



## IL DIRETTORE AMMINISTRATIVO

**VISTO** lo Statuto di IMT Alti Studi Lucca, emanato con Decreto Direttoriale n. 05973.I.2.02.07.19, pubblicato nella Gazzetta Ufficiale, Serie Generale - n. 163 del 13 luglio 2019;

**VISTA** la Delibera del Consiglio Direttivo della Scuola IMT Rep. N. 04272(76)II.2.04.08.17 nella seduta del 06/06/2017 con la quale la Dott.ssa Alessia Macchia è nominato Direttore Amministrativo della Scuola IMT, con decorrenza dal 01/07/2019;

**VISTO** il D.lgs. 50/2016, *Codice dei contratti pubblici*;

**VISTO** l'avviso esplorativo di indagine di mercato finalizzato ad un eventuale affidamento diretto ex. art. 36, comma 2, let. a) D.Lgs. 50/2016 per l'acquisto di un sistema modulare integrato per l'acquisizione simultanea di dati EEG e di segnali periferici, pubblicato sul sito istituzionale della Scuola in data 18 giugno 2019 con termine ultimo per la presentazione di offerte entro il 2 luglio 2019;

**PRESO ATTO** che è pervenuto un unico preventivo in risposta a tale avviso esplorativo di indagine di mercato;

**CONSIDERATE** le elevate conoscenze tecnico/professionali necessarie per la valutazione della congruità del preventivo pervenuto e la rispondenza dello stesso con le caratteristiche richieste nell'avviso di indagine di mercato;

**CONSIDERATA** la carenza in capo al RUP di tali specifiche conoscenze tecnico/professionali;

**RITENUTO** di procedere, ai sensi delle Linee guida di ANAC n. 3, alla nomina di una commissione composta dal personale della Scuola dotato di competenze tecnico/ professionali per fornire il supporto al RUP nella valutazione dell'unico preventivo pervenuto;

**VISTA** la disponibilità del personale interno, come indicato sotto:

Professor Emiliano Ricciardi;

Dott. Leonardo Gaetano Mezzina;

Dott. Giulio Bernardi;

**ACQUISITA** la disponibilità di tutti i componenti;

**ACQUISITE** altresì, le autodichiarazioni sui requisiti soggettivi previste ai sensi dall'art. 35 bis 165/2001, e sull'assenza di conflitti di interesse anche potenziali;

## DECRETA

1) di nominare la Commissione di supporto al RUP incaricata di verificare che l'unico preventivo pervenuto a seguito di indagine di mercato finalizzato ad un eventuale affidamento diretto ex. art. 36, comma 2, let. a) D.Lgs. 50/2016 per l'acquisto di un sistema modulare integrato per l'acquisizione simultanea di dati EEG e di segnali periferici, sia congruo e rispondente alle specifiche tecniche richieste, come segue:

- Presidente Prof. Emiliano Ricciardi
- membro Dott. Leonardo Gaetano Mezzina;
- membro Dott. Giulio Bernardi.

2) Che ai suddetti commissari non è riconosciuto alcun compenso per lo svolgimento delle funzioni;

3) di pubblicare il presente atto sul profilo del committente, nella sezione "Amministrazione Trasparente", ai sensi dell'art. 29 del D. Lgs. N.50/2016;

4) di trasmettere il presente provvedimento al RUP.

Lucca, 02 | 09 | 2019

Il Direttore Amministrativo  
Dott.ssa Alessia Macchia

# Giulio Bernardi, MD, PhD

## CURRENT PROFESSIONAL APPOINTMENTS

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Dec 2018 - present	Assistant Professor (“Ricercatore a tempo determinato, tipo B”), IMT School for Advanced Studies, Lucca, Italy
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## PAST PROFESSIONAL APPOINTMENTS

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Jun 2017 – Nov 2018	Scholarship Researcher, University Hospital of Pisa, Pisa, Italy
Jan 2017 – Dec 2018	External Research Collaborator, Center for Investigation and Research on Sleep, Lausanne University Hospital, Lausanne, Switzerland
Dec 2016 – Nov 2018	Guest Researcher and Lecturer, IMT School for Advanced Studies, Lucca, Italy
May 2016 - Dec 2016	Post-doctoral research fellow, Center for Investigation and Research on Sleep, Lausanne University Hospital, Lausanne, Switzerland
Oct 2015 - Apr 2016	Visiting Scholar, Center for Investigation and Research on Sleep, Lausanne University Hospital, Lausanne, Switzerland
Feb 2013 - Feb 2016	Post-doctoral research fellow, Laboratory of Clinical Biochemistry and Molecular Biology, Clinical Psychology Branch, University of Pisa, Pisa, Italy
Jan 2012 - Mar 2014	Visiting Scholar, Center for Sleep and Consciousness, University of Wisconsin, Madison, WI-USA

## EDUCATION AND TRAINING

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Jan 2010 - Feb 2013	Ph.D. in ‘Neuroscience and endocrine-metabolic science’, University of Pisa (Supervisor: Prof. P. Pietrini), Pisa, Italy. Thesis: “ <i>Brain functional and structural reorganization induced by intensive training and exposition to extreme conditions: a study on professional race-car drivers</i> ”
Feb 2010	Italian State Medical Board License (Active)
Oct 2002 - Sep 2009	Doctor of Medicine and Surgery (M.D.), University of Pisa, Medical School, Pisa, Italy. Thesis: “ <i>Human brain and perception of the external world: the effects of visual experience on the functional connectivity of the hMT complex in relation to the tactile and visual perception of motion</i> ”
Sep 1997 - Jun 2002	High school diploma, Scientific Secondary School in Pisa, Italy

## TEACHING

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2019 - present	Course, “ <i>Basic principles and Applications of Electrophysiology and Stimulation techniques</i> ” for the PhD track “ <i>Cognitive, Computational and Social Neurosciences</i> ”, IMT School for Advanced Studies Lucca, Lucca, Italy
2019	Lecture, “ <i>Why do we sleep? Introduction to the neural basis of sleep</i> ” for the M.Sc. program in Bionics Engineering offered by University of Pisa and Scuola Superiore Sant’Anna, Pisa, Italy.
2019	Course, “ <i>Advanced Neuroimaging</i> ” for the PhD track “ <i>Cognitive, Computational and Social Neurosciences</i> ”, IMT School for Advanced Studies Lucca, Lucca, Italy
2018	Lecture, “ <i>Central nervous system and muscle exercise: the effects of training and physical activity on brain function and structure</i> ”, Summer School “ <i>Muscle school: exercise muscle in health and disease</i> ”, July 13-21 2018, Pisa, Italy
2018	Lecture, “ <i>Why do we sleep? The neuroscience of sleep and dreams</i> ”, 50&Più University, May 30 2018, Lucca, Italy

2017 - present	Course, “ <i>Introduction to Consciousness and Sleep</i> ” for the PhD track “ <i>Cognitive, Computational and Social Neurosciences</i> ”, IMT School for Advanced Studies Lucca, Lucca, Italy
2016	Lecture, “ <i>Effective connectivity analysis of EEG data</i> ” (in “ <i>Gruppo di studio e sviluppo progetti su connettività in ambito fMRI e EEG</i> ”), Summer School “ <i>Integrazione di metodi e tecniche per la ricerca, la clinica e la riabilitazione in psicofisiologia e neuroscienze</i> ”, Catholic University of the Sacred Heart, June 13-17 2016, Milan, Italy
2016	Lecture, “ <i>Neural and behavioral correlates of extended training during sleep deprivation in humans: evidence for local, task-specific effects</i> ”, Colloques internes de formation du Service de Neuropsychologie et de Neuroréhabilitation, Centre Hospitalier Universitaire Vaudois (CHUV), April 21 2016, Lausanne, Switzerland
2015	Lecture, “ <i>State-dependent variations in brain functional and effective connectivity</i> ”, Summer School “ <i>Integrazione di metodi e tecniche per la ricerca, la clinica e la riabilitazione in psicofisiologia e neuroscienze</i> ”, Catholic University of the Sacred Heart, June 22-26 2015, Milan, Italy
2011 - 2016	Lectures and seminars for the courses held at the University of Pisa (Pisa, Italy): “ <i>Laboratory Medicine</i> ”, Master Degree in Medicine; “ <i>Biomedical Signals</i> ”, Master Degree in Bioengineering; “ <i>Cognitive Basis of Neural Functions</i> ”, Master Degree in Sciences and Techniques of Clinical and Health Psychology.

#### OTHER INSTITUTIONAL/ACADEMIC ROLES

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2020	PhD Graduation Committee, Track of Cognitive, Computational and Social Neurosciences (CCSN), IMT School for Advanced Studies Lucca (member)
2019 - present	Member of the faculty board, PhD in “Cognitive and Cultural Systems”, Academic years 2019/2020, 2020/2021, 2021/2022; IMT School for Advanced Studies Lucca, Lucca, Italy, XXXV–XXXVII PhD cycles
2019 - present	PhD Students Selection Committee, Track of Cognitive, Computational and Social Neurosciences (CCSN), IMT School for Advanced Studies Lucca (member)
2019 - present	Post-Doctoral Fellowships Evaluation Committee, MoMiLab research unit, IMT School for Advanced Studies Lucca (member)

#### INVITED LECTURES AND SEMINARS

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2020	Seminar, “ <i>Neuroscience and dreams</i> ” (translated from Italian: “ <i>Neuroscienze e sogni</i> ”), December 9, Neuroscience Lab Intesa Sanpaolo Innovation, Center Intesa Sanpaolo Group, Torino, Italy
2020	Seminar, “ <i>Local sleep regulation and its implications for cognition and brain plasticity</i> ”, December 7, Laboratory for Investigative Neurophysiology, University of Lausanne, Centre Hospitalier Universitaire Vaudois (CHUV), Lausanne Switzerland
2020	Seminar, “ <i>The brain that (never) rests: sleep and cognitive efficiency</i> ” (translated from Italian: “ <i>Il cervello che (non) dorme: sonno ed efficienza cognitiva</i> ”), May 26, Neuroscience Lab Intesa Sanpaolo Innovation, Center Intesa Sanpaolo Group, Torino, Italy
2020	Seminar, “ <i>Origin and cortical propagation of sleep slow waves</i> ”, January 29, Neurocenter of Southern Switzerland, Regional Hospital of Lugano, Lugano, Switzerland
2019	Seminar, “ <i>Local patterns of sleep and wakefulness</i> ”, March 7, Institut de neurosciences des systems (INS), Aix-Marseille Université, Marseille, France
2016	Seminar, “ <i>Functional, Structural and Behavioral Correlates of Extended Training during Sleep Deprivation in Humans</i> ”, April 22, Laboratoire de recherche en neuroimagerie (LREN), Lausanne University Hospital, Lausanne, Switzerland

## SUPERVISION OF STUDENTS AND POST-DOCTORAL FELLOWS

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Since 2012, I have been involved in the scientific supervision of several undergraduate medical students (University Hospital of Pisa, University Hospital of Lausanne) and PhD students (University of Pisa, IMT School for Advanced Studies), during their research activities and the preparation of their final dissertations. Since 2013, I led several research projects and coordinated the work of involved technicians, undergraduate students, PhD students and Post-Doc researchers.

## FELLOWSHIPS AND AWARDS

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| 2019 | <i>Award:</i> Franco Ferrillo Award for the most relevant scientific article on sleep published by a young Italian researcher in 2019 [Bernardi et al., <i>Regional delta waves in human rapid-eye movement sleep</i> , Journal of Neuroscience], Italian Society of Sleep Medicine (AIMS). |
| 2019 | <i>Award:</i> Early Career Award, International Brain Research Organization (IBRO).   |
| 2016 | <i>Fellowship:</i> Short-Term Fellowship, European Molecular Biology Organization (EMBO).   |
| 2015 | <i>Fellowship:</i> In-Europe Short Stay Grants Program Award, International Brain Research Organization (IBRO-PERC),  |
| 2011 | <i>Trainee Abstract Travel Award:</i> XVII Annual Meeting of the Organization for Human Brain Mapping, 2011, Quebec City, Canada.   |

## FUNDING

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| 2020 | BIAL Foundation Grants Programme 2020/21 (no. 091/2020); Title: “Mentation report analysis across distinct states of consciousness: a linguistic approach”; Role: Co-PI (33,000.00 EUR)  |
| 2020 | ERC Starting Grant 2020 (no. 948891); Title: “Tweaking Dreams: non-invasive modulation of the level and content of mental activity during sleep”; Role: PI (1,488,270.00 EUR)  |
| 2019 | International Brain Research Organization; Title: “Local aspects of sleep and wakefulness”; Early Career Award 2019 (5,000 EUR)  |
| 2019 | Grant of the “Fondazione Cassa di Risparmio di Lucca”; Title (translated from Italian): “Meditate to grow-up: The effects of Transcendental Meditation on psychosocial wellbeing and sleep quality in adolescents”; Role: Associated Researcher (50,000 EUR) |
| 2016 | Research Support Grant of the University of Lausanne; Title: “The effects of acute, short visual deprivation on sleep”; Role: Co-PI (3,000 CHF)  |
| 2016 | European Molecular Biology Organization (EMBO); Title: “Consciousness in the wake-sleep transition: a high-density EEG study”; Short-Term Fellowship; (12,239.80 EUR)  |
| 2015 | International Brain Research Organization (IBRO-PERC); Title: “Interactions between wake and sleep”; In-Europe Short Stay Grant (3,000 EUR)  |

## MEMBERSHIPS IN PROFESSIONAL SOCIETIES

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| 2015 - present | Society for Neuroscience (SFN, <a href="http://www.sfn.org">http://www.sfn.org</a> )  |
| 2015 - present | Italian Society of Psychophysiology (SIPF, <a href="http://www.sipf.it">http://www.sipf.it</a> )                              |
| 2017 - present | World Sleep Society ( <a href="http://worldsleepsociety.org">http://worldsleepsociety.org</a> )                               |
| 2018 - present | European Sleep Research Society (ESRS, <a href="https://www.esrs.eu">https://www.esrs.eu</a> )                                |
| 2018 - present | Italian Society of Sleep Medicine (AIMS, <a href="http://www.sonnomed.it">http://www.sonnomed.it</a> )                        |
| 2010 - 2020    | Organization for Human Brain Mapping (OHBM, <a href="http://www.humanbrainmapping.org">http://www.humanbrainmapping.org</a> ) |

## ORGANIZATION OF SCIENTIFIC MEETINGS

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- 2018 Member of the Local Organizing Committee, 2nd Blind Brain Workshop, Lucca (Italy) October 10-12, 2018
- 2018 Member of the Local Organizing Committee, 22nd World Congress of the International Organization of Psychophysiology, Lucca (Italy) September 4-8, 2018

## EDITORIAL FUNCTIONS

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- Guest Associate Editor for the Research Topic “*Local aspects of sleep and wakefulness*”, *Frontiers in Neuroscience*, Specialty: *Sleep and Circadian Rhythms* (2018-2020)
- Review Editor, *Frontiers in Neuroscience* (Specialty: *Sleep and Circadian Rhythms*)
- Review Editor, *Frontiers in Neurology/Psychiatry* (Specialty: *Sleep Disorders*)
- Review Editor, *Frontiers in Behavioral Neuroscience* (Specialty: *Behavioral Neuroscience Archive, Individual and Social Behaviors*)
- Managing Editor, *Archives Italiennes de Biologie*
- Regular reviewer for international scientific journals, including: *NeuroImage*, *PLoS One*, *Sensors*, *Entropy*, *International Journal of Environmental Research and Public Health*, *Journal of Low Power Electronics and Applications*, *Cognitive Processing*, *Archives Italiennes de Biologie* [Publons Profile: <https://publons.com/author/918682>]
- Regular reviewer for abstracts/posters submitted to the annual meeting of the *Organization for Human Brain Mapping* (since 2013).
- Reviewer for the grant “BE-FOR-ERC” of the Sapienza University of Rome (2020).
- Assistance for the revision of national and international (e.g., EU funding calls, Alzheimer’s Association) research calls (since 2016).

## RESEARCH SKILLS

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- Excellent knowledge of several software packages for creation of audio/visual stimulation paradigms, including *E-Prime* (Psychology Software Tools), *Presentation* (Neurobehavioral Systems), and *Psychtoolbox* ([psychtoolbox.org](http://psychtoolbox.org)).
- Excellent proficiency in the use of *MATLAB* (The Math Works, Inc.) for the creation of custom-made programs and toolboxes for data acquisition, pre-processing and analysis.
- Strong proficiency in the use of *MATLAB* and *IBM SPSS Statistics* (IBM Corp.) for parametric (e.g., univariate and multivariate AN(C)OVA, linear mixed models) and non-parametric statistical data analysis (e.g., permutation testing, bootstrapping).
- Extensive expertise in the acquisition of behavioral and psychometric data in both healthy adult individuals and in patients with distinct clinical disorders, including insomnia, sleepwalking, and epilepsy. Experience in the definition of experimental paradigms for studies involving sensory-deprived subjects, including congenitally blind individuals.
- Extensive expertise in the acquisition of standard (2-32 electrodes) and high-density (64-256 electrodes) EEG recordings in different physiological conditions, including quiet rest, passive/active tasks associated with audio/visual/tactile stimulation, and sleep.
- Excellent proficiency in the use of software for acquisition, pre-processing and analysis of (hd-)EEG data, including *NetStation/Geosource* (Electrical Geodesic Inc.), *EEGLAB* ([sccn.ucsd.edu/eeglab/index.php](http://sccn.ucsd.edu/eeglab/index.php)), and other toolboxes and functions in *MATLAB* (The Math Works Inc.). Basic knowledge of *SPM* ([fil.ion.ucl.ac.uk/spm](http://fil.ion.ucl.ac.uk/spm)), *BrainVision* (BrainProducts GmbH), and *Brainstorm* ([neuroimage.usc.edu/brainstorm](http://neuroimage.usc.edu/brainstorm)).
- Strong expertise in the acquisition of functional MRI data during both quiet rest and passive/active tasks associated with audio/visual/tactile stimulation, with or without collection of behavioral responses from participants.

- Strong proficiency in the use of software for pre-processing and analysis of functional and structural MRI data, including *AFNI/SUMA* ([afni.nimh.nih.gov/Suma](http://afni.nimh.nih.gov/Suma)), *BrainVoyager Qx* (Brain Innovation), and other toolboxes and functions in *MATLAB* (The Math Works Inc.). Good knowledge of *SPM* ([fil.ion.ucl.ac.uk/spm](http://fil.ion.ucl.ac.uk/spm)), *Freesurfer* ([surfer.nmr.mgh.harvard.edu](http://surfer.nmr.mgh.harvard.edu)). Basic knowledge of *FSL* ([www.fmrib.ox.ac.uk/fsl](http://www.fmrib.ox.ac.uk/fsl)).
- Expertise in the acquisition, pre-processing and analysis of simultaneous EEG-fMRI data. Basic expertise in the acquisition and analysis of TMS and TMS-EEG data.

## MAIN FIELDS OF INTEREST

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- Functional and structural indices of **experience-dependent brain plasticity** in humans. Potential indices of **brain functional fatigue** related to circadian and homeostatic (use/experience-dependent) factors, and their effects on cognition and behavior.
- Relationship between wake-dependent experiences and **sleep correlates**. Potential effects of sleep on experience-dependent brain plasticity (**learning/memory**) and on **mood regulation**. Impact of sleep-related processes on cognition and behavior in physiological and pathological conditions.
- Functional and structural correlates of conscious experiences ('**dreams**') during NREM and REM sleep, as well as during the wake-sleep transition. Potential relationship between experience-dependent brain plasticity and dreams.
- Development and optimization of automated tools for the **analysis of EEG, EOG and EMG data** collected in humans during wakefulness and sleep. Application of state-of-the-art approaches for brain functional data analysis, including machine learning and functional/effective connectivity.

## MAIN RESEARCH COLLABORATIONS

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- Prof. Giulio Tononi and Prof. Chiara Cirelli, University of Wisconsin-Madison, Madison, WI, USA. Project: *use-dependent local sleep during wakefulness*.
- Prof. Raphael Heinzer and Dr. José Haba-Rubio, Lausanne University Hospital, Lausanne, Switzerland. Project: *development of methods for the automatic analysis of sleep arousals in clinical populations*.
- Prof. Francesca Siclari, Lausanne University Hospital, Lausanne, Switzerland. Projects: *effect of visual experience on sleep slow waves; functional and structural correlates of dreaming; functional and structural correlates of sleep misperception and insomnia; functional and structural correlates of sleepwalking*.
- Prof. Mauro Manconi and Dr. Anna Castelnovo, Neurocenter of Southern Switzerland, Lugano, Switzerland. Project: *local aspects of sleep regulation in children*.
- Prof. Pietro Pietrini and Prof. Emiliano Ricciardi, IMT School for Advanced Studies, Lucca, Italy. Projects: *functional indices of experience-dependent brain plasticity; local sleep as the functional basis of impulsive and aggressive behavior*.
- Prof. Michele Bellesi, Marche Polytechnic University, Ancona, Italy. Project: *sleep microstructure in split-brain (callosotomized) patients*.

## ORAL CONTRIBUTIONS TO SCIENTIFIC CONFERENCES

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- “*Regional decoupling between sleep spindles and slow waves in split brains*”, Congress of the National Society of Sleep Medicine (AIMS), October 25-27 2020, Virtual Meeting
- “*Experience-dependent regulation of sleep-need: effects on brain functioning and behavioral performance*”, Congress of the International Organization of Psychophysiology - Symposium “*Reciprocal interactions between wakefulness and sleep: behavioral and brain morpho-functional correlates*”, September 4-8 2018, Lucca, Italy
- “*The effects of acute, short-term visual deprivation on low-frequency EEG activity during wakefulness and sleep*”, World Sleep Society Meeting, October 7-11 2017, Prague, Czech Republic
- “*The social brain: from molecules to brain and behavior*”, VIII ISMRM Italian Chapter – Risonanza Magnetica in Medicina, June 8-9 2017, Gaeta, Italy.
- “*Differential regulation of local and widespread sleep slow waves*”, Meeting of the Swiss Society for Sleep Research, Sleep Medicine and Chronobiology, May 11-12 2017, Lugano, Switzerland.

- “Regionally specific features of low-frequency EEG oscillations during REM-sleep”, Meeting of the Swiss Society for Sleep Research, Sleep Medicine and Chronobiology, April 28-29 2016, Basel, Switzerland.
- “Hidden changes in behavioral-state as potential confounding factors for the assessment of brain connectivity” - Workshop “From segregation to integration: The complexity of human brain functions”, XXIII National Congress of the Italian Society of Psychophysiology (SIPF), IMT School for Advanced Studies, November 18 2015, Lucca, Italy
- “Riorganizzazione funzionale delle reti corticali visuo-motorie nei piloti di Formula 1 versus semplici guidatori” (English translation: “Functional reorganization of visuo-motor cortical networks in Formula 1 pilots versus naive drivers”), Meeting of the Italian Society of Sports Medicine (SIMSE), November 4-5 2011, Florence, Italy
- “Functional reorganization of visuo-motor cortical networks in Formula 1 pilots versus naive drivers”, Oral presentation at the XVII Annual meeting of the Organization for Human Brain Mapping, June 26-30 2011, Quebec City, Canada.

## PUBLICATIONS (\* marks ‘equal contribution’)

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### Original articles submitted to peer-reviewed scientific journals

- Castelnovo A, Lividini A, **BERNARDI G**, Foderaro G, Pezzoli V, Ramelli GP, Manconi M, Miano S. *Sleep power topography in children with attention deficit hyperactivity disorder (ADHD): is it all a matter of slow wave activity?* Under Review
- Avvenuti A, Bertelloni D, Lettieri G, Cecchetti L, Pietrini P, **BERNARDI G**. *Emotion regulation failures are preceded by local increases in sleep-like activity.* Under Review

### Peer-reviewed original articles (published or in press)

1. \***BERNARDI G**, \*Avvenuti A, Cataldi J, Lattanzi S, Ricciardi E, Polonara G, Silvestrini M, Fabri M, Bellesi M. *Role of corpus callosum in sleep spindles synchronization and coupling with slow waves.* Brain Communications, *in press* [DOI: 10.1093/braincomms/fcab108]
2. Betta M, Handjaras G, Leo A, Federici A, Farinelli V, Ricciardi E, Siclari F, Meletti S, Ballotta D, \*Benuzzi F, \***BERNARDI G**. *Cortical and subcortical hemodynamic changes during sleep slow waves in human light sleep.* NeuroImage, 118117, 2021 [DOI: 10.1016/j.neuroimage.2021.118117]
3. Imperatori LS, Cataldi J, Betta M, Ricciardi E, Ince RAA, Siclari F, **BERNARDI G**. *Cross-participant prediction of vigilance stages through the combined use of wPLI and wSMI EEG functional connectivity metrics.* SLEEP, *in press* [DOI: 10.1093/sleep/zsaa247]
4. Avvenuti G, Handjaras G, Betta M, Cataldi J, Imperatori LS, Lattanzi S, Riedner BA, Pietrini P, Ricciardi E, Tononi G, Siclari F, Polonara G, Fabri M, Silvestrini M, \*Bellesi M, \***BERNARDI G**. *Integrity of corpus callosum is essential for the cross-hemispheric propagation of sleep slow waves: a high-density EEG study in split-brain patients.* Journal of Neuroscience, 40(29):5589-5603, 2020. [DOI: 10.1523/JNEUROSCI.2571-19.2020]
5. Lecci S, Cataldi J, Betta M, **BERNARDI G**, Heinzer R, Siclari F. *Electroencephalographic changes associated with subjective under- and overestimation of sleep duration.* SLEEP, 43(11):zsaa094, 2020. [DOI: 10.1093/sleep/zsaa094]
6. Berger M, Hirotsu C, Haba-Rubio J, Betta M, **BERNARDI G**, Siclari F, Waeber G, Vollenweider P, Marques-Vidal P, Heinzer R. *Risk factors of excessive daytime sleepiness in a prospective population-based cohort.* Journal of Sleep Research, 00:e13069, 2020. [DOI: 10.1111/jsr.13069]
7. Hirotsu C, Betta M, **BERNARDI G**, Marques-Vidal P, Vollenweider P, Waeber G, Pichot V, Roche F, Siclari F, Haba-Rubio J, Heinzer R. *Pulse wave amplitude drops during sleep: clinical significance and characteristics in a general population sample.* SLEEP, 43(7):zs322, 2020. [DOI: 10.1093/sleep/zs322]

8. **BERNARDI G**, Siclari F, Bellesi M. (Editorial) *Local aspects of sleep and wakefulness*. Frontiers in Neuroscience, 14, 58, 2020. [DOI: 10.3389/fnins.2020.00058]
9. Avvenuti G, Leo A, Cecchetti L, Franco FM, Travis F, Caramella D, **BERNARDI G**, Ricciardi E, Pietrini P. *Reductions in perceived stress following Transcendental Meditation practice are associated with increased brain regional connectivity at rest*. Brain and Cognition, 139, 105517, 2020. [DOI: 10.1016/j.bandc.2020.105517]
10. Betta M, Handjaras G, Ricciardi E, Pietrini P, Haba-Rubio J, Siclari F, \*Heinzer R, \***BERNARDI G**. *Quantifying peripheral sympathetic activations during sleep by means of an automatic method for pulse wave amplitude drop detection*. Sleep Medicine, 69:220:232, 2020. [DOI: 10.1016/j.sleep.2019.12.030]
11. Imperatori LS, Betta M, Cecchetti L, Canales-Johnson A, Ricciardi E, Siclari F, Pietrini P, Chennu S, **BERNARDI G**. *EEG functional connectivity metrics wPLI and wSMI account for distinct types of brain functional interactions*. Scientific Reports, 9(1):8894, 2019. [DOI: 10.1038/s41598-019-45289-7]
12. **BERNARDI G**, Betta M, Cataldi J, Leo A, Haba-Rubio J, Heinzer R, Cirelli C, Tononi G, Pietrini P, Ricciardi E, Siclari F. *Visual imagery and visual perception induce similar changes in occipital slow waves of sleep*. Journal of Neurophysiology, 121(6), 2140-2152, 2019. [DOI: 10.1152/jn.00085.2019]
13. **BERNARDI G**, Betta M, Ricciardi E, Pietrini P, Tononi G, Siclari F. *Regional delta waves in human rapid-eye movement sleep*. Journal of Neuroscience, 39(14), 2686-2697, 2019 [DOI: 10.1523/JNEUROSCI.2298-18.2019]
14. \*Tramonti C & \*Imperatori LS, Fanciullacci C, Lamola G, Lettieri G, **BERNARDI G**, Cecchetti L, Ricciardi E, Chisari C. *Predictive value of EEG connectivity measures for motor training outcome in Multiple Sclerosis: an observational longitudinal study*. European Journal of Physical and Rehabilitation Medicine, 55(6), 743-753, 2019 [DOI: 10.23736/S1973-9087.18.05414-X]
15. Siclari F, **BERNARDI G**, Cataldi J, Tononi G. *Dreaming in NREM sleep: a high-density EEG study of slow waves and spindles*. Journal of Neuroscience, 38(43), 9175-9185, 2018 [DOI: 10.1523/JNEUROSCI.0855-18.2018]
16. \***BERNARDI G** & \*Siclari F, Handjaras G, Riedner BA, Tononi G. *Local and widespread slow waves in stable NREM sleep: Evidence for distinct regulation mechanisms*. Frontiers in Human Neuroscience, 12, 248, 2018 [DOI: 10.3389/fnhum.2018.00248]
17. \*Spiess M & \***BERNARDI G**, Kurth S, Ringli M, Werhle FM, Jenni OG, Huber R, Siclari F. *How do children fall asleep? A high-density EEG study of slow waves in the transition from wake to sleep*. NeuroImage, 178, 23-35, 2018 [DOI: 10.1016/j.neuroimage.2018.05.024]
18. \*Siclari F, \*Baird B, \*Perogamvros L, **BERNARDI G**, LaRocque JJ, Riedner B, Boly M, Postle BR, Tononi G. *The neural correlates of dreaming*. Nature Neuroscience, 20(6), 872-878, 2017 [DOI: 10.1038/nn.4545]
19. **BERNARDI G**, Cecchetti L, Siclari F, Buchmann A, Yu X, Handjaras G, Bellesi M, Ricciardi E, Kecskemeti SR, Riedner BA, Alexander AL, Benca RM, Ghilardi MF, Pietrini P, Cirelli C, Tononi G. *Sleep reverts changes in human grey and white matter caused by wake-dependent training*. NeuroImage, 129, 367–377, 2016 [DOI: 10.1016/j.neuroimage.2016.01.020]
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21. **BERNARDI G**, Siclari F, Yu X, Zennig C, Bellesi M, Ricciardi E, Cirelli C, Ghilardi MF, Pietrini P, Tononi G. *Neural and behavioral correlates of extended training during sleep deprivation in humans: evidence for local, task-specific effects*. Journal of Neuroscience 35(11), 4487-4500, 2015 [DOI: 10.1523/JNEUROSCI.4567-14.2015]
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- study of angle discrimination in sighted and congenitally blind individuals.* Neuropsychologia, 68, 59-70, 2015 [DOI: 10.1016/j.neuropsychologia.2015.01.004]
23. **BERNARDI G**, Cecchetti L, Handjaras G, Sani L, Gaglianese A, Ceccarelli R, Franzoni F, Galetta F, Santoro G, Goebel R, Ricciardi E, Pietrini P. *It's not all in your car: functional and structural correlates of exceptional driving skills in professional racers.* Frontiers in human neuroscience 8:888, 2014 [DOI: 10.3389/fnhum.2014.00888]
  24. \*Siclari F & \***BERNARDI G**, Riedner BA, LaRocque JJ, Benca RM, Tononi G. *Two distinct synchronization processes in the transition to sleep: a high-density EEG study.* SLEEP 37 (10), 1621-1637, 2014 [DOI: 10.5665/sleep.4070]
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  27. **BERNARDI G**, Ricciardi E, Sani L, Gaglianese A, Papasogli A, Ceccarelli R, Franzoni F, Galetta F, Santoro G, Goebel R, Pietrini P. *How skill expertise shapes the brain functional architecture: an fMRI study of visuo-spatial and motor processing in professional racing-car and naïve drivers.* PLoS One. 2013 Oct 18;8(10):e77764, 2013 [DOI: 10.1371/journal.pone.0077764]
  28. Ricciardi E, Handjaras G, **BERNARDI G**, Pietrini P, Furey ML. *Cholinergic enhancement reduces functional connectivity and BOLD variability in visual extrastriate cortex during selective attention.* Neuropharmacology 64(1), 305-313, 2013 [DOI: 10.1016/j.neuropharm.2012.07.003]
  29. Gaglianese A, Costagli M, **BERNARDI G**, Ricciardi E, Pietrini P. *Evidence of a direct influence between the thalamus and hMT+ independent of V1 in the human brain as measured by fMRI.* NeuroImage 60(2), 1440-1447, 2012 [DOI: 10.1016/j.neuroimage.2012.01.093]
  30. Leo A, **BERNARDI G**, Handjaras G, Bonino D, Ricciardi E, Pietrini P. *Increased BOLD variability in the parietal cortex and enhanced parieto-occipital connectivity during tactile perception in congenitally blind individuals.* Neural Plasticity 2012(2012), 2012 [DOI: 10.1155/2012/720278]

#### Book Chapters

31. Avvenuti G, BERNARDI G. Local sleep: a new concept in brain plasticity. Handbook of Clinical Neurology. Elsevier, Editors: Angelo Quararone and M. Felice Ghilardi, *in press*
32. **BERNARDI G**, Siclari F. *Local patterns of sleep and wakefulness.* Handbook of Sleep Research (Book Series; Handbook of Behavioral Neuroscience – ISSN: 1569-7339), 30, 33-47. Elsevier, Editor: Hans Dringenberg, 2019 [DOI: 10.1016/B978-0-12-813743-7.00003-7]

#### ABSTRACTS PRESENTED AT INTERNATIONAL CONFERENCES (\* marks 'oral presentation')

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- Avvenuti G, Handjaras G, Setti F, Leo A, Cecchetti L, Betta M, Ricciardi E, Pietrini P, **BERNARDI G**. *Self-control performance, but not subjective vigilance level, decreases after brief periods of task practice and increases following caffeine intake.* Congress of the European Sleep Research Society, 2020 (virtual congress)
- Avvenuti G, Bertelloni D, Lettieri G, Ricciardi E, Cecchetti L, Pietrini P, **BERNARDI G**. *Reduced sleep time is associated with increases in frontal sleep-like activity and emotion regulation failures.* Congress of the European Sleep Research Society, 2020 (virtual congress)

- Avvenuti G, Cataldi J, Leo A, Cecchetti L, Lutti A, Draganski B, Siclari F, **BERNARDI G.** *Greater cortical thickness in the occipital cortex is associated with larger slow wave amplitude and stronger cortical involvement in centro-frontal brain areas.* Congress of the European Sleep Research Society, 2020 (virtual congress)
- Grollero D, Avvenuti G, Betta M, Riedner BA, Tononi G, Ricciardi E, Pietrini P, **BERNARDI G.** *Two main topographic patterns characterize morning-to-evening increases in low-frequency brain activity.* Congress of the European Sleep Research Society, 2020 (virtual congress)
- \*Betta M, Handjaras G, Leo A, Federici A, Farinelli V, Ricciardi E, Siclari F, Meletti S, Ballotta D, Benuzzi F, **BERNARDI G.** *Human sleep slow waves are associated with traveling hemodynamic waves at cortical level.* Congress of the European Sleep Research Society, 2020 (virtual congress)
- \*Avvenuti G, Handjaras G, Betta M, Cataldi J, Imperatori LS, Lattanzi S, Riedner BA, Pietrini P, Ricciardi E, Tononi G, Siclari F, Polonara G, Fabri M, Silvestrini M, Bellesi M, **BERNARDI G.** *The corpus callosum is essential for the cross-hemispheric propagation of sleep slow waves: a high-density EEG study in totally callosotomized patients.* Congress of the Word Sleep Society, 2019, Vancouver, Canada
- \*Imperatori LS, Cataldi J, Betta M, Ricciardi E, Ince R, Siclari F, **BERNARDI G.** *Cross-participant prediction of vigilance stages through the combined use of wPLI and wSMI EEG functional connectivity metrics.* Congress of the Word Sleep Society, 2019, Vancouver, Canada
- Betta M, Handjaras G, Leo A, Federici A, Farinelli V, Siclari F, Ricciardi E, Meletti S, Ballotta D, Benuzzi F, **BERNARDI G.** *Slow waves of sleep are associated with increased thalamic activity and with a delayed decreased activity in primary sensory cortices.* Congress of the Word Sleep Society, 2019, Vancouver, Canada
- Berger M, Hirotsu C, Betta M, **BERNARDI G.**, Siclari F, Siclari F, Haba-Rubio J, Heinzer R. *Excessive daytime sleepiness: incidence and determinants in a prospective population-based cohort.* Congress of the Word Sleep Society, 2019, Vancouver, Canada
- \*Lecci S, Cataldi J, **BERNARDI G.**, Siclari F. *Feeling awake during sleep: a high-density EEG assessment of sleep perception in good sleepers and patients with paradoxical insomnia.* Congress of the Word Sleep Society, 2019, Vancouver, Canada
- \*Cataldi J, Lecci S, **BERNARDI G.**, Haba-Rubio J, Siclari F. Behavioral and regional EEG features of parasomnia episodes in disorders of arousal. Congress of the Word Sleep Society, 2019, Vancouver, Canada
- Hirotsu C, Marques-Vidal P, Vollenweider P, Betta M, **BERNARDI G.**, Siclari F, Haba-Rubio J, Heinzer R. *Pulse Wave Amplitude Drops During Sleep: Reference Values And Clinical Associations In A General Population.* APSS Annual Meeting, 2019, San Antonio, TX-USA
- Heinzer R, Hirotsu C, Marques-Vidal P, Vollenweider P, Waeber G, Betta M, **BERNARDI G.**, Lecci S, Siclari F, Haba-Rubio J. *Sleep Determinants Of Incident Cardiovascular Events: A prospective Population-based Study.* APSS Annual Meeting, 2019, San Antonio, TX-USA
- Heinzer R, Hirotsu C, Marques-Vidal P, Vollenweider P, Waeber G, Tafti M, Betta M, **BERNARDI G.**, Siclari F, Haba-Rubio J. *Sleep Determinants of Incident Hypertension in a Population-Based Cohort: The CoLaus-HypnoLaus Study.* Congress of the European Sleep Research Society, 2018, Basel, Switzerland
- \*Cataldi J, Lecci S, **BERNARDI G.**, Siclari F. *Topographical spectral power changes associated with NREM parasomnia episodes - a high-density EEG study.* Congress of the European Sleep Research Society, 2018, Basel, Switzerland
- \*Lecci S, Cataldi J, **BERNARDI G.**, Haba-Rubio J, Heinzer R, Tononi G, Siclari F. *Feeling awake while asleep: a high-density EEG assessment of sleep perception.* Congress of the European Sleep Research Society, 2018, Basel, Switzerland

- Betta M, **BERNARDI G**, Leo A, Handjaras G, Papale P, Ricciardi E, Pietrini P, Haba-Rubio J, Heinzer R, Siclari F. *Peripheral sympathetic activations underlying PWA drops induce significant changes on EEG activity in a sleep-stage-specific manner.* Congress of the European Sleep Research Society, 2018, Basel, Switzerland
- Imperatori LS, Betta M, Ricciardi E, Pietrini P, Siclari F, **BERNARDI G**. *EEG connectivity measures wPLI and wSMI identify distinctive differences in brain functional interactions during wakefulness and sleep.* Congress of the European Sleep Research Society, 2018, Basel, Switzerland
- Hirotsu C, Marques-Vidal P, Vollenweider P, Waber G, Betta M, **BERNARDI G**, Siclari F, Haba-Rubio J, Heinzer R. *Sleep determinants of incident hypertension in a population-based cohort: the CoLaus/HypnoLaus study.* European Respiratory Society International Congress, 2018, Paris, France
- Imperatori LS, Fanciullacci C, Tramonti C, Lettieri G, Cecchetti L, **BERNARDI G**, Ricciardi E, Chisari C, Caramella D, Ricciardi E, Pietrini P. *Predictive value of EEG-based functional connectivity measures on the outcome of rehabilitation in Multiple Sclerosis patients.* World Congress of Psychophysiology, 2018, Lucca, Italy
- Avvenuti G, Leo A, Cecchetti L, **BERNARDI G**, Franco FM, Travis F, Caramella D, Ricciardi E, Pietrini P. *Three-months Transcendental Meditation reductions in perceived stress are associated with DMN increased connectivity at rest.* World Congress of Psychophysiology, 2018, Lucca, Italy
- Imperatori LS, Betta M, Cecchetti L, Canales-Johnson A, Ricciardi E, Siclari F, Chennu S, Pietrini P, **BERNARDI G**. *EEG connectivity measures wPLI and wSMI identify distinct types of brain functional interactions.* Annual Meeting of the OHBM, 2018, Singapore, Republic of Singapore
- Avvenuti G, Leo A, Cecchetti L, **BERNARDI G**, Franco FM, Travis F, Caramella D, Ricciardi E, Pietrini P. *Transcendental Meditation reduces perceived stress and increases brain regional connectivity at rest.* Annual Meeting of the OHBM, 2018, Singapore, Republic of Singapore
- Lecci S, Cataldi J, **BERNARDI G**, Haba-Rubio J, Heinzer R, Tononi G, Siclari F. *The EEG Correlates of Sleep Misperception.* APSS Annual Meeting, 2018, Baltimore, MN-USA
- \*Heinzer R, Hirotsu C, Marques-Vidal P, Vollenweider P, Waeber G, Tafti M, Betta M, **BERNARDI G**, Siclari F, Haba-Rubio J. *Sleep Determinants of Incident Hypertension in a Population-Based Cohort: The CoLaus-HypnoLaus Study.* APSS Annual Meeting, 2018, Baltimore, MN-USA
- Tramonti C, Fanciullacci C, Di Martino S, Cecchetti L, Lettieri G, **BERNARDI G**, Rossi B, Ricciardi E, Chisari C. *Task-oriented circuit training in multiple sclerosis patients — the predictive value of white matter damage.* European Congress of NeuroRehabilitation, 2017, Lausanne, Switzerland
- \***BERNARDI G**, Betta M, Cataldi J, Leo A, Ricciardi E, Haba-Rubio J, Pietrini P, Heinzer R, Siclari F. *The effects of acute, short-term visual deprivation on low-frequency EEG activity during wakefulness and sleep.* Congress of the Word Sleep Society, 2017, Prague, Czech Republic
- Betta F, **BERNARDI G**, Ricciardi E, Pietrini P, Haba-Rubio J, Siclari F, Heinzer R. *Quantifying peripheral sympathetic activation during sleep by means of an automatic method for pulse wave amplitude drop detection.* Congress of the Word Sleep Society, 2017, Prague, Czech Republic
- Siclari F, **BERNARDI G**, LaRocque JJ, Postle BR, Tononi G. *What determines the level of consciousness during Non-REM sleep?* Congress of the European Sleep Research Society, 2016, Bologna, Italy
- **BERNARDI G**, Betta M, Yu X, Ricciardi E, Haba-Rubio J, Heinzer R, Pietrini P, Tononi G, Siclari F. *Low-frequency oscillations in REM-sleep: a high density EEG study.* Congress of the European Sleep Research Society, 2016, Bologna, Italy

- Betta M, **BERNARDI G**, Menicucci D, Haba-Rubio J, Heinzer R, Gemignani A, Landi A, Tononi G, Siclari F. *Spontaneous, localized EEG activations in REM sleep: a high-density EEG investigation.* Congress of the European Sleep Research Society, 2016, Bologna, Italy
- **BERNARDI G**, Betta M, Yu X, Ricciardi E, Haba-Rubio J, Heinzer R, Pietrini P, Tononi G, Siclari F. *Regionally specific features of low-frequency EEG oscillations during REM-sleep.* Annual Meeting of the OHBM, 2016, Genève, Switzerland
- Betta M, **BERNARDI G**, Menicucci D, Haba-Rubio J, Heinzer R, Gemignani A, Landi A, Tononi G, Siclari F. *Spontaneous, localized EEG activations in REM sleep: a high-density EEG investigation.* Annual Meeting of the OHBM, 2016, Genève, Switzerland
- Rondelli M, Di Galante M, Banfi T, D'Ascanio P, **BERNARDI G**, Bonanni E, Faraguna U. *Effects of napping on impulse control.* Congress of the Word Sleep Federation, 2015, Istanbul, Turkey
- **BERNARDI G**, Siclari F, Dentico D, Yu X, Zennig C, Ricciardi E, Pietrini P, Tononi G. *Local sleep in wakefulness and behavioral performance.* APSS Annual Meeting, 2014, Minneapolis, MN-USA
- Siclari F, **BERNARDI G**, Riedner BA, LaRocque JJ, Benca RM, Tononi G. *Two distinct synchronization processes in the transition to sleep: a high-density electroencephalographic study.* APSS Annual Meeting, 2014, Minneapolis, MN-USA
- Handjaras G, **BERNARDI G**, Benuzzi F, Nichelli P, Pietrini P, Ricciardi E. *A Topographical Organization of Action Representation in the Human Brain.* Annual Meeting of the OHBM, 2014, Hamburg, Germany
- **BERNARDI G**, Ricciardi E, Handjaras G, Gaglianese A, Sani L, Papasogli A, Ceccarelli R, Franzoni F, Galetta F, Santoro G, Goebel R, Pietrini P. *Expertise modulates brain activity during passive driving: a study in professional and naïve drivers.* Annual Meeting of the OHBM, 2012, Beijing, China
- \*Handjaras G, **BERNARDI G**, Benuzzi F, Zucchelli M, Nichelli P, Pietrini P, Ricciardi E. *Ventral and Dorsal Stream Dissociation During Action Recognition in the Human Brain.* Annual Meeting of the OHBM, 2012, Beijing, China
- Leo A, **BERNARDI G**, Handjaras G, Ricciardi E, Pietrini P. *Increased BOLD variability and functional connectivity changes in congenitally blind individuals.* Annual Meeting of the OHBM, 2012, Beijing, China
- Cecchetti L, Handjaras G, **BERNARDI G**, Bonino D, Ricciardi E, Pietrini P. *Spatial processing in the human dorsal pathway relies on supramodal functional connectivity maps.* Annual Meeting of the OHBM, 2012, Beijing, China
- Ricciardi E, Handjaras G, **BERNARDI G**, Pietrini P, Furey M. *Cholinergic enhancement modulates regional functional connectivity during a selective attention task.* Annual Meeting of the OHBM, 2012, Beijing, China
- Gaglianese A, Costagli M, **BERNARDI G**, Sani L, Ricciardi E, Pietrini P. *Conditional Granger Causality analysis of fMRI data shows a direct connection from LGN to hMT+ bypassing VI.* Annual meeting of The International Society for Magnetic Resonance in Medicine (ISMRM), 2011, Montréal, Canada
- \***BERNARDI G**, Ricciardi E, Sani L, Gaglianese A, Papasogli A, Ceccarelli R, Franzoni F, Galetta F, Santoro G, Goebel R, Pietrini P. *Functional reorganization of visuo-motor cortical networks in Formula 1 pilots versus naive drivers.* Annual meeting of the OHBM, 2011, Quebec City, Canada
- Handjaras G, **BERNARDI G**, Ricciardi E, Pietrini P. *Modality-independent Classification of Action Feature in the Human Brain.* Annual meeting of the OHBM, 2011, Quebec City, Canada

• Gaglianese A, Sani L, Roebroeck A, Handjelas G, **BERNARDI G**, Costagli M, Ricciardi E, Pietrini P. *fMRI functional and effective connectivity in humans supports a direct pathway from thalamus to hMT<sup>+</sup>*. Annual Meeting of the OHBM, 2010, Barcelona, Spain

• **BERNARDI G**, Sani L, Ricciardi E, Reithler J, Papasoglu A, Ceccarelli R, Franzoni F, Santoro G, Goebel R, Pietrini P. *A high-resolution MRI study of regional cortical thickness in professional racing and naïve drivers*. Annual Meeting of the OHBM, 2010, Barcelona, Spain

## BIBLIOMETRIC INDICES

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Total number of citations and Hirsch index:

- Google Scholar: 1069 Total Citations, 17 H-Index, 20 i10-Index
- Web of Science: 606 Total Citations, 14 H-Index (Researcher ID: B-1452-2012)
- Scopus: 677 Total Citations, 14 H-Index (Scopus ID: 54988409300)

## IMPACT OF RESEARCH ON THE MEDIA (SELECTION)

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Set 2020	<i>'Dormire per pulire il cervello'</i> , TV interview, Albachiara (RSI – Italian Swiss TV)
Set 2020	<i>'Non realtà, ma solidi sogni'</i> , Radio interview, Ovunque6 (Rai Radio2 – National Radio)
Set 2020	<i>'Giulio Bernardi, lo scienziato che entra nei nostri sogni'</i> , Corriere della Sera
Feb 2018	<i>'L'origine dei sogni'</i> , TV interview, Morning Voyager (Rai2 – National TV)
Jul 2017	<i>'Brain Activity during Sleep Can Predict When Someone Is Dreaming'</i> , Scientific American
May 2017	<i>'Ospite Giulio Bernardi'</i> , TV interview, Buongiorno con Noi (NotTV – Local TV)
May 2017	<i>'Siamo entrati nella casa segreta dei sogni'</i> , Corriere della Sera
Apr 2017	<i>'Scientists identify parts of brain involved in dreaming'</i> , The Guardian
Apr 2017	<i>'We dream loads more than we thought – and forget most of it'</i> , New Scientist
Mar 2015	<i>'Se lo stress è troppo il cervello si addormenta'</i> , La Stampa
Mar 2015	<i>'Sei troppo stanco? Il cervello si addormenta e tu non te ne accorgi'</i> , La Repubblica
Mar 2015	<i>'Siamo stanchi? Il cervello dorme a nostra insaputa'</i> , Focus
Mar 2015	<i>'Lo stress "addormenta" il cervello e può far perdere il controllo'</i> , Il Tirreno
Dec 2013	<i>'Studio sul cervello dei piloti: Anche i neuroni hanno il turbo'</i> , Corriere della Sera
Apr 2011	<i>'Scoperta italiana, i piloti di Formula 1 hanno un cervello diverso'</i> , La Stampa
Apr 2011	<i>'Cervello speciale, lo hanno i piloti di Formula 1'</i> , Il Tirreno

## OUTREACH ACTIVITIES

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Participation in activities aimed at increasing public awareness about the progresses and benefits of scientific research (e.g., Brain Awareness Week, Science Festivals, etc.). Interviews for a general audience have been published on local and national newspapers and on the internet, as well as broadcast on local and national television.

Pisa,

Giulio Bernardi

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## BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
<b>Emiliano Ricciardi, MD, PhD</b>	Associate Professor in Psychobiology and Psychophysiology, IMT School for Advanced Studies Lucca, Italy

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Date of birth:

Place of Birth:

Citizenship:

Business address: IMT Alti Studi Lucca

Piazza San Francesco, 19  
55100 Lucca

Home address:

Email addresses:

### Highlights

- Over 60 papers in peer-reviewed journals and book chapters, and >150 abstracts at scientific meetings (Citations: 1,883; H-index: 22 from Google Scholar)
- The research activity in brain imaging and cognitive neuroscience, mainly in the field of supramodal perception, is highly recognized at national and international levels
- The youngest Chair of an Annual Meeting of the Organization for Human Brain Mapping (2010) and the youngest Scientific Secretary of the Italian Society of Psychophysiology
- Received several fellow travel and young investigator awards. Several invited lectures and oral presentations at international meetings and research/academic Institutions.

## **Professional Experience**

2016-now	Associate Professor in Psychobiology and Psychophysiology, IMT School for Advanced Studies Lucca, Italy
2010-2016	Assistant Professor (with tenure) of Clinical Biochemistry and Molecular Biology (SSD BIO/12), University of Pisa, Pisa, Italy (D.R. n.0013291, Nov 11 <sup>th</sup> , 2010) Senior Staff Fellow, O.U. Clinical Pathology, University Hospital Pisa, Italy
2007-2008	Guest Researcher at the Cognitive Brain Mapping Lab, RIKEN - Brain Science Institute, Wako-shi, Saitama, Japan
2006-2009	Fixed-term Assistant Professor of Clinical Biochemistry and Molecular Biology (SSD BIO/12) for the program "In vivo and in vitro biochemical-clinical parameters of brain metabolism in physiological and pathological conditions" (D.R. n.01/14566), University of Pisa, Pisa, Italy
2004-2006	Post-Doc Position at the Laboratory of Clinical Biochemistry and Molecular Biology and the Centro Interdipartimentale di Ricerca "E. Piaggio" at the University of Pisa, Italy
Since 2002	Intern, MRI Lab, Institute of Clinical Physiology, National Research Council, Pisa (Italy)
2001-2002	Special Volunteer in the Section on Functional Brain Imaging, Laboratory of Brain and Cognition (National Institute of Mental Health, NIH, Bethesda, MD)
2000-2012	Intern, PET Center, Institute of Clinical Physiology, National Research Council, Pisa (Italy)

## **Education**

2001-2004	Ph.D. in Neurosciences, Scuola Superiore di Studi Universitari e di Perfezionamento "Sant'Anna", Pisa (Italy), "In vivo and in vitro study of the neurometabolic correlates of cholinergic modulation on memory and attention during physiological and pathological aging"
2001	Italian State Medical Board License
1994-2000	Medical Student - Faculty of Medicine and Surgery, University of Pisa, Italy. Graduation in Medicine 110/110 "magna cum laude" and a special mention for his dissertation thesis "Effects of normal and pathological aging on the parameters of brain metabolism and blood flow in humans. PET study in healthy subjects and in patients with Alzheimer's disease in different condition of sensorial stimulation"
Since 1998	Collaborations with the Laboratory of Neurosciences, NIA (Director, S.I. Rapoport) and with the Laboratory of Brain and Cognition, NIMH (Director, L. Ungerleider; Section Head, J.V. Haxby)
1989-1994	Scientific Secondary School in Pisa, Italy. Degree 60/60

## **Post-graduate Clinical Training and Experience**

2006-oggi	Senior Staff Fellow, O.U. Clinical Pathology, University Hospital Pisa, Italy. Clinical responsibilities include laboratory test development, report validation and monitoring of protocols for laboratory information system.
2002-2012	During the internship at the PET Center, Institute of Clinical Physiology, National Research Council, clinical responsibilities included PET o TC/PET brain scans with <sup>18</sup> Fluoride-2-deoxy-D-Glucose in patients with neurological and psychiatric disorders.

### **Institutional responsibilities**

2015-now	Designated Responsible for the Departmental Scientific Production (VQR 2011-2014) and Teaching Evaluation, University of Pisa, Italy
2014-2016	Department Member and Department Representative of Assistant Professors, Dept. Surgical, Medical, Molecular Pathology and Critical Care, University of Pisa, Italy
2012–now	Council Member, PhD Course in 'Biochemistry and Molecular Biology', Regione Toscana, Italy
2012–now	Council Member, PhD Course in 'Molecular, metabolic and functional exploration of the nervous system and sensory organs', University of Pisa, Italy
2010–2014	Faculty member, University of Pisa, Pisa, Italy

### **Honors and Awards**

2014-2019	Italian national scientific habilitation for Associate Professorship in General Psychology, Psychobiology and Psychometry (11/E1) - ASN 2012
2011	Young Investigator Award, University of Pisa, Italy
2011	Fellow Travel Award (co-author), 17 <sup>th</sup> OHBM Annual Meeting, Quebec City, Canada
2009	Fellow Travel Award (co-author), 15 <sup>th</sup> OHBM Annual Meeting, San Francisco, USA
2008	Fellow Travel Award (co-author), 14 <sup>th</sup> OHBM Annual Meeting, Melbourne, Australia
2006	Young Investigator Award 2006, International Society for Brain Electromagnetic Topography
2003	Fellow Travel Award, 9 <sup>th</sup> OHBM Annual Meeting, New York, NY, USA
2000	Fellow Travel Award, 5 <sup>th</sup> OHBM Annual Meeting, San Antonio, Texas, USA

### **Membership of scientific societies**

2016–now	Treasurer, International Organization of Psychophysiology
2015-2017	Scientific and Administrative Secretary, Italian Society of Psychophysiology (Italy)
2013–2016	Member of the Board of Directors, International Organization of Psychophysiology
2012–2015	Council Member, Italian Society of Psychophysiology (Italy)
2011–2013	Member, International Organization of Psychophysiology (USA)
2008–2014	Member, International Society of Magnetic Resonance in Medicine (USA)
1999–now	Member, Organization for Human Brain Mapping (USA)
1999–now	Member, Society for Neurosciences (USA)

### **Organization of scientific meetings**

2019	Co-Chair, 25 <sup>th</sup> Annual Meeting of the Human Brain Mapping Organization, Rome (Italy)
2016	Organizing Committee Member, "The Fresco Conference on Synaptic Plasticity: from bench to bedside", Sept 12-14, Lucca (Italy)

2015	Chair, 22 <sup>nd</sup> Annual Meeting of Italian Society of Psychophysiology, November 19-21, Lucca (Italy)
2013	Co-Chair, The Blind Brain Workshop, Pisa (Italy), October 16 <sup>th</sup> -18 <sup>th</sup> , 2013 <a href="http://theblindworkshop.com/">http://theblindworkshop.com/</a>
2012	Scientific Program Responsible and Member of the LOC, 16 <sup>th</sup> World Congress of the International Organization of Psychophysiology, Pisa (Italy) Sept 13-17, 2012
2010-2011	Member, Local Organizing Committee Chair of the 17 <sup>th</sup> Annual Meeting of the Human Brain Mapping Organization, 2011 – Quebec City, Canada
2009-2010	Local Organizing Committee Chair of the 16 <sup>th</sup> Annual Meeting of the Human Brain Mapping Organization, June 6-10, 2010 – Barcelona, Spain
2005-2006	Member, Local Organizing Committee Chair of the 12 <sup>th</sup> Annual Meeting of the Human Brain Mapping Organization, June 11-15, 2006 – Florence, Italy
2000-2010	Main responsible of the four Italian editions of the “AFNI and SUMA software analyses for fMRI” classes (IBRO supported events), attended by more than 120 international students

### **Languages**

Italian (mother tongue)

English (understanding: C2 – speaking: C2 – writing: C1)

Spanish (understanding: A1 – speaking: A1 – writing: A1)

### **Major Collaborations**

- Tomaso Vecchi, psychophysiology in blindness, University of Pavia, Italy
- Antonio Bicchi, grasping and action representation, University of Pisa, Italy
- Maurice Ptito, sensory deprivation in animals and humans, Université de Montréal, Canada
- Luciano Fadiga, action understanding, IIT, Genova, Italy
- Ron Kupers, brain changes in blindness, Panum Institute, University of Copenhagen, Denmark
- Corrado Sinigaglia, action representation, University of Milan, Italy
- Giulio Tononi, sleep and blindness, University of Madison, Wisconsin, USA
- Francesca Siclari, sleep in blind, Lausanne University Hospital, Switzerland
- James Haxby, multivoxel pattern analyses, Dartmouth College, Hanover, NH, USA
- Alfonso Caramazza, neurolinguistics, Harvard University, Boston, USA
- Kang Cheng, high resolution imaging for visual perception, RIKEN Institute, Japan
- Kent Kiehl, brain imaging, Mind Research Network, Albuquerque, NM, USA
- Marco Santello, motor control, Arizona State University, Tempe, Arizona
- Luca Turella, MEG studies in supramodality, University of Trento, Italy
- Francesca Siclari, sleep in sensory deprivation, Lausanne University Hospital, Switzerland
- Simone Rossi, motor control, University of Siena, Italy
- Angelo Quararone, disorder of consciousness, University of Messina, Italy
- Giovanna Marotta, semantic representation, University of Pisa, Italy
- Francesca Garbarini, neuropsychology of motor control, University of Turin, Italy
- Zaira Cattaneo, neuroesthetics, Bicocca University, Milan, Italy

## **Fields of Interest**

For many years, he has been conducting research in the fields of Cognitive Neuroscience and Psychophysiology, and, in particular, in the assessment of *in vitro* and *in vivo* behavioral, structural and functional correlates of physiological and pathological brain function.

- Cognitive and social neuroscience, psychophysiology, neuroimaging, cerebral biochemistry and metabolism
  - Use and development of brain functional exploration methodologies, such as positron emission tomography (PET) and functional magnetic resonance imaging (fMRI), in combination with neuropsychological tasks and/or pharmacological agents to study brain functions and metabolism, and brain functional response to sensory stimulation and cognitive/emotional activation tasks in healthy subjects, and in patients with neuropsychiatric disorders
  - Neural correlates of visual, tactile and auditory perception and recognition in sighted and congenitally blind individuals; supramodal brain functional organization: sensory-independent object form perception, motion discrimination, spatial localization, action representation and semantic knowledge; cross-modal plasticity
  - Action recognition and representation; behavioral and functional correlates of motor control
  - Functional correlates of pharmacological modulation on memory and attention in young and older healthy subjects, and in patients with neurodegenerative disorders
  - Application of novel tools of brain functional data analysis, including multivoxel pattern analyses and functional/effective connectivity approaches



[Field of interest are represented as a 'word cloud' generated on the frequencies in the main text of candidate's publications]

## **Editorial Functions**

Year	Journal	Role
2012	<i>International Journal</i>	Proceedings of the 16 <sup>th</sup> World Congress of the

	<i>of Psychophysiology</i>	International Organization of Psychophysiology (IOP) Pisa, Italy - September 13-17, 2012 <a href="http://www.sciencedirect.com/science/issue/271907-1-s2.0-S0167876012X00096">http://www.sciencedirect.com/science/issue/271907-1-s2.0-S0167876012X00096</a>
Since February 2012	<i>Frontiers in Cognitive Science</i>	Member of the Review Editorial Board
Since 2007	<i>Archives Italiennes de Biologie</i>	Managing Editor and Editorial Board Member
1999 - 2010	<i>Brain Research Bulletin</i>	Assistant of the Section Editor "Normal and Pathological Human Brain Function"

- Regular reviewer for several peer-reviewed journals, including Nature Neuroscience, Current Biology, Trends in Cognitive Sciences, Neurobiology of Aging, Journal of Neuroscience, Neuroscience & Biobehavioral Reviews, Human Brain Mapping, Neuroimage, Cerebral Cortex, Cortex, The American Journal of Psychiatry, European Journal of Neuroscience, Brain Research Bulletin, Frontiers in Psychology, Frontiers in Human Neuroscience, Transaction in Haptics.
- Since 2007, regular reviewer of the abstracts submitted to the Annual Meetings of the Human Brain Mapping Organization.

## Teaching

### -- Master's degree courses--

- 2015-now      Appointed Course of Behavioral and Cognitive Neurosciences for the Master Degree in Bionics Engineering, University of Pisa, Italy
- 2010-now      Appointed teachings of:
  - Clinical Biochemistry and Clinical Molecular Biology for the Master Degree in Methodologies in Biomedical Laboratory, University of Pisa, Italy
  - Cognitive Basis of Neural Functions for the Master Degree in Sciences and Techniques of Clinical and Health Psychology, University of Pisa, Italy
- 2006-2009      Appointed Course of Integrative seminars and experimental activities I and II for the Master Degree in Sciences and Techniques of Health Psychology, University of Pisa, Italy
- 2005-2006      Appointed Course of Psychodiagnostics of Cognitive Functions for the Master Degree in Sciences and Techniques of Psychology, University of Pavia, Italy
- 2004-now      Lectures and seminars for the Internship and Laboratory Experiences at the University of Pisa for the Course of Laboratory Medicine of the Master Degree in Medicine, Course of Biomedical Signals of the Master Degree in Bioengineering, Exogenous Modulation of Brain Activity of the Master Degree in Occupational Therapy.

Since 2004, supervision of >30 undergraduate in the preparation of their final dissertation of the Master Degree Courses of Medicine and Surgery, Clinical Psychology, Biology, Bioengineering at the University of Pisa, Italy

### -- Residency programs --

- 2010-now      Lectures and Seminars of Clinical Biochemistry, Residency program in Clinical Biochemistry, University of Pisa, Italy

2008-now Seminars in Cognitive Neuroscience, Residency programs in Neurology and Psychiatry, University of Pisa, Italy

#### -- PhD Courses --

Since 2004, supervision of >10 PhD students in the preparation of their final dissertation of the PhD Courses (including 'Molecular, metabolic and functional exploration of the nervous system and sensory organs') at the University of Pisa, Italy

#### -- Master --

Invited lectures at several masters:

- 2016-now Master II level 'Neuropsychology: Evaluation, Diagnosis and Rehabilitation' – Catholic University of Milan, Italy
- 2016-now Master II level "Clinical application of Mindfulness in Empathy and Compassion" – University of Pisa, Italy
- 2007-2010 Master II level 'Psicoterapia Integrata ad Orientamento Interpersonale' – University of Pisa, Italy
- 2012-2015 Master II level 'Management per le Funzioni di Coordinamento nell'Area delle Scienze delle Professioni Sanitarie Tecniche Diagnostiche' – University of Pisa, Italy

#### -- Residential Courses --

- 2016 Lecture on 'Brain connectivity and resting state' at Summer School 'Integration of methodologies and techniques for research, clinic and rehabilitation in psychophysiology and neuroscience' – Catholic University of Milan, Italy
- 2015 Lecture on 'Brain connectivity and resting state' at Summer School 'Integration of methodologies and techniques for research, clinic and rehabilitation in psychophysiology and neuroscience' – Catholic University of Milan, Italy
- 2013 Lecture at Summer School "Advances in Cardiovascular Medicine", University of Pisa, Italy
- 2008 Lecture "EmotivaMente: le basi molecolari della vita emotiva" at Residential Course ECM "Farmacoterapia e Neuroscienze:Quale Integrazione", Bologna, Italy
- 2008 Lecture "Le metodologie di esplorazione funzionale del cervello: quale ruolo per la diagnosi?" at Residential Course ECM 'La Gestione delle Emergenze-Urgenze Neurologiche dell'Adulto', Portoferraio (LI), Italy
- 2003 Lecture "Brain imaging al femminile" at Residential Course ECM "Una psichiatria al femminile", Casa di Cura Park Villa Napoleon Paganziol (TV), Italy

#### Educational Courses

- Educational Brain Mapping Course: 5<sup>th</sup> International Conference on Functional Mapping of the Human Brain. June 22–26, 1999. Congress Center Düsseldorf, Germany
- fMRI Educational Brain Mapping Course: 6<sup>th</sup> International Conference on Functional Mapping of the Human Brain. June 12-16, 2000 – San Antonio, Texas, USA
- fMRI Educational Brain Mapping Course: 7<sup>th</sup> International Conference on Functional Mapping of the Human Brain. Brighton, UK, 2001
- fMRI Educational Brain Mapping Course: 8<sup>th</sup> International Conference on Functional Mapping of the Human Brain. Sendai, Japan, 2002
- II International fMRI meeting and autumn school. October 25-27, 2002 - Sant'Agata sui due Golfi – Sorrento (NA)
- Scientific and Statistical Computing Core NIH "Lectures and hands-on sessions about AFNI", Fall 2002, Pisa

- fMRI Educational Brain Mapping Course: 9<sup>th</sup> International Conference on Functional Mapping of the Human Brain. New York, NY, 2003
- Laboratorio di Biochimica Clinica e Scientific and Statistical Computing Core NIH "Corso di AFNI e SUMA per FMRI", October 6-10 2003, IFC-CREAS, Area di Ricerca CNR, Pisa
- Laboratorio di Biochimica Clinica e Scientific and Statistical Computing Core NIH "AFNI and SUMA for FMRI", ottobre 2004, IFC-CREAS, Area di Ricerca CNR, Pisa
- 4<sup>th</sup> International fMRI meeting and Autumn School Sorrento, November 12-14, 2004
- Advanced fMRI Educational Brain Mapping Course: 10<sup>th</sup> International Conference on Functional Mapping of the Human Brain. Budapest, Hungary, 2004
- Advanced fMRI Educational Brain Mapping Course: 11<sup>th</sup> International Conference on Functional Mapping of the Human Brain. Toronto, Canada, 2005
- Advanced fMRI Educational Brain Mapping Course: 12<sup>th</sup> International Conference on Functional Mapping of the Human Brain. Florence, Italy, 2006
- Body consciousness: brain mechanisms of representation of the self and others. Neuroscience seminar, July 9<sup>th</sup>-13<sup>th</sup>, 2007, Soria, Spain
- Advanced MR Brain Imaging Course, 16<sup>th</sup> Scientific Meeting of International Society for Magnetic Resonance in Medicine, Toronto, Canada - May 3, 2007
- Functional MRI: Methods, Interpretation, and Applications, 16<sup>th</sup> Scientific Meeting of International Society for Magnetic Resonance in Medicine; Toronto, Canada - May 4, 2007
- Advanced fMRI Educational Brain Mapping Course: 13<sup>th</sup> International Conference on Functional Mapping of the Human Brain. Chicago, IL, USA, 2007
- ISMRM Workshop on High Field Systems and Applications: "What's Special about 7T+?" Rome, Italy - October 15-18 2008
- Advanced fMRI Educational Brain Mapping Course: 14<sup>th</sup> International Conference on Functional Mapping of the Human Brain. Melbourne, Australia, 2008
- Advanced fMRI Educational Brain Mapping Course: 15<sup>th</sup> International Conference on Functional Mapping of the Human Brain. San Francisco, CA, USA, 2009
- Advanced fMRI Educational Brain Mapping Course: 16<sup>th</sup> International Conference on Functional Mapping of the Human Brain. Barcelona, Spain, 2010
- Advanced fMRI Educational Brain Mapping Course: 17<sup>th</sup> International Conference on Functional Mapping of the Human Brain. Quebec City, Canada, 2011
- Brain-Computer Interfaces and Real-Time fMRI Course: 18<sup>th</sup> International Conference on Functional Mapping of the Human Brain. Beijing, China, 2012

## **Grants and Funding**

Project Title	Duration (months)	Amount (€)	Role
"SoftPro-Synergy-based Open-source Foundations and Technologies for Prosthetics and RehabilitatiOn", Horizon 2020 Call 2 for Robotics CT 24-2015.2.a Cognitive Systems and Robotics 2016-2019	48	7,440,023	WP responsible
"Synergies in the Brain: measuring brain activity for complex finalized hand movements", Clinical Research and Innovation 2014 Call, MIT – University	12	15,000	Co-investigator

of Pisa			
Research Award University of Pisa 2015 – 'Mens sana in corpore sano? Impact of chronic exercise on psychophysical well-being during aging'	24	55,000	Co-investigator
'Be-Tasty-Molecular, behavioral and neural correlates of food taste perception in blind people' Research grant by the Fondazione Cassa di Risparmio di Lucca (Italy) – call 2015-2016	24	55,000	Co-investigator
Progetti di Ricerca Giovani Ricercatori - Ricerca Finalizzata 2011-2012 Italian Minister of Health: 'Development and validation of novel methods for the in vivo assessment of distinct patterns of connectivity in the disorders of consciousness' (GR-2011-02347383)	48	360,088	Principal investigator
Research Program 7 <sup>th</sup> Framework IST Program: "THE: The hand embodied" ( <a href="http://www.thehandembodied.eu">http://www.thehandembodied.eu</a> ). Cognitive Systems and Robotics (ICT-2009.2.1), 2010	48	7,175,691	Project Task Leader
Research grant by the Fondazione Cassa di Risparmio di Lucca (Italy) "Mens sana in corpore sano? L'importanza dell'attività fisica cronica sulla salute fisica e mentale", call 2012-2013	24	55,000	Project Task Leader
"Classificare le azioni: un approccio neurofunzionale per decodificare la rappresentazione degli atti motori nel cervello umano" - Bando Ricercatori Facoltà di Medicina Università di Pisa, 2011	24	18,000	Principal Investigator
Research grant by the Fondazione Cassa di Risparmio di Pisa (Italy) "TRAIN THE BRAIN 2.0: studio clinico e sperimentale dell'efficacia di un intervento di training cognitivo e fisico nella demenza", 2011	24		Co-investigator
Research grant by the 'Ricerca 2011' call by Fondazione Pisa (Italy) – "Studio clinico, psicométrico e psicobiologico della efficacia comparata di stimolazione magnetica transcranica (TMS) e di stimolazione a corrente elettrica continua (tDCS) in pazienti depressi farmacoresistenti"	36	300,000	Co-investigator
Research grant by the Fondazione Cassa di Risparmio di Lucca (Italy) "Le basi genetiche e cerebrali delle abilità psicomotorie e degli effetti dell'allenamento specifico", 2010	12	30,000	Project Task Leader
Research grant by the Fondazione Cassa di Risparmio di Lucca (Italy) "Le basi genetiche e cerebrali delle abilità psicomotorie e degli effetti dell'allenamento specifico", 2011	12	40,000	Project Task Leader
Progetto ordinario del Ministero della Salute "Laboratory medicine, genetic, neuropsychological and clinical assessment for the early detection, prediction of course and response to therapy in subjects at risk for Alzheimer's disease", 2008	36	270,000	Project Task Leader

Programma di Ricerca Scientifica di Rilevante Interesse Nazionale del Ministero dell'Istruzione dell'Università e della Ricerca: "Correlati Cerebrali della Rappresentazione ed Elaborazione Sopramodale delle Azioni in Individui Vedenti e Non-Vedenti Studiati mediante Risonanza Magnetica Funzionale (fMRI)", 2009	24	63,000	Co-investigator
Research grant by Montreal Research Institute, Canada: "Neuronal correlates of the Mangina-Test: a functional magnetic resonance imaging study in young healthy adults", 2007	24	US\$ 20,000	Co-investigator
Research grant by the Fondazione Cassa di Risparmio di Pisa (Italy): "e-SMILER – experimental brain Study on eMotional Interaction Leading to Enhanced Robots", 2006 (Amount: € 65,000)	24	65,000	Co-investigator
European Community Grant Immersence, IST-2006-027141, Call FP6-2004-IST-4-FET (Presence): "Immersence: Immersive Multi-Modal Interactive Presence" ( <a href="http://www.immersence.info">http://www.immersence.info</a> )	48	5,500,000	Executive Board Member
Research grant by the Italian Ministry of Education, University and Research (MIUR) – PRIN Program 2004: "Brain Activity Associated with Mental Representation of Spatial Information acquired through Visual and/or Tactile Sensory Modalities in Sighted and Blind Individuals Assessed by Functional Magnetic Resonance Imaging (fMRI)", 2004	24	42,500	Co-investigator
Research grant by the Fondazione Cassa di Risparmio di Pisa (Italy): "EASY.GOV: Progettazione di servizi on-line per enti pubblici, di facile accesso per ampie fasce di utenti eterogenei", 2004	24		Project Task Leader
Research grant by the Fondazione Gio.I.A., Pisa (Italy) "In vivo study of brain and genetic correlates of maternal behavior in humans. II year of study" 2004	12	65,000	Collaborator
Research grant by the 5 <sup>th</sup> Framework IST Program of the European Union: "Touch-hapsys: brain correlates of human haptic perception" ( <a href="http://www.touch-hapsys.org">http://www.touch-hapsys.org</a> ). IST-2002-6.1.1, 2002	48	2,794,996	WP Responsible
Research grant by the Fondazione Gio.I.A., Pisa (Italy) "In vivo study of brain and genetic correlates of maternal behavior in humans". 2003	12	55,000	Collaborator
Research grant by the Fondazione Cassa di Risparmio di Lucca (Italy) "Neuropsychological and in vivo brain correlates of decision-making process in humans", 2002	12	25,000	Collaborator
Research grant by the Italian Ministry of Education, University and Research (MIUR) – FIRB Neuroscience Program "Methodologies for the functional exploration of the brain in the study of	12	86,000	Collaborator

<i>cortical function in humans</i> " RBNE018ET9_003, 2002			
Research grant by the Fondazione IRIS, Livorno: " <i>In vivo study of brain correlates of emotional processing during healthy aging in humans</i> ", 2002	12	13,000	Collaborator
Research grant John Templeton Foundation-Campaign for Forgiveness Research (#5103): " <i>Study of the brain functional correlates of forgiveness and unforgiveness in humans by using Positron Emission Tomography (PET) in conjunction with neuropsychological probes</i> ", 2002	36	US\$ 125,000	Collaborator
Research grant by the Italian Health Minister program " <i>Correlation between neurometabolic pattern and cognitive performance in young and older Down subjects</i> ", 2000	24	89,000	Collaborator
Research grant by the Italian Health Minister program " <i>Effects of Cholinergic Modulation on Human Memory and Attention: Functional Brain Studies in Healthy Aging and in Patients with Alzheimer's Disease</i> ", 2000	24	100,000	Collaborator

Occasional Grant reviewer for the Alzheimer's Association (U.S.A.) and for the Virginia Center on Aging (U.S.A.), Romanian National Research Council, Romania, for scientific applications (PRIN program) and for the Italian Ministry of Education, University and Research (MIUR).

### Main Invited Lectures and Symposia

- Oral presentation: "Effect of cholinergic modulation on brain response to visual working memory (VWM) as task difficulty increases in young and older subjects" 33<sup>rd</sup> Annual Meeting of the Society for Neuroscience, New Orleans, USA - November 8-12, 2003
- Oral presentation: "Le basi neuronali delle attività cognitive ed emotive nella comprensione dei rapporti corpo-mente", XVII Congresso Nazionale della Società Italiana per lo Studio delle Cefalee, Pisa, Italy - 2003
- Invited lecture: "Molecular correlates of emotional and aggressive behavior in the male and female human brain. International Conference on Sex, Brain, and Human Aggression", Hanse Institute for Advanced Study, Delmenhorst (Germany) -September 23-26, 2004
- Oral presentation: E. Ricciardi, C. Gentili, M.I. Gobbini, M. Guazzelli, P. Pietrini. Le basi cerebrali della percezione delle emozioni nell'uomo Simposio - Espressione delle emozioni, sviluppo e psicopatologia. 10<sup>th</sup> Meeting of the Italian Society of Psychopathology. Rome, Italy - February 22-26, 2005
- Oral presentation: E. Ricciardi - Seeing With One's Hands. Mini-symposium A. Pascual-Leone, P. Pietrini, E. Ricciardi, K. Sathian, B. Roeder, A. Amedi, M. Lassonde, L. Merabet. What Have We Learned About Seeing From The Blind? Program No. 807. 2005 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience, 2005
- Oral presentation: E. Ricciardi. Esplorazione funzionale del cervello nello studio della percezione del mondo esterno. XIII Congresso Società Italiana di Psicofisiologia Marina di Carrara, Italy – December 2-4, 2005
- Invited lecture: "Esplorazione funzionale del cervello nella percezione del mondo esterno: l'organizzazione sopramodale delle vie corticali "visive", Neurological Clinica Ospedale Sant'Agostino - Modena, Italy - 2006

- Invited lecture: "Seeing With One's Hands: Supramodal Organization of the "Visual" Extrastriate Cortex" Institute of Neuroradiology, University of Zurich, Zurich, Switzerland, April 26 2006
- Oral presentation: E. Ricciardi. "Vedere con le mani: organizzazione sopramodale della corteccia "visiva" extrastriata". XV Edizione del Congresso della Fisiologia Clinica. Area di Ricerca del CNR, Pisa, May 24, 2006
- Oral presentation: E. Ricciardi, "Neurometabolic basis of cognitive impairment", Symposium S207 Cognitive function from health to dementia, 26<sup>th</sup> International Congress of Applied Psychology, Athens, July 16-21, 2006
- Invited lecture: "Seeing With One's Hands: Supramodal Organization of the "Visual" Extrastriate Cortex" Brain Science Institute Retreat, Riken, Japan November 26-28, 2007
- Oral presentation: "Modulation of specific brain activity by very subtle geometrical perceptual relationships of the Mangina-Test: A functional magnetic resonance imaging study in young healthy adults" e "Cholinergic modulation on brain response to working memory as task difficulty increases in young and older subjects", 14<sup>th</sup> World Congress of Psychophysiology - The Olympics of the Brain - of the International Organization of Psychophysiology (I.O.P) St. Petersburg, Russia, September 8-13, 2008
- Invited lecture: "Neuroimaging e neuro fenomenologia: le basi neurali della coscienza", Facoltà di Medicina, Università di Pisa, Italy - February 29, 2008
- Invited lecture: "Towards an in vivo biochemistry of the mind" - Multidisciplinary Conference, Pisa Italy, October 26-30, 2008
- Invited lecture: "Come si comporta il cervello al buio: l'organizzazione funzionale dell'apprendimento e dell'elaborazione delle informazioni nei soggetti non vedenti dalla nascita", Simposio "Nuove Conoscenze Sulle Basi Neurali Della Coscienza e Dei Suoi Disturbi", 13<sup>th</sup> Annual Meeting of the Italian Society of Psychopathology, Roma, February 2009
- Invited lecture: "La risonanza magnetica funzionale", Corso di Aggiornamento "Esplorazione funzionale del cervello" 15<sup>th</sup> Annual Meeting of the Italian Society of Psychophysiology, Siena, Italy - October 2009
- Invited lecture: "fMRI of the mirror system: how blind people "see" the actions of others", Risonanza Magnetica in Medicina: dalla ricerca tecnologica avanzata alla pratica clinica, Roma, Italy - April 1, 2011
- Invited lecture: "What could we learn from the blind brain", Institute of Neuroscience & Pharmacology, Panum Institute University of Copenhagen, Copenhagen, Denmark – May 10, 2011
- Invited lecture: "Neurosemantic decoding in the dark", International Conference on 'Semantic Representations in the Blind', Pisa (Italia), October 5-6, 2012
- Invited lecture: Università degli Studi di Messina, Messina (Italia), October 10 2012
- Invited lecture: "Una rappresentazione sopramodale e topografica delle azioni nel cervello umano", Dipartimento di Filosofia, University of Milan, Milan (Italia), 21 maggio 2013
- Invited lecture: 'L'immagine nella mente, tra neuroscienze e pensiero' nell'ambito del ciclo di incontri 'Fine dell'immagine: tra media, neuroscienze e filosofia', Palazzo Ducale, Genova (Italia), June 3, 2013
- Invited lecture: "Experimental Methods: Theory and Application of Functional Neuroimaging", 10<sup>th</sup> Research Training Seminarin Child & Adolescent Psychiatry, Bocca di Magra (Italia), June 23-28, 2013
- Oral presentation: "The functional neuroanatomy of the blind brain: is there a supramodal cortical functional architecture?"- The Blind Brain Workshop, Pisa (Italia), October 16-18, 2013

- Invited lecture: Harvard Medical School, Boston, December 5, 2013
- Invited lecture: "Porgere l'altra guancia? Il ruolo biologico del perdono tra comportamento prosociale e vendetta", 3° Convegno di neuroscienze, neuropsicologia e psicoterapia, Performat Salute, Pisa, March 1, 2014
- Invited lecture: "Experimental Methods: Theory and Application of Functional Neuroimaging", 11<sup>th</sup> Research Training Seminar in Child & Adolescent Psychiatry, Camposampiero (Italia), May 25-30, 2014
- Invited lecture: "Neuroscienze e architettura", Facoltà di Architettura, University of Florence, June 25, 2014
- Invited lecture: "Decoding and encoding approaches to fMRI data: from supramodal perception to cognitive and motor representations", Brain Information Communication Research Laboratory Group, Advanced Telecommunications Research Intitute International, Kyoto (Japan), September 22, 2014
- Oral presentation: "Towards a supramodal organization of conceptual knowledge", 17<sup>th</sup> World Congress of Psychophysiology, September 25, 2014, Hiroshima, Japan
- Invited lecture: "Il ruolo delle metodologie di esplorazione funzionale in vivo del cervello nell'inquadramento dei pazienti con disordini di coscienza" durante il Convegno "La coscienza e i suoi disordini in neuroriusabilitazione" Pisa, October 04, 2014
- Invited lecture: "The 'alphabet' of human hand movements: a multimodal protocol to assess the cortical encoding of postural synergies", Human Centered And Rehabilitation Robotics Workshop, Istituto Italiano di Tecnologia, Genova, Italy - March 24, 2015
- Invited lecture: "Neuroscienze e architettura 2.0", Facoltà di Architettura, University of Florence - June 19, 2015
- Invited lecture: "Come la mancanza della vista influenza l'architettura morfologica e funzionale del cervello" at the Scientific Workshop "Oltre lo Sguardo: il cervello amico. Disabilità visiva e plasticità cerebrale", Padova, Italia - June 26, 2015
- Invited lecture: "Luci ed ombre delle neuroimmagini nello studio della coscienza" at the Workshop 'Le alterazioni della Coscienza: Fisiologia e Clinica', Pisa, Italy – October 16, 2015
- Oral presentation: 'Constructing models of perception, cognition, and action: Novel decoding and encoding approaches to brain functional data', XXIII Annual Meeting of the Italian Society of Psychophysiology, Lucca, Italy – November 20, 2015
- Invited lecture: 'The blind brain. How (lack of) vision shapes the development of the morphological and functional architecture of the human brain', Center for Mind/Brain Sciences (CIMeC), University of Trento, Italy – December 4, 2015
- Invited lecture: 'Multivariate approaches in brain imaging: from motor encoding to action representation decoding', First European Seminar on Sport Psychology "Sport & Exercise Psychology Under the Leaning Tower", Pisa, Italy - March 7, 2016
- Invited Lecture: 'Oltre le immagini sensoriali: percezione e cognizione sociale nella cecità', IRCSS C. Mondino, Pavia (Italy) - March 15, 2016
- Invited Lecture: 'New light from the dark: understanding the sighted brain by studying the blinds', 10<sup>th</sup> Workshop 'Concepts, Actions and Objects: Functional and Neural Perspectives, Rovereto (Italy) – May 6<sup>th</sup>, 2016
- Invited Lecture: 'Valore diagnostico e prognostico delle metodologie di esplorazione funzionale in vivo del cervello nei pazienti con disordini di coscienza', 65<sup>th</sup> Annual Meeting of the Italian Society of Clinical Neurophysiology, Latina (Italy) – May 25<sup>th</sup>, 2016

### **Science Popularization Activities**

Public talks on brain imaging and neurosciences have been presented to college students (Galileo Project, Regione Toscana, 2014-2015) or general audience (e.g., Brain Awareness Week, Science Festivals, etc.). Interviews have been broadcasted to local and national newspaper, radio and TV.

## Publications

### Peer-reviewed journals

1. Pietrini P, Furey M.L, Ricciardi E, Gobbini M.I, Wu H-WC, Cohen L, Guazzelli M, Haxby J.V. Beyond sensory images: Object-based representation in the human ventral pathway. *Proceedings of the National Academy of Sciences U.S.A.* 101(15): 5658-5663, 13, 2004
2. Freo U, Ricciardi E, Pietrini P, Schapiro MB, Rapoport S, Furey ML. Cholinergic Modulation Influences Different Cortical Regions during Working Memory in Young and Older Humans". *American Journal of Psychiatry* 162(11): 2061-2070, 2005
3. Ricciardi E, Bonino D, Gentili C, Sani L, Pietrini P, Vecchi T. Neural Correlates Of Spatial Working Memory In Humans: A Functional Magnetic Resonance Imaging Study Comparing Visual And Tactile Processes. *Neuroscience*, 139(1): 339-49, 2006
4. Ricciardi E, Vanello N, Sani L, Gentili C, Scilingo EP, Landini L, Guazzelli M, Bicchi A, Haxby J.V, Pietrini P. The effect of visual experience on the development of functional architecture in hMT+. *Cerebral Cortex*. 17 (12): 2933-9, 2007
5. Furey ML, Ricciardi E, Schapiro MB, Rapoport SI, Pietrini P. Cholinergic Enhancement Eliminates Modulation of Neural Activity by Task Difficulty in the Prefrontal Cortex during Working Memory. *Journal of Cognitive Neuroscience*; 20(7): 1342-53, 2008
6. Bicchi A, Scilingo EP, Ricciardi E, Pietrini P. Tactile flow explains haptic counterparts of common visual illusions. *Brain Research Bulletin*, 75(6): 737-741, 2008
7. Cattaneo Z, Vecchi T, Cornoldi C, Mammarella I, Bonino D, Ricciardi E, Pietrini P. Imagery and spatial processes in blindness and visual impairment. *Neuroscience and Biobehavioral Reviews*, 32(8): 1346-60, 2008
8. Casarotto S, Bianchi AM, Ricciardi E, Gentili C, Vanello N, Guazzelli M, Pietrini P, Chiarenza GA, Cerutti S. Spatiotemporal dynamics of single-letter reading: a combined ERP-fMRI study. *Archives Italiennes de Biologie*, 146(2): 83-105, 2008
9. Vanello N, Hartwig V, Tesconi M, Ricciardi E, Tognetti A, Zupone G, Gassert R, Chapuis D, Sgambelluri N, Scilingo EP, Giovannetti G, Positano V, Santarelli, MF, Bicchi A, Pietrini P, De Rossi D, Landini L. Sensing glove for brain studies: Design and assessment of its compatibility for fMRI with a robust test. *IEEE/ASME Transactions on Mechatronics* 13(3): 345-354, 2008
10. Gentili C, Gobbini M.I, Ricciardi E, Vanello N, Pietrini P, Haxby J.V, Guazzelli M. Differential modulation of neural activity throughout the distributed neural system for face perception in patients with Social Phobia and healthy subjects. *Brain Research Bulletin*, 77(5): 286-292, 2008
11. Bonino D, Ricciardi E, Sani L, Gentili C, Vanello N, Guazzelli M, Vecchi T, Pietrini P. Tactile spatial working memory activates the dorsal extrastriate cortical pathway in congenitally blind individuals. *Archives Italiennes de Biologie*, 146(3/4): 133-146, 2008
12. Ricciardi E, Pietrini P, Schapiro MB, Rapoport SI, Furey ML. Cholinergic modulation of visual working memory during aging: A parametric PET study. *Brain Research Bulletin* 79(5): 322-332, 2009
13. Gentili C, Ricciardi E, Gobbini MI, Santerelli MF, Haxby JV. Pietrini P, Guazzelli M. Beyond Amygdala: Default mode network activity differs between patients with Social Phobia and healthy controls. *Brain Research Bulletin* 79(6): 409-413, 2009
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124. Leo A., Handjaras G., Bianchi M., Marino H., Gabiccini M. Guidi A., Scilingo E.P., Bicchi A., Santello M., Pietrini P., Ricciardi E. The "alphabet" of human hand movements: a kinematic-EMG-fMRI study on the neural correlates of postural synergiesProceedings of the XXIII National Congress of the Italian Society of Psychophysiology. Neuropsychological Trends 18, 112, 2015
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Switzerland, Abstract 2405, June 26-30, 2016

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Pisa, September 1<sup>st</sup>, 2016

Emiliano Ricciardi

**FORMATO EUROPEO  
PER IL CURRICULUM  
VITAE**



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Italiana

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• Nome e indirizzo del datore di lavoro

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- Tipo di impiego

• Principali mansioni e responsabilità

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Impiegato categoria EP2  
Responsabile Ufficio Informatico - Gestione della rete, dei sistemi informativi e dei server di IMT

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- Tipo di impiego

• Principali mansioni e responsabilità

Università  
Impiegato categoria EP1  
Responsabile Ufficio Informatico - Gestione della rete, dei sistemi informativi e dei server di IMT

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- Tipo di impiego

• Principali mansioni e responsabilità

Università  
Contratto di collaborazione  
Responsabile della rete del laboratorio di IMT e dei server

- Date (da – a)

• Nome e indirizzo del datore di lavoro

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Mywailt srl Via Delle Tagliate 252b, 55100 Lucca (Italia)

- Tipo di azienda o settore
- Tipo di impiego

• Principali mansioni e responsabilità

Commercio e produzione di materiale in pelle  
Contratto Commercio  
Sviluppo del sistema informativo e supporto tecnico

## ISTRUZIONE E FORMAZIONE

- Date (da – a) Gennaio 2019 – Luglio 2020
- Nome e tipo di istituto di istruzione o formazione Politecnico di Milano MIP GRADUATE SCHOOL OF BUSINESS
- Principali materie / abilità professionali oggetto dello studio SUM – Master in Management dell'Università e della Ricerca VII edizione
- Livello nella classificazione nazionale (se pertinente) Master di secondo livello
  
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- Principali materie / abilità professionali oggetto dello studio Metodi di verifica correttezza del software mediante type checking
- Qualifica conseguita Dottorato di ricerca (PhD)
- Livello nella classificazione nazionale (se pertinente) Eccellente
  
- Date (da – a) Settembre 2003 – Luglio 2005
- Nome e tipo di istituto di istruzione o formazione Alma Mater Studiorum Università di Bologna
- Principali materie / abilità professionali oggetto dello studio Ingegneria del Software, Metodi Formali
- Qualifica conseguita Laurea Specialistica in informatica classe 23/S
- Livello nella classificazione nazionale (se pertinente) 110 e lode
  
- Date (da – a) Settembre 2000 - Luglio 2003
- Nome e tipo di istituto di istruzione o formazione Alma Mater Studiorum Università di Bologna
- Principali materie / abilità professionali oggetto dello studio Reti, Sistemi Operativi, Basi di dati
- Qualifica conseguita Laurea in informatica classe 26
- Livello nella classificazione nazionale (se pertinente) 110 e lode

<b>CAPACITÀ E COMPETENZE PERSONALI</b> Acquisite nel corso della vita e della carriera ma non necessariamente riconosciute da certificati e diplomi ufficiali.	
<b>MADRELINGUA</b>	<b>ITALIANO</b>
<b>ALTRE LINGUA</b>	
<ul style="list-style-type: none"> <li>• Capacità di lettura</li> <li>• Capacità di scrittura</li> <li>• Capacità di espressione orale</li> </ul>	<b>INGLESE</b> ECCELLENTE BUONO BUONO
<ul style="list-style-type: none"> <li>• Capacità di lettura</li> <li>• Capacità di scrittura</li> <li>• Capacità di espressione orale</li> </ul>	<b>FRANCESE</b> ELEMENTARE ELEMENTARE ELEMENTARE
<b>CAPACITÀ E COMPETENZE RELAZIONALI</b> <i>Vivere e lavorare con altre persone, in ambiente multiculturale, occupando posti in cui la comunicazione è importante e in situazioni in cui è essenziale lavorare in squadra (ad es. cultura e sport), ecc.</i>	CAPACITÀ RELAZIONALI COME RESPONSABILE D'UFFICIO
<b>CAPACITÀ E COMPETENZE ORGANIZZATIVE</b> <i>Ad es. coordinamento e amministrazione di persone, progetti, bilanci; sul posto di lavoro, in attività di volontariato (ad es. cultura e sport), a casa, ecc.</i>	ORGANIZZAZIONE DI TUTTO IL LAVORO DELL'UFFICIO INFORMATICO DI IMT COMPRENSIVE LE SCADENZE CONTRATTUALI
<b>CAPACITÀ E COMPETENZE TECNICHE</b> <i>Con computer, attrezzature specifiche, macchinari, ecc.</i>	PROGETTAZIONE INTEGRALE E INSTALLAZIONE DELLA RETE DI IMT, AMMINISTRAZIONE DI TUTTI I SERVER DI IMT, PROGETTAZIONE DEL SISTEMA INFORMATIVO DI IMT, CONOSCENZA DEL SOFTWARE CINECA IN USO DA IMT PER SUPPORTO TECNICO CIA, CSA, UGOV-CONTABILITÀ, IRIS, TITULUS, ESSE3.
<b>CAPACITÀ E COMPETENZE ARTISTICHE</b> <i>Musica, scrittura, disegno ecc.</i>	DISEGNO
<b>ALTRÉ CAPACITÀ E COMPETENZE</b> <i>Competenze non precedentemente indicate.</i>	UGOV: GESTIONE DELLA PARTE DI BILANCIO RELATIVO ALLE SPESE INFORMATICHE, GESTIONE DEGLI INVENTARI DI IMT E DEGLI AMMORTAMENTI ANNUALI, GESTIONE DELLE FATTURAZIONE
<b>PATENTE O PATENTI</b>	A

## ULTERIORI INFORMAZIONI

### Pubblicazioni:

- R. Bruni, and L. G. Mezzina. Meet recursive session types. (Manuscript Submitted). Draft available at <http://www.di.unipi.it/~mezzina/meet.pdf>
- Bruni, and L. G. Mezzina. How to infer session types in a calculus of services and sessions.(Manuscript Submitted). Draft available at <http://www.di.unipi.it/~mezzina/typeinference.pdf>
- Bruni, R. De Nicola, M. Loreti, and L. G. Mezzina. Provably correct implementations of services. In Proceedings of TGC'08, 5th International Symposium on Trustworthy Global Computing,2008.
- R. Bruni and L. G. Mezzina. Types and deadlock freedom in a calculus of services, sessions and pipelines. In Proceedings of AMAST'08, Algebraic Methodology and Software Technology, volume 5140, pages 100–115, 2008.
- L. G. Mezzina. How to infer finite session types in a calculus of services and sessions. In Proceedings of COORDINATION'08, Coordination Models and Languages, volume 5052, pages 216–231, 2008.

## ALLEGATI

Autorizzo il trattamento dei dati personali contenuti nel mio curriculum vitae in base all'art. 13 del D. Lgs. 196/2003 e all'art. 13 GDPR 679/16

