10/2017)
Role Co-Supervisor (Supervisor: Marta Cialdea)
Degree Corso di Laurea in Ingegneria Informatica,
Institute Facolta' di Ingegneria, Universita' degli Studi Roma III (Rome, Italy)
Candidate Francesco Cerminara
Title of thesis Integrazione della generazione autonoma di skills motorie e pianificazione automatica
(Interaction between automatic generation of skills and automatic planning)

- Dates 02/2015 – 07/2016 (Viva: 22/07/2014)
Role Co-supervisor (Supervisor: Stefano Puglisi-Allegra)
Degree Corso di Laurea in Magistrale in Neurobiologia
Institute Facolta' di Scienze Matematiche Fisiche e Naturali, Universita' degli Studi di Roma 'La
Sapienza', Rome, Italy
Candidate Valeria Oliva
Title of thesis Interazione tra corteccia prefrontale mediale e amigdala nell'estinzione di un condizionamento
all'anfetamina (Interaction between medial prefrontal cortex and amygdala in extinction of
amphetamine conditioning)

- Dates 01/2014 – 07/2014 (Viva: 22/07/2014)
Role Co-supervisor (Supervisor: Stefano Puglisi-Allegra)
Degree Laurea Magistrale - Corso di Neuroscienze Cognitive e Riabilitazione Psicologica (MA Science in
Cognitive Neuroscience and Psychological Rehabilitation)
Institute Department of Medicine and Psychology, University of Rome "La Sapienza", Rome, Italy
Candidate Tania Moretta
Title of thesis Relazione tra l'effetto 'Pavlovian-instrumental transfer' specifico e la probabilita' di ricompensa
strumentale (Relation between specific "Pavlovian-instrumental transfer" and the probability of
instrumental reward)

- Dates 06/2013 – 12/2013 (Viva: 13/12/2013)
Role Co-supervisor (Supervisor: Loredana Zollo)
Degree Laurea Specialistica in Ingegneria Biomedica (MA Science in Biomedical Engineering)
Institute University Campus Bio-Medico, Rome, Italy
Candidate Valentina Meola
Title of thesis Controllo bioispirato di una mano robotica per compiti di manipolazione ciclica
(Bio-inspired control of a robotic hand for rhythmic manipulation tasks)

- Dates 09/2013 – 07/2013 (Viva: 17/07/2013)
Role Co-supervisor (Supervisor: Stefano Puglisi-Allegra)
Degree Laurea Magistrale - Corso di Neuroscienze Cognitive e Riabilitazione Psicologica (MA Science in
Cognitive Neuroscience and Psychological Rehabilitation)
Institute Department of Medicine and Psychology, University of Rome "La Sapienza", Rome, Italy
Candidate Emilio Cartoni
Title of thesis Pavlovian to instrumental transfer: un modello computazionale bayesiano con cause latenti
(Pavlovian to instrumental transfer: a Bayesian computational model with latent causes)

- Dates 01/01/ 2011 – 17/02/2011 (17/02/2011)
Role Co-supervisor (Supervisor: Eugenio Guglielmelli)
Degree Laurea Specialistica in Ingegneria Biomedica (MA Science in Biomedical Engineering)
Institute University Campus Bio-Medico, Rome, Italy
Candidate Paolo Tommasino
Title of thesis Sviluppo di neurocontrollori ad apprendimento per rinforzo e validazione sperimentale su robot
(Development of neurocontrollers for reinforcement learning and validation with robots)

- Dates 06/2010 – 12/2010 (Viva: 12/2010)
Role Co-supervisor (Supervisor: Stefano Puglisi-Allegra)

Degree	Laurea Magistrale - Corso di Neuroscienze Cognitive e Riabilitazione Psicologica (MA Science in Cognitive Neuroscience and Psychological Rehabilitation)
Institute	Department of Medicine and Psychology, University of Rome "La Sapienza", Rome, Italy
Candidate	Massimiliano Patacchiola
Title of thesis	Percezione corporea mediante reti neurali (Body perception with neural networks)
• Dates	12/2009 – 05/2010 (Viva: 24/05/2010)
Role	Co-supervisor (Supervisor: Loredana Zollo)
Degree	Laurea Specialistica in Ingegneria Biomedica (MA Science in Biomedical Engineering)
Institute	University Campus Bio-Medico, Rome, Italy
Candidate	Anna Lisa Ciancio
Title of thesis	Controllo di una mano robotica antropomorfa basata sull'uso congiunto di CPG e rete neurale con apprendimento per rinforzo (Control of a robotic anthropomorphic hand based on CPGs, neural networks, and reinforcement learning)
• Dates	30/09/2006 – 14/12/2007 (Viva: 14/12/2007)
Role	Co-supervisor (Supervisor: Stefano Puglisi-Allegra)
Degree	Laurea Triennale in Psicologia (Master Thesis in Psychology)
Institute	Department of Psychology, University of Rome "La Sapienza", Rome, Italy
Candidate	Alberto Venditti
Title of thesis	Vigore nell'azione in esperimenti di condizionamento operante nei ratti: un modello computazionale (Vigor of action in experiments of instrumental conditioning with rats: a computational model)
• Dates	01/04/2006 – 14/03/2005 (Viva: 14/03/2005)
Role	Co-supervisor (Supervisor: Orazio Miglino)
Degree	Laurea in Psicologia Generale e Sperimentale (Master Thesis in Psychology)
Institute	Department of Psychology, University of Rome "La Sapienza", Rome, Italy
Candidate	Francesco Mannella
Title of thesis	Apprendimento per rinforzo ed esplorazione dello spazio in Gallus-Gallus: un modello computazionale (Reinforcement learning and exploration of space in Gallus-Gallus: a computational model)

OTHER ACHIEVEMENTS

AWARDS AND SCHOLARSHIPS

• Date	20/10/2019
Achievement	Oral Interview for ERC Consolidator Grant, Project "SOLVER - Self-generating goals: open-ended learning versatile robots", Proposal no 682565
Agency	European Research Council
• Date	25/08/11
Positioning Best Conference Article	Second Best Conference Paper
Bodies Assigning the Prize	Prizes Committee, International Conference on Development and Learning (ICDL-2011)
• Date	10/1998 – 10/2001
PhD Scholarship	Full funding for 3 year PhD
Institute	Department of Computer Science, University of Essex, Colchester, UK
Bodies Assigning the Scholarship	Head of Department and Postgraduate Research Committee
• Date	1998
Prize	"Angelo Costa" Prize 1997 for Best National MA Research Thesis in Economics

Bodies Assigning the Prize

Rivista di Politica Economica, International Evaluation Committee, Rome

**KEYNOTES IN CONFERENCES,
INTERNATIONAL SCHOOLS,
SEMINARS/WEBINARS**

- Date 22/05/2020
Venue Università Roma III, Department of Informatics Engineering, Rome, Italy
Event, Type of Presentation Seminar
Title of Presentation Neural networks for the scientific research on autonomous robots and for company applications

- Date 13/12/2019
Venue International Conference on Neural Information Processing Systems (NeurIPS2019), Vancouver, Canada
Event, Type of Presentation Plenary talk
Title of Presentation REAL Competition: Robot Open-Ended Autonomous Learning

- Date 26/09/2019
Venue International Symposium on Digital Earth (ISDE2019), Florence, Italy
Event, Type of Presentation Plenary talk
Title of Presentation AI and Blockchain

- Date 06/06/2019
Venue Pi-Campus, Rome, Italy
Event, Type of Presentation Invited presentation at Pi-Campus School
Title of Presentation Goal-directed behaviour and learning: from brains to robots

- Date 11/04/2019
Venue Parco dei Principi Grand Hotel, Roma, Italy
Event, Type of Presentation Salone della Giustizia 2018-2019 - Blockchain e Fintech: Diritto, Tecnologia e Finanza. Keynote speech
Title of Presentation Artificial intelligence (deep-nets) for blockchain e smart contracts. A new "Advanced School in AI" in Rome

- Date 18/03/2019
Venue Centro Congressi Auditorium della Tecnica, Rome, Italy
Event, Type of Presentation Ital-IA: Primo Convegno Nazionale CINI sull'intelligenza artificiale
Title of Presentation Advanced School in AI: Un intervento formativo interdisciplinare per la ricerca scientifica e le applicazioni su machine learning, cervello, mente e società (Advanced School in AI: An interdisciplinary formation initiative for the scientific research and applications on machine learning, brain, mind and society)

- Date 21/02/2019
Venue Istituto di Scienze e Tecnologie della Cognizione, Consiglio Nazionale delle Ricerche, Rome, Italy
Event, Type of Presentation Institute Seminar
Title of Presentation A better world: dreaming socio-political revolutions for humanity flourishing

- Date 14/02/2019
Venue Istituto di Scienze e Tecnologie della Cognizione, Consiglio Nazionale delle Ricerche, Rome, Italy
Event, Type of Presentation Seminar for Undergraduate students of Cognitive Science, University of Rome III
Title of Presentation The EU Project GOAL-Robots: Robots learning motor skills in an open-ended fashion driven by curiosity

- Date 21/12/2018

Venue	Istituto di Scienze e Tecnologie della Cognizione, Consiglio Nazionale delle Ricerche, Rome, Italy
Event, Type of Presentation	Seminar within "Advanced School in AI"
Title of Presentation	A better world: dreaming socio-political revolutions for human flourishing
• Date	24/05/2018
Venue	Paris, France
Event, Type of Presentation	Università Pierre and Marie Curie, Symposium on the Biology of Decision Making (SBDM2018), Satellite-Workshop on "Interfaces between robotics, artificial intelligence and neuroscience"
Title of Presentation	Goal-directed behaviour and learning: from brains to robots
• Date	16/05/2018
Venue	Università di Roma "Sapienza", Department of Biology and Biotechnologies, Rome, Italy
Event, Type of Presentation	Presentation of course "Computational Neuroscience" to Department students
Title of Presentation	Computational models to understand how brain produces behaviour
• Date	10/05/2018
Venue	Istituto di Scienze e Tecnologie della Cognizione, Consiglio Nazionale delle Ricerche, Rome, Italy
Event, Type of Presentation	Presentation of the "Advanced School in AI"
Title of Presentation	"Advanced School in AI": vision, challenges, actions
• Date	22/11/2017
Venue	Auditorium of the National Research Council, Rome, Italy
Event, Type of Presentation	Plenary talk. Event for researchers and university students on the future of AI: "Humans: the next ones"
Title of Presentation	Robots learning as children
• Date	18/10/2017
Venue	Lisbon, Portugal.
Event, Type of Presentation	Invited speech. Workshop on Ethics and Future of Artificial Intelligence: Ethical Issues of Open Ended-Learning in Autonomous Robots. Held at The IEEE International Conference on Development and Learning and Epigenetic Robotics.
Title of Presentation	Predicting the direction of the "big value drift" of AI after the singularity
• Date	04/10/2017
Venue	Hotel Residenza di Ripetta, Rome, Italy
Event, Type of Presentation	Invited speech. Third International Workshop on Intrinsically Motivated Open-ended Learning (IMOL2017).
Title of Presentation	Open-ended learning of repertoires of goals and skills in robots
• Date	23/11/2016
Venue	International open webinar
Event, Type of Presentation	Invited speech. Shangai Lectures.
Title of Presentation	The European project GOAL-Robots aiming to build robots that can learn motor skills in an open-ended fashion driven by curiosity
• Date	23/11/2016
Venue	University of Rome "La Sapienza". Rome, Italy.
Event, Type of Presentation	Invited speech. Workshop APRE (italian Agency for European Research): a step closer to success in FET Open.
Title of Presentation	GOAL-Robots FET-OPEN project
• Date	20/10/2016
Venue	Rome, Italy
Event, Type of Presentation	Invited seminar. GiovedISTC seminars, ISTC-CNR

Title of Presentation	Open-ended learning in children and robots: architectures and principles
• Date	07/10/2016
Venue	The Centre for Brain and Cognitive Development (Birkbeck), London, UK.
Event, Type of Presentation	Invited speech. The Second Interdisciplinary Symposium on Information Seeking, Curiosity, and Attention (Neurocuriosity 2016)
Title of Presentation	Bio-inspired computational models of the development of attention skills: intrinsic motivations, goals, and learning
• Date	19/09/2016
Venue	Clergy-Pontoise University, France
Event, Type of Presentation	Invited speech. The Workshop on Body Knowledge, International Conference on Development and Epigenetic Learning (IEEE ICDL-EpiRob-2016)
Title of Presentation	Open-ended Learning of Body Knowledge: Theoretical Principles and A Preliminary Computational Model
• Date	01/07/2016
Venue	Genoa, Italy
Event, Type of Presentation	Invited seminar. Italian Institute of Technology (IIT).
Title of Presentation	Open-ended learning autonomous robots: architectures, problems, and solutions
• Date	30/05/2016
Venue	Istituto di Scienze e Tecnologie della Cognizione, Consiglio Nazionale delle Ricerche, Rome, Italy
Event, Type of Presentation	Study day on "Carving Society: theory and models of social phenomena"
Title of Presentation	Seeking a science to identify and pursue human values
• Date	20/10/2016
Venue	EU Offices, Brussels, Belgium
Event, Type of Presentation	Oral Interview for ERC Consolidator Grant, Project "SOLVER: Self-generating goals: open-ended learning versatile robots", Proposal 682565
Title of Presentation	SOLVER: Self-generating goals: open-ended learning versatile robots
• Date	17/07/2015
Venue	Institut des Systèmes Intelligents et de Robotique, Université Pierre et Marie Curie (ISIR-UPMC/CNRS), Paris, France
Event, Type of Presentation	Invited seminar for ISIR-UPMC/CNRS
Title of Presentation	Basal Ganglia Selection of Cortical Dynamics to Produce Multiple Motor Skills: A neurobotic model
• Date	20/07/2015
Venue	Institut des Systèmes Intelligents et de Robotique, Université Pierre et Marie Curie (ISIR-UPMC/CNRS), Paris, France
Event, Type of Presentation	Invited seminar for ISIR-UPMC/CNRS
Title of Presentation	System-level brain functioning: theories and models
• Date	28/07/2015
Venue	Institut des Systèmes Intelligents et de Robotique, Université Pierre et Marie Curie (ISIR-UPMC/CNRS), Paris, France
Event, Type of Presentation	Invited seminar for ISIR-UPMC/CNRS
Title of Presentation	Intrinsic motivations and open-ended learning: theory, behaviour, brain, models and robots
• Date	05/08/2015
Venue	Institut des Systèmes Intelligents et de Robotique, Université Pierre et Marie Curie (ISIR-UPMC/CNRS), Paris, France
Event, Type of Presentation	Invited seminar for ISIR-UPMC/CNRS

Title of Presentation	Simulated robot controllers for the cumulative learning of multiple skills: intrinsic motivations, hierarchical architectures, and goals
• Date	11/10/2013
Venue	CNR (National Research Council), Rome, Italy.
Event, Type of Presentation	Plenary presentation
Title of Presentation	Computational Models of Intrinsic Motivations for Robots and Animals
• Date	04/06/2013
Venue	Centro Congressi Cavour. Rome, Italy.
Event, Type of Presentation	Keynote speech. The Second International Workshop on Open-ended Development.
Title of Presentation	Intrinsic motivations for cumulative learning: biological and computational perspectives
• Date	10-15/02/2013
Venue	Schloss Dagstuhl, Leibniz-Zentrum für Informatik, Dagstuhl, Germany
Event, Type of Presentation	Invited speech at Dagstuhl Seminar 13072 "Mechanisms of Ongoing Development in Cognitive Robotics"
Title of Presentation	What Are Intrinsic Motivations? A Biological and Computational Perspective
• Date	03-08/12/12
Venue	Frankfurt am Main, Germany
Event, Type of Presentation	International Winter School on Intrinsically-Motivated Cumulative-Learning Versatile Robots
Title of Presentation	Intrinsic Motivations: Functions, Brain Mechanisms, and Computational Models
• Date	28/02/2012
Venue	Department of Psychology, University of Rome "La Sapienza", Rome, Italy
Event, Type of Presentation	Plenary presentation
Title of Presentation	Intrinsic Motivations for Cumulative Learning in Organisms and Robots
• Date	24-27/08/11
Venue	Frankfurt am Main, Germany
Event, Type of Presentation	Presentation at the International Conference on Development and Learning and Epigenetic Robotics (Special session dedicated to IM-CLeVeR project)
Title of Presentation	Bio-constrained models of the Board Experiment with Children and Monkeys
• Date	24-27/08/11
Venue	Frankfurt am Main, Germany
Event, Type of Presentation	Presentation at the International Conference on Development and Learning and Epigenetic Robotics (Special workshop dedicated to the IM-CLeVeR project)
Title of Presentation	The IM-CLeVeR Project: Intrinsic Motivations in Animals and Robots
• Date	7/05/2011
Venue	Capo Caccia, Sardinia, Italy
Event, Type of Presentation	Plenary presentation at the Capo Caccia Cognitive Neuromorphic Engineering Workshop
Title of Presentation	The IM-CLeVeR Project: Concept, Objectives and Achievements
• Date	20/08/2010
Venue	Ann Arbor, USA
Event, Type of Presentation	Presentation within Workshop at the International Conference on Development and Learning (ICDL2010)
Title of Presentation	The IM-CLeVeR Project Update
• Date	18/01/2010
Venue	Sestri Levante, Italy
Event, Type of Presentation	Invited presentation at The iCub Workshop
Title of Presentation	Cumulative Learning of Skills in Robots

• Date 14/11/2009
Venue Venice, Italy
Event, Type of Presentation Keynote speech, International Conference on Epigenetic Robotiscs (EpiRob09),
First Workshop on Intrinsically Motivated Cumulative Learning in Animals and robots
Title of Presentation IM-CLeVeR - Intrinsically Motivated Cumulative Learning Versatile Robots

• Date 20/12/2005
Venue Department of Psychology, University of Trieste, Trieste, Italy
Event, Type of Presentation Plenary Lecture
Title of Presentation Un modello computazionale, basato su reti neurali ed apprendimento per rinforzo, di pulcini che imparano a localizzare il centro di arene chiuse (A computational model, based on neural networks and reinforcement learning, of chicks that learn to localise the centre of close arenas)

CONFERENCE CHAIR AND PROGRAM CHAIR

• Date 1-3/07/2019
Venue Frankfurt Institute of Advanced Studies, Frankfurt, Germany
Role Chair
Event Fourth International Workshop on Intrinsic Motivations and Open-ended Learning (IMOL-2019)
Website <http://www.imol-conf.org/>

• Date 4-6/10/2017
Venue Rome, Italy
Role Chair
Event Third International Workshop on Intrinsic Motivations and Open-ended Learning (IMOL-2017)
Website <http://www.imol-conf.org/>

• Date 6-8/06/2013
Venue Centro Congressi Cavour, Rome, Italy
Role Chair
Event Second International Workshop on Intrinsic Motivations and Open-ended Development in Animals, Humans and Robots (IMOD-2013)
Website <http://www.im-clever.eu/announcements/events/cnr-workshop-on-intrinsic-motivations>

• Date 15-17/11/2009
Venue Venice, Italy
Role Chair
Event First International Workshop on Intrinsic Motivations and Open-ended Development in Animals, Humans and Robots (IMOD-2009)
Website <http://www.im-clever.eu/documents/announcements/events/im-clever-international-workshop>

• Date 25-29/09/2006
Venue Rome, Italy
Role Co-chair
Event From Animals to Animats 9 – The Ninth International Conference on Simulation of Adaptive Behavior (SAB2006)
Website <http://www.informatik.uni-trier.de/~Ley/db/conf/sab/index.html>

• Date 26/06/2008
Venue Munich, Germany
Role Co-Chair
Event Fourth Workshop on Anticipatory Behavior in Adaptive Learning Systems (ABiALS 2008)

Website <http://www.psychologie.uni-wuerzburg.de/ABiALS/call.html>

• Date 30/09/2006

Venue Rome, Italy

Role Co-Chair

Event Third Workshop on Adaptive Behavior in Anticipatory Learning Systems (ABiALS 2006)

Website <http://www.psychologie.uni-wuerzburg.de/ABiALS/ABiALS2006/>

SCIENTIFIC INTERESTS

COMPLEX ADAPTIVE SYSTEMS

- Self-organisation mechanisms
- Embodied and situated learning systems

MACHINE LEARNING

- Neural networks (feed-forward networks, echostate networks, self-organising maps, deep-belief networks, deep neural networks)
- Reinforcement learning (TD, policy search methods), supervised learning, unsupervised learning, Hebbian learning
- Evolutionary algorithms
- Architectures for hierarchical motor learning
- Basics of probabilistic/Bayesian systems

ROBOTICS

- Intrinsically-motivated, goal-based, open-ended learning in robots
- Autonomous learning of hierarchies of motor skills
- Dynamic movement primitives

PSYCHOLOGY

- Extrinsic (appetitive and aversive/homeostatic) motivations, intrinsic motivations
- Classical and instrumental conditioning (habitual and goal-directed behaviour)
- Hierarchical organisation of motor control
- Embodied cognition
- Bottom-up and top-down attention

SYSTEM NEUROSCIENCE

- Computational system neuroscience
- Basal ganglia (ventral, dorsomedial, and dorsolateral BG)
- Visual cortical pathways (ventral and dorsal; sensorial and motor)
- Prefrontal cortex system
- Amygdala, hippocampus, cerebellum
- STDP, Hebbian learning, dopamine-based trial-and-error learning, cereb. supervised learning
- Mental diseases

ECONOMICS AND POLITICS

- General economic systems, policy making
- Agent-based models
- Value, subjective well-being
- Selection of policy makers and political leaders

PROFESSIONAL EXPERIENCE

• Dates 04/1996 – 03/1997

Name and address of employer ELIS - Educazione Lavoro Istruzione Sport, Rome

Type of business or sector No-profit body for instruction and professional training

Occupation or position held Civil Service Officer

Main activities and responsibilities Preparation of professional courses. Preparation of European Projects.

PERSONAL SKILLS AND COMPETENCIES

MOTHER TONGUE

ITALIAN

OTHER LANGUAGES

ENGLISH

- Reading skills Excellent
- Writing skills Excellent
- Verbal skills Excellent

<ul style="list-style-type: none"> • Certificate • Experiences abroad 	<p>Toefl test (November 1997) Final mark: 610/668</p> <ul style="list-style-type: none"> • 3 years in England in academic environment (PhD: 1998-2001) • 6 months in the United States in familiar environment (1987, 1988, 1991)
COMPUTER SKILLS	<ul style="list-style-type: none"> • Excellent programming general skills • Long experience with programming languages: C, C++, Matlab, Python • Daily-user of Windows and Linux operative systems • Daily-user of Open Office, Libre Office, Latex
PERSONAL SKILLS	<ul style="list-style-type: none"> • Excellent supervisory and teaching skills, based on a deep capacity to understand others' way of thinking • Very open-minded • Empathic, concerned • Capacity for deep analysis • Great capacity of integration and synthesis • Wide scientific and humanistic knowledge: able to talk and work with "experts" from any field
EDITORIAL ACTIVITIES	<p>Referee for:</p> <ul style="list-style-type: none"> • Intelligent Systems • Artificial Life • Adaptive Behaviour • Journal of Autonomous Robots • IEEE Transactions on Neural Networks • IEEE Transactions on Evolutionary Computation • Quarterly Journal of Cognitive Science
ARTISTIC SKILLS AND COMPETENCES	<ul style="list-style-type: none"> • Basic level for piano (4 years private lessons) and guitar (self-educated) • Good skills in artistic and technical design • Excellent manual skills acquired making wooden and iron objects; high practical sense
MILITARY SERVICE	04/1996 – 03/1997: Civil service in no-profit body "ELIS – Istruzione Lavoro e Sport", Rome
DRIVING LICENCE	Drive car licence (Italian "Patente B")

Publications

Theses (Italian and English)

1. Baldassarre G. (1997). *Reti neurali ed algoritmi genetici per i modelli simulativi di teoria della razionalità limitata - Applicazioni ai mercati oligopolistici*. Tesi di Laurea. Roma: Facolta' di Economia e Commercio, Università di Roma "La Sapienza".
2. Baldassarre G. (1997). *Apprendimento per rinforzo e coordinazione sensomotoria*. Tesi del Corso di Perfezionamento in Psicologia Cognitiva e Reti Neurali, edizione 1996-1997. Roma: Facolta' di Psicologia, Università di Roma "La Sapienza".
3. Baldassarre G. (2002). *Planning with Neural Networks and Reinforcement Learning*. PhD Thesis. Colchester - UK: Computer Science Department, University of Essex.

Edited Books

1. Nolfi S., Baldassarre G., Calabretta R., Hallam J., Marocco D., Meyer J-A., Miglino O., Parisi D. (Eds.) (2006). *From Animals to Animats 9: Proceedings of the Ninth International Conference on the Simulation of Adaptive Behavior (SAB-2006)*. Berlin: Springer Verlag.
2. Butz M. V., Sigaud O., Pezzulo G., Baldassarre G. (Eds.) (2006). *Proceedings of the Third Workshop on Anticipatory Behavior in Adaptive Learning Systems*. Rome: Istituto di Scienze e Tecnologie della Cognizione, Consiglio Nazionale delle Ricerche (ISTC-CNR).
3. Butz M., Sigaud O., Pezzulo G., Baldassarre G. (Eds.) (2007). *Anticipatory Behavior in Adaptive Learning Systems: From Brains to Individual and Social Behavior*. LNAI 4520, Subseries State-of-the-art survey. Berlin: Springer Verlag.
4. Pezzulo G., Butz M., Sigaud, O. & Baldassarre, G. (Eds.) *Proceedings of the Fourth Workshop on Anticipatory Behavior in Adaptive Learning Systems (ABIALS 2008)*. Roma: Istituto di Scienze e Tecnologie della Cognizione - CNR.
5. Pezzulo G., Sigaud O., Baldassarre G., Butz M. (Eds.) (2009). *Anticipatory Behavior in Adaptive Learning Systems: From Psychological Theories to Artificial Cognitive Systems*. LNAI 5499. Berlin: Springer Verlag.
6. Baldassarre, G. & Mirolli, M. (Eds.) (2013). *Computational and Robotic Models of the Hierarchical Organisation of Behaviour*. Berlin: Springer-Verlag.
7. Baldassarre, G. & Mirolli, M. (Eds.) (2013). *Intrinsically motivated learning in natural and artificial systems*. Berlin: Springer.
8. Baldassarre, G.; Stafford, T.; Mirolli, M.; Redgrave, P.; Ryan, R. & Barto, A. (Eds.) (2015). *Frontiers Research Topics eBook: Intrinsic motivations and open-ended development in animals, humans, and robots*. Frontiers Media SA.

International Scientific Journals

1. Baldassarre G. (1997). Neural networks and genetic algorithms for the simulation models of bounded rationality theory - An application to oligopolistic markets. *Rivista di Politica Economica*. V. 12, pp. 107-146.
2. Baldassarre G. (2001). Cultural evolution of 'guiding criteria' and behaviour in a population of neural-network agents. *Journal of Memetics - Evolutionary Models of Information Transmission*. Vol. 4, On-line Journal.
3. Baldassarre G. (2002). A modular neural-network model of the basal ganglia's role in learning and selecting motor behaviours. *Journal of Cognitive Systems Research*. Vol. 3, pp. 5-13.
4. Baldassarre G., Nolfi S., Parisi D. (2003). Evolving mobile robots able to display collective behaviour. *Artificial Life*. Vol. 9, pp. 255-267.
5. Dorigo M., Trianni V., Sahin E., Gross R., Labella T.H., Baldassarre G., Nolfi S., Deneubourg J.-L., Mondada F., Floreano D., Gambardella L.M. (2004). Evolving self-organizing behaviors for a swarmbot. *Autonomous Robots*, vol. 17, pp. 223-245.
6. Baldassarre, G., Parisi, D., Nolfi, S. (2006). Distributed coordination of simulated robots based on self-organization. *Artificial Life*, Vol. 12 (No. 3), pp. 289-311.
7. Mannella F., Baldassarre G. (2007). A neural-network reinforcement-learning model of domestic chicks that learn to localise the centre of closed arenas. *Philosophical Transactions of the Royal Society B - Biological Sciences*. Vol. 362 (No. 1479), pp. 383-401.

8. Baldassarre G., Trianni V., Bonani M., Mondada F., Dorigo M., Nolfi S. (2007). Self-organised coordinated motion in groups of physically connected robots. *IEEE Transactions in Systems, Man and Cybernetics – Part B Cybernetics*. Vol. 37 (No. 1), pp. 224-239.
9. Baldassarre, G., Nolfi, S. (2009). Strengths and synergies of evolved and designed controllers: a study within collective robotics. *Journal of Artificial Intelligence*. Vol. 173, pp. 857-875.
10. Caligiore, D.; Borghi, A.; Parisi, D. & Baldassarre, G. (2010). TRoPICALS: A Computational Embodied Neuroscience Model of Compatibility Effects. *Psychological Review*, 117 (4), 1188-1228.
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