

CURRICULUM VITAE

Personal Details

First name : Giulio
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Date and Place of Birth: September 7, 1950, Correggio, Italy
Nationality / Status: Italian / married with two sons
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Short Biography

Director of Research at the Italian Institute of Technology and full professor of bioengineering at the University of Genoa. After graduating in Electronic Engineering (Bioengineering) at the University of Genova in 1976 he was research fellow and assistant professor at the Scuola Normale Superiore in Pisa until 1984. During this period, working at the Laboratorio di Neurofisiologia of the CNR, he investigated aspects of visual processing at the level of single neurons as well as aspects of visual perception in human adults and children. He has been Visiting Research Associate at the Department of Neurology of the Harvard Medical School in Boston where he developed diagnostic techniques based on brain electrical activity mapping. After his return to Genova in 1984 as associate professor, in 1990 he founded the LIRA-Lab (Laboratory for Integrated Advanced Robotics, www.liralab.it). In 1996 he was Visiting Scientist at the Artificial Intelligence Lab of MIT. Since July 2006 Giulio Sandini has been appointed Director of Research at the Italian Institute of Technology where he has established and is currently directing the department of Robotics, Brain and Cognitive Sciences.

Research Focus and Current Activities

Giulio Sandini research activities are in the fields of Biological and Artificial Vision, Computational and Cognitive Neuroscience and Robotics with the objective of understanding the neural mechanisms of human sensory-motor coordination and cognitive development from a biological and an artificial perspective. A distinctive aspect of his research has been the multidisciplinary of the approach expressed through national and international collaborations with neuroscientists, developmental psychologists.

Currently, the research activity carried out at the Robotics, Brain and Cognitive Sciences department develops *around the human being* along three main research streams: i) **humanoid robotics** with a focus on cognition; ii) **human behavioral studies and rehabilitation** with a focus on action and perception; iii) **human-machine communication and interaction** with a strong emphasis on the technological and scientific advancement of bidirectional direct interface to the nervous systems. A factor, common to all three streams is the focus on learning and development and, in general, on the dynamics of knowledge acquisition and update in the framework of goal directed actions. These streams of research are carried out with two objectives:

1. to advance knowledge and technologies in the area of artificial systems by performing targeted investigation of human motor and perceptual abilities and by implementing autonomous humanoid robots able to learn from experience and interacting naturally with humans;
2. to investigate how the merging of robot technologies with systems neuroscience research can contribute to the improvement of the quality of life, particularly of the weak components of our society.

The RBCS department's multidisciplinary research staff is currently composed of about 80 researchers with different backgrounds (engineers, biologists, psychologists, mathematicians, physicists, medical doctors) addressing three, strictly interconnected, streams of research: Humanoid Cognition, Human Behavior and Biomechanics, Brain Machine Interface.

Education

1976 *DEGREE IN ELECTRONIC ENGINEERING AND BIOENGINEERING (MAGNA CUM LAUDE) AT THE UNIVERSITY OF GENOA - ITALY*

Academic Appointments

SINCE 2006 *DIRECTOR OF RESEARCH – START-UP AND CONSOLIDATION OF THE “DEPARTMENT OF ROBOTICS, BRAIN AND COGNITIVE SCIENCES” – ITALIAN INSTITUTE OF TECHNOLOGY*

SINCE 2000 *FULL PROFESSOR OF BIOENGINEERING (WITH TENURE)*

1995 – 1996 *VISITING SCIENTIST AT THE ARTIFICIAL INTELLIGENCE LAB AT MIT*

1987 - 2000 *ASSOCIATE PROFESSOR OF BIOENGINEERING (WITH TENURE) AT THE DEPARTMENT OF COMMUNICATIONS, COMPUTERS AND SYSTEM SCIENCE OF THE UNIVERSITY OF GENOA*

1984 - 1987 *ASSISTANT PROFESSOR AT THE DEPARTMENT OF COMMUNICATIONS, COMPUTERS AND SYSTEM SCIENCE OF THE UNIVERSITY OF GENOA*

1983 *RESEARCH ASSOCIATE IN NEUROLOGY AT HARVARD MEDICAL SCHOOL IN BOSTON*

1980 – 1984 *ASSISTANT PROFESSOR OF BIOENGINEERING AT THE SCUOLA NORMALE SUPERIORE IN PISA - NEUROPHYSIOLOGY LAB OF THE OF THE ITALIAN NATIONAL COUNCIL OF RESEARCH (CNR) IN PISA*

1978 – 1979 *VISITING RESEARCH ASSISTANT AT THE DIVISION OF NEUROPHYSIOLOGY AND SEIZURE UNIT THE CHILDREN’S HOSPITAL IN BOSTON – USA*

1976 – 1980 *RESEARCH FELLOW AT THE NEUROPHYSIOLOGY LAB OF THE OF THE ITALIAN NATIONAL COUNCIL OF RESEARCH (CNR) IN PISA WITH A FELLOWSHIP FROM THE SCUOLA NORMALE SUPERIORE IN PISA*

Professional Appointments

SINCE 2015	<i>IEEE TRANSACTIONS ON COGNITIVE AND DEVELOPMENTAL SYSTEMS</i>	<i>ASSOCIATE EDITOR AND MEMBER OF STEERING COMMITTEE</i>
SINCE 2015	<i>COGNITIVE SYSTEMS RESEARCH (ELSEVIER)</i>	<i>EDITORIAL BOARD</i>
SINCE 2014	<i>IEEE TECHNICAL COMMITTEE "COGNITIVE ROBOTICS"</i>	<i>CO-CHAIR AND FOUNDER</i>
SINCE 2011	<i>ROBOTICS AND AUTONOMOUS SYSTEMS JOURNAL (ELSEVIER)</i>	<i>EDITORIAL BOARD</i>
SINCE 2011	<i>SPRINGER BOOK SERIES COGNITIVE SYSTEMS MONOGRAPH (COSMOS)</i>	<i>ADVISORY BOARD</i>
2010-2013	<i>SWISS NATIONAL CENTER OF COMPETENCE IN ROBOTICS</i>	<i>ADVISORY BOARD</i>
2010	<i>GLOBAL COE "COGNITIVE NEUROSCIENCE ROBOTICS" – JAPAN</i>	<i>EVALUATION COMMITTEE</i>
SINCE 2010	<i>INTERNATIONAL JOURNAL OF HUMANOID ROBOTICS</i>	<i>ADVISORY BOARD</i>
2008	<i>GLOBAL CENTERS OF EXCELLENCE (COE) PROGRAM – MEXT JAPAN</i>	<i>PROJECT EVALUATOR</i>
2004-2006	<i>ITALIAN INSTITUTE OF TECHNOLOGY</i>	<i>EXPERT OF ROBOTICS AND NEUROSCIENCE</i>
2004	<i>EUROPEAN COMMISSION – NEW AND EMERGING SCIENCE AND TECHNOLOGY (NEST)</i>	<i>PROJECT EVALUATOR</i>
2004	<i>MINISTRY OF RESEARCH AND UNIVERSITY OF PORTUGAL "NATIONAL PROGRAM FOR THE RENEWAL OF SCIENTIFIC EQUIPMENT) (TOTAL FUNDING ASSIGNED 60 M€)</i>	<i>EVALUATION AND SELECTION PANEL</i>
SINCE 2003	<i>JOURNAL "INTERACTION STUDIES" – JOHN BENJAMINS PUBLISHING COMPANY</i>	<i>ASSOCIATE EDITOR</i>
SINCE 2002	<i>INTERNATIONAL JOURNAL OF HUMANOID RESEARCH – WORLD SCIENTIFIC</i>	<i>EDITORIAL BOARD</i>
SINCE 2002-2014	<i>JOURNAL OF APPLIED BIONICS AND BIOMECHANICS</i>	<i>HONORARY EDITORIAL BOARD</i>
2002-2009	<i>SCIENCE AND TECHNOLOGY PARK OF THE LIGURIA REGION</i>	<i>SCIENTIFIC BOARD</i>
2002 – 2006	<i>NEURO-IT-NET (NETWORK OF EXCELLENCE SUPPORTED BY CEC)</i>	<i>STEERING COMMITTEE</i>
2002 – 2006	<i>CENTER FOR APPLIED AUTONOMOUS SENSORS SYSTEMS – OREBRO SWEDEN</i>	<i>INTERNATIONAL SCIENTIFIC BOARD</i>
SINCE 2005	<i>IEEE INTERNATIONAL CONFERENCE ON HUMANOID ROBOTS</i>	<i>PROGRAM COMMITTEE</i>

SINCE 2000	<i>ITALIAN MINISTRY OF EDUCATION, UNIVERSITY AND RESEARCH, MINISTRY FOR PRODUCTIVE ACTIVITIES</i>	<i>EXPERT EVALUATOR OF ACADEMIC AND INDUSTRIAL PROJECTS</i>
2000 – 2001	<i>ITALIAN SPACE AGENCY</i>	<i>SCIENTIFIC COMMITTEE ON ROBOTICS</i>
1998 – 2004	<i>INSTITUTE OF INTELLIGENT SYSTEMS FOR AUTOMATION (THE FORMER IMAGE PROCESSING LAB) OF THE ITALIAN CNR</i>	<i>SCIENTIFIC BOARD</i>
1998	<i>MINISTRY OF TRADE AND INDUSTRY OF JAPAN</i>	<i>FOREIGN SCIENTIFIC EXPERT</i>
1998	<i>DUTCH SCIENTIFIC RESEARCH COUNCIL</i>	<i>EVALUATOR OF NATIONAL PROJECTS ON “PHYSICAL BIOLOGY”</i>
SINCE 1995	<i>EUROPEAN COMMISSION - FUTURE AND EMERGING TECHNOLOGIES – LONG TERM RESEARCH AND INFORMATION SCIENCE TECHNOLOGY – COGNITIVE SYSTEMS</i>	<i>EXPERT AND PROJECT EVALUATOR FOR 5TH, 6TH, 7TH AND H2020 FRAMEWORK PROGRAM</i>
1992 – 1998	<i>INTERUNIVERSITY CENTER OF AGRICULTURAL AND ENVIRONMENTAL ROBOTICS</i>	<i>DIRECTOR</i>
SINCE 1992	<i>IMAGE AND VISION COMPUTING JOURNAL – ELSEVIER SCIENCE B.V.</i>	<i>ADVISORY EDITORIAL BOARD</i>
SINCE 1990	<i>LABORATORY FOR INTEGRATED ADVANCED ROBOTICS (LIRA-LAB)</i>	<i>FOUNDING DIRECTOR</i>
SINCE 1980	<i>SERVED IN THE PROGRAM COMMITTEE OF MAJOR INTERNATIONAL CONFERENCES IN ROBOTICS SUCH AS: IEEE INTERNATIONAL CONFERENCE ON ROBOTICS AND AUTOMATION (ICAR), IEEE INTERNATIONAL CONFERENCE ON INTELLIGENT ROBOTS AND SYSTEMS (IROS)</i>	
SINCE 1990	<i>SERVED ON ACADEMIC PROMOTION AND HIRING COMMITTEES AT: TRINITY COLLEGE DUBLIN, CARNEGIE MELLON UNIVERSITY, ROCHESTER UNIVERSITY, UNIVERSITY COLLEGE LONDON; ISTITUTO SUPERIOR TECNICO IN LISBON; UNIVERSITY OF ALBERTA, YALE UNIVERSITY, CARNEGIE MELLON UNIVERSITY, UNIVERSITY OF CANBERRA, ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE.</i>	
SINCE 1998	<i>EVALUATOR OF RESEARCH PROJECTS FOR ITALIAN AND FOREIGN UNIVERSITIES AMONG WHICH: BOLOGNA, SIENA, LISBON, ZURICH.</i>	
SINCE 1980	<i>REVIEWER FOR INTERNATIONAL JOURNALS INCLUDING: INTERNATIONAL JOURNAL OF ROBOTICS RESEARCH; IEEE TRANS. PAMI, IEEE TRANS. SMC, IEEE TRANS. BE, ARTIFICIAL INTELLIGENCE, INTERNATIONAL JOURNAL OF COMPUTER VISION, VISION RESEARCH, JOURNAL OF THE OPTICAL SOCIETY OF AMERICA, COMPUTER VISION AND IMAGE UNDERSTANDING, MACHINE VISION AND APPLICATIONS, ROBOTS AND AUTONOMOUS SYSTEMS.</i>	

Publications

In the last 10 years I have published over 200 publications of which more than 80 in International Journals.