

**UNIVERSITÀ DEGLI STUDI DI MILANO**

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**Silvia Casarotto**  
**CURRICULUM VITAE****INFORMAZIONI PERSONALI (NON INSERIRE INDIRIZZO PRIVATO E TELEFONO FISSO O CELLULARE)**

COGNOME	CASAROTTO
NOME	SILVIA
DATA DI NASCITA	25/12/1977

**EDUCATION AND TRAINING**

- 03/08/2018 **National Academic Qualification as Associate Professor** (Abilitazione Scientifica Nazionale per la seconda fascia), 05/D1 Physiology BIO/09 (settore concorsuale 05/D1 Fisiologia, settore scientifico disciplinare BIO/09 Fisiologia).
- 18/05/2006 **Ph. D. Degree in Bioengineering**, obtained at the Politecnico di Milano (academic year 2005/2006), co-sponsored by the Milan Order of Engineers, in cooperation with the *Dept. Child and Adolescent Neuropsychiatry*, Az. Osp. "G. Salvini", Rho Hospital, Milan, the *Lab. Clinical Biochemistry and Molecular Biology*, Università di Pisa, and the *Institute of Clinical Neurophysiology*, Consiglio Nazionale delle Ricerche, Pisa (thesis: "Integrating neurophysiological brain mapping (EEG-ERPs) and functional MRI of cognitive processes").
- 05-06/2005 **Internship** at the Center for the Study of Learning (CSL), Georgetown University, Washington (DC) - USA.
- 11/2002 Government exam and license as a **profession engineer** (marks 98/100), enrolled as a member of the Milan Order of Engineers (Milan Engineer's Register), Section A.
- 10/04/2002 **M. Sc. Degree in Biomedical Engineering**, (marks 97/100, academic year 2000/2001), Politecnico di Milano (thesis: "Analysis of cognitive event-related potentials in normal and dyslexic children").

**RESEARCH AWARDS**

- **Open Finalist and 3rd Place Winner** of the Student Paper Competition, 25<sup>th</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 17-21 Sep 2003, Cancun, Mexico.
- **2nd Place Winner** of the Student Paper Competition of the International Federation for Medical and Biological Engineering, X<sup>th</sup> Mediterranean Conference on Medical and Biological Engineering 2004, 31 Jul - 5 Aug 2004, Ischia, Italy.
- **Recipient** of FFABR 2017 (Finanziamento delle Attività di Base di Ricerca), funded by the Italian Ministry of Education, University and Research (MIUR). Budget: € 3.000,00

## RESEARCH GRANTS

**Leader of a Research Unit** within the following Research Project funded by the Italian Ministry of Health (Bando Ricerca Finalizzata 2016): “Young Researchers” GR-2016-02361494, research type “change promoting”, entitled: “Dealing with patients with consciousness disorders: a multimodal approach to support the diagnosis and prognosis”. This project also involves the Istituto Mediterraneo per i Trapianti e Terapie ad Alta Specializzazione (IRCCS ISMETT - Palermo) as applicant institution and the IRCCS Centro Neurolesi “Bonino Pulejo” (Messina) as additional research unit. Project duration: 36 months (**starting date: 21 September 2018**); Overall budget: € 889.020,00 (MOH funding € 449.460,00).

## RESEARCH ACTIVITY

10/2016-present	<b>Research Fellow</b> (Ricercatore a Tempo Determinato - A), Dept. Biomedical and Clinical Sciences “L. Sacco”, Università degli Studi di Milano, Milan, Italy (sponsored by James S. McDonnell Foundation)
01/2020-present	<b>Contract Researcher</b> , IRCCS Fondazione Don Carlo Gnocchi, Milan, Italy (research project: “Rehabilitation of neurological disability”)
03/2017-02/2019	<b>Member and co-founder</b> of the LASEB (Laboratorio di Analisi dei SEgnali Bioelettrici), laboratory for advanced data analysis and processing of bioelectric signals recorded from neural, muscular and cardiac activity, Dept. Biomedical and Clinical Sciences “L. Sacco”, Università degli Studi di Milano, Milan, Italy.
01/2019-12/2019	<b>Contract Researcher</b> , IRCCS Fondazione Don Carlo Gnocchi, Milan, Italy (research projects: “Evaluating the diagnostic role of EEG reactivity in chronic patients with disorders of consciousness” and “Behind an eye blink: a new rehabilitation perspective based on intentional action”)
02/2017-12/2018	<b>Contract Researcher</b> , IRCCS Fondazione Don Carlo Gnocchi, Milan, Italy (research project: “Functional and structural assessment of vegetative state patients”)
07/2016-12/2016	<b>Contract Researcher</b> , IRCCS Fondazione Don Carlo Gnocchi, Milan, Italy (research project: “Behavioral and electrophysiological assessment of learning capacities using computerized assistive technology in patients with disorders of consciousness”)
02/2016-09/2016	<b>Postdoctoral Research Fellow</b> , Dept. Biomedical and Clinical Sciences “L. Sacco”, Università degli Studi di Milano, Milan, Italy (European Project “LUMINOUS” H2020-FETOPEN 686764: “Studying, Measuring and Altering Consciousness through information theory in the electrical brain”)
03/2015-12/2015	<b>Contract Researcher</b> , IRCCS Fondazione Don Carlo Gnocchi, Milan, Italy (research projects: “Behavioral and neurophysiological assessment of learning capacities using computerized assistive technology in patients with disorders of consciousness” and “Fluctuation of behavioral and electrophysiological measures of consciousness in vegetative state and minimally conscious state patients”)

07/2014-12/2014	<b>Contract Researcher</b> , IRCCS Fondazione Don Carlo Gnocchi, Milan, Italy (research project: “Behavioral assessment of patients with disorders of consciousness during nociceptive stimulation: which tools, interactions and effects?”)
02/2014-01/2016	<b>Postdoctoral Research Fellow</b> , Dept. Biomedical and Clinical Sciences “L. Sacco”, Università degli Studi di Milano, Milan, Italy (European Project “CORTICONIC” FP7 600806: “Computations and Organization of Retes Through the Interaction of Computational, Optical and Neurophysiological Investigations of the Cerebral cortex”)
03/2013-02/2014	<b>Contract Researcher</b> , IRCCS Fondazione Don Carlo Gnocchi, Milan, Italy (research project: “Investigation of EEG responses to TMS, to peripheral stimulations and to ‘motor imagery tasks’ in vegetative state patients”)
08/2011-01/2014	<b>Postdoctoral Research Fellow</b> , Dept. Biomedical and Clinical Sciences “L. Sacco”, Università degli Studi di Milano, Milan, Italy (research project: “Combination of transcranial magnetic stimulation and electroencephalography to detect and track plastic changes in human cortical circuits”)
02/2012-02/2013	<b>Contract Researcher</b> , IRCCS Fondazione Don Carlo Gnocchi Onlus, Milan, Italy (research project: “Transcranial magnetic stimulation in chronic patients with disorders of consciousness”)
10/2008-07/2011	<b>Postdoctoral Research Fellow</b> , Dept. Biomedical and Clinical Sciences “L. Sacco”, Università degli Studi di Milano, Milan, Italy (European Project “PredictAD” FP7 224328: “From patient data to personalized healthcare in Alzheimer’s disease”)
07/2006-06/2008	<b>Research scholarship</b> , Laboratory of Clinical Biochemistry and Molecular Biology, Università di Pisa, Pisa, Italy (research project sponsored by the Interdepartmental Research Center “E. Piaggio”, Faculty of Engineering, Università di Pisa, Pisa, Italy: “Analysis and acquisition of ERPs and fMRI data for the functional study of multimodal perception in sighted and blind subjects”)
01/2001-12/2014	<b>Collaboration</b> with Dept. Child and Adolescent Neuropsychiatry, Az. Osp. “G. Salvini”, Rho Hospital, Milan, Italy

## CITATION METRICS

H-index: 20; citations: 1694 (Scopus)

## TECHNICAL AND SCIENTIFIC EXPERTISE

I have been working in the **neurophysiology** field since my MSc degree. My first studies focused on the analysis of **event-related potentials** in healthy and dyslexic children for the investigation of reading-related cognitive processes (Casarotto *et al.*, *Clin Neurophysiol* 2004; Casarotto *et al.*, *IEEE Eng Med Biol Mag* 2005). After my PhD, I moved to the Università di Pisa to develop a multimodal approach aimed at integrating event-related potentials with **functional magnetic resonance images** (Casarotto *et al.*, *Arch Ital Biol* 2008; Casarotto *et al.*, *Arch Ital Biol* 2012). In 2008 I started working at the Department of Biomedical and Clinical Sciences “L. Sacco” Università

degli Studi di Milano, on the combination of **transcranial magnetic stimulation (TMS)** and electroencephalography (EEG) to investigate brain functioning in different physiological and pathological conditions. I have performed several methodological works that contributed to demonstrate the reliability of TMS-EEG recordings (*Casarotto et al., PLoS One 2010*) and to develop **synthetic indices of cortical excitability and effective connectivity** (*Casali, Casarotto et al., Neuroimage 2010*). I have successfully exploited the **neurophysiological measures** developed in these methodological studies in subsequent works with translational clinical applications: **Alzheimer's disease** (*Casarotto et al., Neuroreport 2011*), **depression** (*Casarotto et al., Brain Topogr 2013; Canali, Casarotto et al., Eur Psychiatry 2017*), **Parkinson's disease** (*Casarotto et al., Brain Stimul 2019*). Specifically, I have contributed to the development of a **neurophysiological index of brain complexity** (*Casali et al., Sci Transl Med 2013*) that measures the information content of EEG responses to TMS and is theoretically related to consciousness. I have validated this perturbational complexity index (PCI) in a large benchmark population, deriving an empirical cutoff to discriminate between consciousness and unconsciousness; then, I have shown that **this index can detect with unprecedented sensitivity the potentiality for consciousness in unresponsive severely brain-injured patients** (*Casarotto et al., Ann Neurol 2016*). This work has been commented by Christof Koch and reported on the **cover of Scientific American** (Nov 2017 pp. 28-33, "How to make a consciousness meter"); furthermore, it has been recently included in the **updated guidelines for the evaluation of patients with disorders of consciousness** (Giacino et al., *Neurology* 2018;91:461-70, "Comprehensive systematic review update summary: Disorders of consciousness"; Kondziella et al., *Eur J Neurology* 2020; "European Academy of Neurology guideline on the diagnosis of coma and other disorders of consciousness"). Finally, this work has inspired the implementation of an alternative computational procedure suitable for **routine clinical application** (*Comolatti, Pigorini, Casarotto et al., Brain Stimul 2019*) and has encouraged the investigation of the **neurophysiological mechanisms** responsible for pathological loss of consciousness (*Rosanova, Fecchio, Casarotto et al., Nat Commun 2019*). I have further detailed the usefulness of TMS-EEG in the consciousness field within two book chapters (*Casarotto et al., 2017, SM Krieg Ed., Navigated Transcranial Magnetic Stimulation in Neurosurgery, Springer International Publishing; Casarotto et al., 2016, MM Monti, WG Sannita Eds, Brain Function and Responsiveness in Severe Disorders of Consciousness, Springer, Springer Science + Business Media*).

## MEMBERSHIP OF EDITORIAL BOARDS

02/05/2017-present	Review Editor for the international journal "Frontiers in Systems Neuroscience"
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## LANGUAGES

*Italian*: native

*English*: written/spoken very good (TOEFL 1999: marks 240)

## COMPUTER SKILLS

Operating systems:	Windows and Linux
Programming:	Matlab, C/C++
Data processing:	AFNI-Analysis of Functional Neuroimages, SPM-Statistical Parametric Mapping, MRlcro-magnetic resonance imaging, Statistica, R
Computer graphics:	Adobe Photoshop, Illustrator, Inkscape, GIMP
Microsoft Office:	Word, Excel, Power Point, Access, Outlook

## TEACHING ACTIVITIES

Academic Year 2017/2018	Teacher, course of Physiology, Master's Degree in Medicine and Surgery, Department of Biomedical and Clinical Sciences "L. Sacco", Faculty of Medicine, Università degli Studi di Milano, Milan, Italy; 14 hours
Academic Year 2018/2019	Teacher, course of Physiology, Master's Degree in Medicine and Surgery, Department of Biomedical and Clinical Sciences "L. Sacco", Faculty of Medicine, Università degli Studi di Milano, Milan, Italy; 12 hours
Academic Year 2018/2019	Teacher, course of Physiology, Bachelor's Degree in Orthopaedics Techniques, Department of Biomedical, Surgical and Dental Sciences, Faculty of Medicine, Università degli Studi di Milano, Milan, Italy; 20 hours
Academic Year 2019/2020	Teacher, course of Physiology, Master's Degree in Medicine and Surgery, Department of Biomedical and Clinical Sciences "L. Sacco", Faculty of Medicine, Università degli Studi di Milano, Milan, Italy; 12 hours
Academic Year 2019/2020	Teacher, course of Physiology, Master's Degree in Medicine and Surgery, Department of Biomedical and Clinical Sciences "L. Sacco", Faculty of Medicine, Università degli Studi di Milano, Milan, Italy; 30 hours
01/01/2012-31/12/2014	Cultore della materia (Honorary Fellow) in the field of Physiology (settore scientifico-disciplinare BIO/09 Fisiologia)

## TUTORING ACTIVITIES

Academic Year 2019/2020	External Examiner, PhD Degree in Mathematics, Science, and Information and Communication Technology, University of Rennes 1, Rennes, France: Jennifer Rizkallah, "Characterization of neocortical networks from high-resolution EEG: application to disorders of consciousness"
Academic year 2016/2017	External Examiner, Master's degree in Neuroscience, Norwegian University of Science and Technology, Trondheim, Norway: Nadine Farnes, "Perturbational Complexity Index compared between normal wakefulness and sub-anaesthetic ketamine"
Academic year 2016/2017	Thesis advisor, PhD Degree in Philosophy and Human Sciences, Università degli Studi di Milano, Milan, Italy: Chiara Camilla Derchi, "Behind an eye blink: a new empirical perspective on intentional action"
Academic year 2015/2016	Thesis advisor, Master's Degree in Medicine and Surgery, Università degli Studi di Milano, Milan, Italy: Ceriani Marina, "Analisi elettroencefalografica ed elettromiografica del blink spontaneo e volontario in soggetti sani: studio preliminare da applicare a pazienti con disturbi di coscienza" [Electroencephalographic and electromyographic analysis of spontaneous and voluntary blink in healthy subjects: preliminary study aimed at the application to disorders of consciousness]

- Academic year 2015/2016 Thesis advisor, Master of Science in Biomedical Engineering, Politecnico di Milano: Riccio Gabriele, “Valutazione del livello di coscienza tramite la complessità dei potenziali evocati dalla TMS: visualizzazione ottimizzata dei segnali in tempo reale e verifica di riproducibilità con due diversi amplificatori EEG” [Assessment of the level of consciousness based on the complexity of TMS-evoked potentials: optimized display of recorded signals in real time and reproducibility test with two different EEG amplifiers]
- Academic year 2009/2010 Thesis advisor, Master of Science in Biomedical Engineering, Politecnico di Milano, Milan, Italy: Fecchio Matteo, “Development and optimization of mathematical and statistical methods for estimating cortical sources of electroencephalographic potentials evoked by transcranial magnetic stimulation [Sviluppo ed ottimizzazione di metodi matematici e statistici per la stima delle sorgenti corticali dei potenziali evocati dalla stimolazione magnetica transcranica]”

## PARTICIPATION TO SOCIETIES

- 12/2007-12/2009 **Advisor** within the Leading Council of the Italian Society of Psychophysiology (Società Italiana di Psicofisiologia - SIPF)
- 06/2006-12/2009 **Secretary** of the Federation of European Psychophysiology Societies (FEPS)
- 12/2005-12/2007 **Auditor** within the Leading Council of the Italian Society of Psychophysiology (Società Italiana di Psicofisiologia - SIPF)

## PUBLICATIONS

### Peer-reviewed journal papers

1. Comolatti R, Pigorini A, **Casarotto S**, Fecchio M, Faria G, Sarasso S, Rosanova M, Gosseries O, Boly M, Bodart O, Ledoux D, Brichant J-F, Nobili L, Laureys S, Tononi G, Massimini M, Casali AG (2019). A fast and general method to empirically estimate the complexity of brain responses to transcranial and intracranial stimulations. *Brain Stimulation*, 12(5):1280-1289. DOI:10.1016/j.brs.2019.05.013; ISSN: 1935-861X; IF 6.919; n. cit. 1
2. Tremblay S, Rogasch NC, Premoli I, Blumberger DM, **Casarotto S**, Chen R, Di Lazzaro V, Farzan F, Ferrarelli F, Fitzgerald PB, Hui J, Ilmoniemi RJ, Kimiskidis VK, Kugiumtzis D, Lioumis P, Pascual-Leone A, Pellicciari MC, Rajji T, Thut G, Zomorodi R, Ziemann U, Daskalakis ZJ (2019). Clinical utility and prospective of TMS-EEG. *Clinical Neurophysiology*, 130(5):802-844. DOI:10.1016/j.clinph.2019.01.001; ISSN: 1388-2457; IF 3.675; n. cit. 21
3. Belardinelli P, Biabani M, Blumberger DM, Bortoletto M, **Casarotto S**, David O, Desideri D, Etkin A, Ferrarelli F, Fitzgerald PB, Fornito A, Gordon PC, Gosseries O, Harquel S, Julkunen P, Keller CJ, Kimiskidis VK, Lioumis P, Miniussi C, Rosanova M, Rossi S, Sarasso S, Wu W, Zrenner C, Daskalakis ZJ, Rogasch NC, Massimini M, Ziemann U, Ilmoniemi RJ (2019): Reproducibility in TMS-EEG studies: A call for data sharing, standard procedures and effective experimental control. *Brain Stimulation*, 12(3):787-790. DOI:10.1016/j.brs.2019.01.010; ISSN: 1935-861X; IF 6.919; n. cit. 6

4. Colombo MA, Napolitani M, Boly M, Gosseries O, **Casarotto S**, Rosanova M, Brichant JF, Boveroux P, Rex S, Laureys S, Massimini M, Chierogato A, Sarasso S (2019): The spectral exponent of the resting EEG indexes the presence of consciousness during unresponsiveness induced by propofol, xenon, and ketamine. *NeuroImage*, 189:631-644. DOI:10.1016/j.neuroimage.2019.01.024; ISSN: 1053-8119; IF 5.812; n. cit. 5
5. **Casarotto S**, Turco F, Comanducci A, Perretti A, Marotta G, Pezzoli G, Rosanova M, Isaia IU (2019): Excitability of the supplementary motor area in Parkinson's disease depends on subcortical damage. *Brain Stimulation*, 12(1):152-160. DOI:10.1016/j.brs.2018.10.011; ISSN: 1935-861X; IF 6.919; n. cit. 2
6. Rosanova M, Fecchio M, **Casarotto S**, Sarasso S, Casali AG, Pigorini A, Comanducci A, Seregni F, Devalle G, Bodart O, Boly M, Gosseries O, Laureys S, Massimini M (2018): Sleep-like cortical OFF-periods disrupt causality and complexity in the brain of unresponsive wakefulness syndrome patients. *Nature Communication*, 9(1):4427, DOI:10.1038/s41467-018-06871-1; ISSN: 2041-1723; IF 11.878; n. cit. 13
7. Bodart O, Fecchio M, Massimini M, Wannez S, Virgillito A, **Casarotto S**, Rosanova M, Lutz A, Ricard M, Laureys S, Gosseries O (2018): Meditation-induced modulation of brain response to transcranial magnetic stimulation. *Brain Stimulation*, 11(6):1397-1400. DOI:10.1016/j.brs.2018.08.018; ISSN: 1935-861X; IF 6.919; n. cit. 1
8. Sueri C, Gasparini S, Balestrini S, Labate A, Gambardella A, Russo E, Leo A, **Casarotto S**, Pittau F, Trimboli M, Cianci V, Ascoli M, Cavalli SM, Ferrigno G, Aguglia U, Ferlazzo E (2018): Diagnostic Biomarkers of Epilepsy. *Current Pharmaceutical Biotechnology*, 19(6):440-450. DOI:10.2174/1389201019666180713095251; ISSN: 1873-4316; IF 1.516; n. cit. 3
9. Tobaldini E, Toschi-Dias E, Trimarchi PD, Brena N, Comanducci A, **Casarotto S**, Montano N, Devalle G (2018): Cardiac autonomic responses to nociceptive stimuli in patients with chronic disorders of consciousness. *Clinical Neurophysiology*, 129(5):1083-1089. DOI:10.1016/j.clinph.2018.01.068; ISSN: 1388-2457; IF 3.675; n. cit. 6
10. Bodart O, Amico E, Gómez F, Casali AG, Wannez S, Heine L, Thibaut A, Annen J, Boly M, **Casarotto S**, Rosanova M, Massimini M, Laureys S, Gosseries O (2018): Global structural integrity and effective connectivity in patients with disorders of consciousness. *Brain Stimulation*, 11(2):358-365. DOI:10.1016/j.brs.2017.11.006; ISSN: 1935-861X; IF 6.919; n. cit. 6
11. Fecchio M, Pigorini A, Comanducci A, Sarasso A, **Casarotto S**, Premoli I, Derchi CC, Mazza A, Russo S, Resta F, Ferrarelli F, Mariotti M, Ziemann U, Massimini M, Rosanova M (2017): The spectral features of EEG responses to transcranial magnetic stimulation of the primary motor cortex depend on the amplitude of the motor evoked potentials. *PLoS One*, 12(9):e0184910. DOI:10.1371/journal.pone.0184910; ISSN: 1932-6203; IF 2.766; n. cit. 21
12. Bodart O, Gosseries O, Wannez S, Thibaut A, Annen J, Boly M, Rosanova M, Casali AG, **Casarotto S**, Tononi G, Massimini M, Laureys S (2017): Measures of metabolism and complexity in the brain of patients with disorders of consciousness. *NeuroImage: Clinical*, 14:354-362. DOI:10.1016/j.nicl.2017.02.002; ISSN: 2213-1582; IF 3.943; n. cit. 29
13. Canali P, **Casarotto S**, Rosanova M, Sferrazza-Papa G, Casali AG, Gosseries O, Massimini M, Smeraldi E, Colombo C, Benedetti F (2017): Abnormal brain oscillations persist after recovery from bipolar depression. *European Psychiatry*, 41:10-15. DOI:10.1016/j.eurpsy.2016.10.005; ISSN: 0924-9338; IF 4.129; n. cit. 7
14. **Casarotto S**, Comanducci A, Rosanova M, Sarasso S, Fecchio M, Napolitani M, Pigorini A, G Casali A, Trimarchi PD, Boly M, Gosseries O, Bodart O, Curto F, Landi C, Mariotti M, Devalle G, Laureys S, Tononi G, Massimini M (2016): Stratification of unresponsive patients by an independently validated index of brain complexity. *Annals of Neurology*, 80(5):718-729. DOI:10.1002/ana.24779; ISSN:1531-8249; IF 9.89; n. cit. 67

15. Romero Lauro LJ, Pisoni A, Rosanova M, **Casarotto S**, Mattavelli G, Bolognini N, Vallar G (2016): Localizing the effects of anodal tDCS at the level of cortical sources: A Reply to Bailey et al., 2016. *Cortex*, 74:323-328. DOI:10.1016/j.cortex.2015.04.023; ISSN: 0010-9452; IF 4.279; n. cit. 12
16. Sarasso S, Boly M, Napolitani M, Gosseries O, Charland-Verville V, **Casarotto S**, Rosanova M, Casali AG, Brichant J-F, Boveroux P, Rex S, Tononi G, Laureys S, Massimini M (2015): Consciousness and complexity during unresponsiveness induced by propofol, xenon and ketamine. *Current Biology*, 25(23):3099-3105. DOI:10.1016/j.cub.2015.10.014; ISSN: 09609822; IF 8.983; n. cit. 89
17. Canali P, Sarasso S, Rosanova M, **Casarotto S**, Sferrazza-Papa G, Gosseries O, Fecchio M, Massimini M, Mariotti M, Cavallaro R, Smeraldi E, Colombo C, Benedetti F (2015): Shared reduction of oscillatory natural frequencies in bipolar disorder, major depressive disorder and schizophrenia. *Journal of Affective Disorders*, 184:111-115. DOI:10.1016/j.jad.2015.05.043; ISSN: 0165-0327; IF 3.57; n. cit. 20
18. Pigorini A, Sarasso S, Proserpio P, Szymanski C, Arnulfo G, **Casarotto S**, Fecchio M, Rosanova M, Mariotti M, Lo Russo G, Palva JM, Nobili L, Massimini M (2015): Bistability breaks-off deterministic responses to intracortical stimulation during non-REM sleep. *NeuroImage*, 112:105-113. DOI:10.1016/j.neuroimage.2015.02.056; ISSN: 1053-8119; IF 5.463; n. cit. 67
19. Gosseries O, Sarasso S, **Casarotto S**, Boly M, Schnakers C, Napolitani M, Bruno M-A, Ledoux D, Tshibanda J, Massimini M, Laureys S, Rosanova M (2015): On the cerebral origin of EEG responses to TMS: insights from severe cortical lesions. *Brain Stimulation*, 8(1):142-149. DOI:10.1016/j.brs.2014.10.008; ISSN: 1935-861X; IF 4.793; n. cit. 36
20. Chiarenza GA, Di Pietro SF, **Casarotto S** (2014): The psychophysiology of reading. *International Journal of Psychophysiology*, 94(2):111-119. DOI:10.1016/j.ijpsycho.2014.09.002; ISSN: 0167-8760; IF 2.882; n. cit. 2
21. Sarasso S, Rosanova M, Casali AG, **Casarotto S**, Fecchio M, Boly M, Gosseries O, Tononi G, Laureys S, Massimini M (2014): Quantifying cortical EEG responses to TMS in (un)consciousness. *Clinical EEG & Neuroscience*, 45(1):40-49. DOI:10.1177/1550059413513723; ISSN: 1550-0594; IF 2.219; n. cit. 45
22. Casali AG, Gosseries O, Rosanova M, Boly M, Sarasso S, Casali KR, **Casarotto S**, Bruno MA, Laureys S, Tononi G, Massimini M (2013): A theoretically based index of consciousness independent of sensory processing and behavior. *Science Translational Medicine*, 5(198):198ra105. DOI:10.1126/scitranslmed.3006294; ISSN: 1946-6242; IF 14.414; n. cit. 348
23. Chiarenza GA, Olgiati P, Trevisan C, De Marchi I, **Casarotto S** (2013): Reading aloud: a psychophysiological investigation in children. *Neuropsychologia*, 51(3):425-436. DOI:10.1016/j.neuropsychologia.2012.11.030; ISSN: 0028-3932; IF 3.451; n. cit. 2
24. **Casarotto S**, Canali P, Rosanova M, Pigorini A, Fecchio M, Mariotti M, Lucca A, Colombo C, Benedetti F, Massimini M (2013): Assessing the effects of electroconvulsive therapy on cortical excitability by means of transcranial magnetic stimulation and electroencephalography. *Brain Topography*, 26(2):326-337. DOI:10.1007/s10548-012-0256-8; ISSN: 1573-6792; IF 2.519; n. cit. 39
25. Huber R, Mäki H, Rosanova M, **Casarotto S**, Canali P, Casali AG, Tononi G, Massimini M (2013): Human cortical excitability increases with time awake. *Cerebral Cortex*, 23(2):332-338. DOI:10.1093/cercor/bhs014; ISSN: 1460-2199; IF 8.305; n. cit. 124
26. **Casarotto S**, Ricciardi E, Romani S, Dalli D, Pietrini P (2012): Covert brand recognition engages emotion-specific brain networks. *Archives Italiennes de Biologie*, 150(4):259-273. DOI:10.4449/aib.v150i4.1478; ISSN: 0003-9829; IF 1.433; n. cit. 0



27. Rosanova M, Gosseries O, **Casarotto S**, Boly M, Casali AG, Bruno M-A, Mariotti M, Boveroux P, Tononi G, Laureys S, Massimini M (2012): Recovery of cortical effective connectivity and recovery of consciousness in vegetative patients. *Brain*, 135(4):1308-1320. DOI:10.1093/brain/awr340; ISSN: 1460-2156; IF 9.915; n. cit. 229
28. Niskanen E, Könönen M, Määttä S, Hallikainen M, Kivipelto M, **Casarotto S**, Massimini M, Vanninen R, Mervaala E, Karhu J, Soininen H (2011): New insights into Alzheimer's disease progression: a combined TMS and structural MRI study. *PLoS One*, 6(10):e26113. DOI:10.1371/journal.pone.0026113; ISSN: 1932-6203; IF 4.092; n. cit. 27
29. **Casarotto S**, Määttä S, Herukka S-K, Pigorini A, Napolitani M, Gosseries O, Niskanen E, Könönen M, Mervaala E, Rosanova M, Soininen H, Massimini M (2011): Transcranial magnetic stimulation-evoked EEG/cortical potentials in physiological and pathological aging. *Neuroreport*, 22:592-597. DOI:10.1097/WNR.0b013e328349433a; ISSN: 0959-4965; IF 1.656; n. cit. 29
30. Pigorini A, Casali AG, **Casarotto S**, Ferrarelli F, Baselli G, Mariotti M, Massimini M, Rosanova M (2011): Time-frequency spectral analysis of TMS-evoked EEG oscillations by means of Hilbert-Huang transform. *Journal of Neuroscience Methods*, 198:236-245. DOI:10.1016/j.jneumeth.2011.04.013; ISSN: 0165-0270; IF 1.98; n. cit. 34
31. Massimini M, Ferrarelli F, Murphy MJ, Huber R, Riedner BA, **Casarotto S**, Tononi G (2010): Cortical reactivity and effective connectivity during REM sleep in humans. *Cognitive Neuroscience*, 1(3):176-183. DOI:10.1080/2F17588921003731578; ISSN: 0898-929X; IF 3.417; n. cit. 106
32. **Casarotto S**, Romero Lauro JL, Bellina V, Casali AG, Rosanova M, Pigorini A, Defendi S, Mariotti M, Massimini M (2010): EEG responses to TMS are sensitive to changes in the perturbation parameters and repeatable over time. *PLoS One*, 5(4):e10281. DOI:10.1371/journal.pone.0010281; ISSN: 1932-6203; IF 4.414; n. cit. 102
33. Casali AG, **Casarotto S**, Rosanova M, Mariotti M, Massimini M (2010): General indices to characterize the electrical response of the cerebral cortex to TMS. *Neuroimage*, 49(2):1459-1468. DOI:10.1016/j.neuroimage.2009.09.026; ISSN: 1053-8119; IF 5.932; n. cit. 80
34. Assecondi S, Bianchi AM, Hallez H, Staelens S, **Casarotto S**, Lemahieu I, Chiarenza GA (2009): Automated identification of ERP peaks through Dynamic Time Warping: an application to developmental dyslexia. *Clinical Neurophysiology*, 120(10):1819-1827. DOI:10.1016/j.clinph.2009.06.023; ISSN: 1388-2457; IF 2.786; n. cit. 3
35. Mangina CA, Beuzeron-Mangina H, Ricciardi E, Pietrini P, Chiarenza GA, **Casarotto S** (2009): Neural correlates of "analytical-specific visual perception" and degree of task difficulty as investigated by the Mangina-Test: a functional magnetic resonance imaging (fMRI) study in young healthy adults. *International Journal of Psychophysiology*, 73(2):150-156. DOI:10.1016/j.ijpsycho.2009.04.009; ISSN: 0167-8760; IF 2.378; n. cit. 6
36. Mangina CA, Beuzeron-Mangina H, **Casarotto S**, Chiarenza GA, Pietrini P, Ricciardi E (2009): Modulation of specific brain activity by the perceptual analysis of very subtle geometrical relationships of the Mangina-Test stimuli: a functional magnetic resonance imaging (fMRI) investigation in young healthy adults. *International Journal of Psychophysiology*, 73(2):157-163. DOI:10.1016/j.ijpsycho.2009.04.010; ISSN: 0167-8760; IF 2.378; n. cit. 4
37. **Casarotto S**, Bianchi AM, Ricciardi E, Gentili C, Vanello N, Guazzelli, Pietrini P, Chiarenza GA, Cerutti S (2008): Spatiotemporal dynamics of single-letter reading: a combined ERP-fMRI study. *Archives Italiennes de Biologie*, 146(2):83-105. DOI:10.4449/aib.v146i2.560; ISSN: 0003-9829; IF 0.778; n. cit. 7
38. **Casarotto S**, Bianchi AM, Cerutti S, Vanello N, Ricciardi E, Gentili C, Sani L, Bonino D, Guazzelli M, Pietrini P, Landini L, Chiarenza GA (2006): Combination of event-related

- potentials and functional magnetic resonance imaging during single-letter reading. *Conf Proc IEEE Eng Med Biol Soc*, 1:984-987. [28th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 30 Aug-3 Sep 2006, New York, USA]. DOI:10.1109/IEMBS.2006.259272; ISSN: 1094-687X
39. **Casarotto S**, Bianchi AM, Cerutti S, Chiarenza GA (2005): Dynamic Time Warping in the analysis of event-related potentials. *IEEE Engineering in Medicine and Biology Magazine*, 24(1): 68-77. DOI:10.1109/MEMB.2005.1384103; ISSN: 0018-9294; IF 2.828; n. cit. 11
  40. **Casarotto S**, Bianchi AM, Cerutti S, Chiarenza GA (2004): Principal Component Analysis for reduction of ocular artefacts in event-related potentials of normal and dyslexic children. *Clinical Neurophysiology*, 115(3): 609-619. DOI:10.1016/j.clinph.2003.10.018; ISSN: 1388-2457; IF 2.786; n. cit. 47
  41. **Casarotto S**, Bianchi AM, Cerutti S, Chiarenza GA, Maccagnano E, Vitali P (2004): A pilot study of the reading processes combining reading-related potentials (RRPs) and fMRI. *Conf Proc IEEE Eng Med Biol Soc*, 3:1892-1895. [26th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 1-4 Sep 2004, San Francisco (CA), USA]. DOI: 10.1109/IEMBS.2004.1403561; ISSN: 1094-687X
  42. Chiarenza GA, **Casarotto S** (2004): Imparare a leggere: i meccanismi psicofisiologici. Quaderni ACP (Associazione Culturale Pediatri), 11(5):212-215. ISSN:2039-1382

## Book chapters

1. **Casarotto S**, Comanducci A, Sarasso S, Fecchio M, Rosanova M, Massimini M (2017): The potential of nTMS/EEG: measuring consciousness. In: SM Krieg Ed., *Navigated Transcranial Magnetic Stimulation in Neurosurgery*. Springer International Publishing. pp 257-265. DOI:10.1007/978-3-319-54918-7\_16; ISBN: 978-3-319-54918-7
2. **Casarotto S**, Rosanova M, Gosseries O, Boly M, Massimini M, Sarasso S (2016): Exploring the neurophysiological correlates of loss and recovery of consciousness: perturbational complexity. In: *Brain Function and Responsiveness in Severe Disorders of Consciousness*. MM Monti, WG Sannita Eds., Springer, Springer Science + Business Media. pp 93-104. DOI:10.1007/978-3-319-21425-2; ISBN: 978-3-319-21425-2; n. cit. 4
3. Rosanova M, **Casarotto S**, Pigorini A, Canali P, Casali AG, Massimini M (2012): Combining Transcranial Magnetic Stimulation with electroencephalography to study human cortical excitability and effective connectivity. In: *Neuromethods series, Neuronal Network Analysis: Concepts and Experimental Approaches*. T Fellin, M Halassa Eds., Humana Press, Springer Science + Business Media. Vol. 67, pp. 435-457. DOI:10.1007/7657\_2011\_15; ISBN: 978-1-61779-632-6; n. cit. 10
4. **Casarotto S**, Pigorini A, Casali AG, Canali P, Rosanova M, Massimini M (2011): Approccio elettrofisiologico allo studio dell'eccitabilità e connettività corticale nell'uomo: metodi ed applicazioni cliniche. In: *Neuroinformatica*. MM Fato, MC Gilardi, A Schenone Eds., Bologna: Patron Editore. pp. 71-85. ISBN: 8855531255
5. Rosanova M, Casali AG, **Casarotto S**, Massimini M (2009): Un approccio perturbazionale allo studio dei circuiti talamocorticali nell'uomo. In: *Bioingegneria per le neuroscienze cognitive*, F. Babiloni, G. Baselli, A. Bertoldo, E. Biondi, C. Cobelli Eds. Bologna: Patron Editore. pp. 185-198. ISBN: 9788855530361

## ORGANIZATION OF CONFERENCES

Member of the Scientific Committee - 2nd Moscow International Conference "Non invasive brain stimulation and functional brain mapping", Moscow, Russia; 25-27/05-2017

## INTERNATIONAL CONFERENCES PARTICIPATION

### 2003-2010

1. Speaker - *25th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, Cancun, Mexico: "Dynamic Time Warping in the study of ERPs in dyslexic children"; 17-21/09/2003
2. Speaker - *Xth Mediterranean Conference on Medical and Biological Engineering (MEDICON)*, Ischia, Italy: "Reduction of ocular artefacts with PCA and analysis of reading function with ERPs"; 31/07-05/08/2004
3. Speaker - *III European Medical and Biological Engineering Conference (EMBEC)*, Prague, Czech Republic: "Methodological study of reading processes with ERPs and ER-fMRI"; 20-25/11/2005
4. Poster presentation - *12th Annual Meeting of the Organization for Human Brain Mapping*, Florence, Italy: "A combined ERPs and fMRI approach to investigate the neural correlates of reading in the human brain"; 11-15/06/2006
5. Invited Speaker - *13th World Congress of Psychophysiology IOP*, Istanbul, Turkey: "Physiological reading processes by integrating ERP and fMRI data"; 28/08-02/09/2006
6. Poster presentation - 13th Annual Meeting of the Organization for Human Brain Mapping, Chicago (IL), USA: "Single-letter reading elicits a different spatio-temporal modulation of brain activity in dyslexic children as compared to healthy controls"; 10-14/06/2007
7. Poster presentation - 13th Annual Meeting of the Organization for Human Brain Mapping, Chicago (IL), USA: "ERPs disclose the specificity of spatio-temporal patterns of brain activity during self-paced reading aloud"; 10-14/06/2007
8. Invited Speaker - *XIII Congress of the European Society for Child and Adolescent Psychiatry (ESCAP)*, Firenze, Italy: "Speech, language and learning disabilities: distributed source imaging of single-letter regarding aloud in healthy and dyslexic children"; 25-29/08/2007
9. Poster presentation - 14th Annual Meeting of the Organization for Human Brain Mapping, Melbourne, Australia: "Covert visual brand recognition results in a distinct modulation of emotional neuronal networks according to the individual preference: a fMRI study"; 15-19/06/2008
10. Poster presentation - 14th World Congress of Psychophysiology IOP, St. Petersburg, Russia: "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"; 08-13/09/2008
11. Poster presentation - 14th World Congress of Psychophysiology IOP, St. Petersburg, Russia: "Neural correlates of *analytical-specific visual perception* as investigated by the Mangina-Test: a functional magnetic resonance imaging study in young healthy adults"; 08-13/09/2008
12. Poster presentation - *15th Annual Meeting of the Organization for Human Brain Mapping*, San Francisco (CA), USA: "A data-driven procedure to characterize the electrophysiology of any cortical area using TMS/hd-EEG"; 18-23/06/2009
13. Invited speaker - *20th Congress of the European Sleep Research Society (ESRS)*, Lisbon, Portugal: "Sleep deprivation, cortical excitability and depression: a TMS/EEG study"; 14-18/09/2010

### 2011-2020

14. Invited Speaker - *14th Kuopio Bio-NMR Workshop & PredictAD Workshop*, Kuopio, Finland: "Transcranial magnetic stimulation and electrophysiological biomarkers in diagnosis of AD"

within the Workshop organized by the European Project PREDICTAD FP7 224328: FROM PATIENT DATA TO PERSONALIZED HEALTHCARE IN ALZHEIMER'S DISEASE; 13-15/06/2011

15. Poster presentation - *Alzheimer's Association International Conference, Paris, France*: "Characterization of the cortical response to TMS in Alzheimer's disease"; 16-21/07/2011
16. Poster presentation - *9th Forum of the Federation of European Neuroscience Societies, Milan, Italy*: "Fluctuations of the level of consciousness in Minimally Conscious State patients"; 05-09/07/2014
17. Invited Speaker - *2nd TMS/EEG Science Factory (Summer School/Workshop), Helsinki, Finland*: "TMS/EEG Data Analysis Workshop"; 08-13/09/2014
18. Invited speaker - *Wintersymposium SLEEP, COGNITION AND CONSCIOUSNESS, Kaprun, Austria*: "Perturbational Complexity Index: a two-step validation in healthy controls and disorders of consciousness"; 22-25/01/2015
19. Invited speaker - *RoboBusiness Europe, Milano, Italy*: "Consciousness and complexity: from theory to practice" within the Workshop HIGH-TECH REHAB: INNOVATION EMPOWERS DISRUPTIVE CARE organized by Fondazione Don Gnocchi; 29-30/04/2015
20. Invited speaker - *1st Moscow Conference with international participation TRANSCRANIAL MAGNETIC STIMULATION: FROM CURRENT STATE-OF-ART TO FUTURE HORIZONS, Moscow, Russia*: "Consciousness and complexity: a TMS/EEG approach"; 04-05/06/2015
21. Invited speaker - *3rd TMS/EEG Science Factory (Summer School/Workshop), Helsinki, Finland*: "Tips and tricks for TMS/EEG data recording and analysis" and "TMS/EEG Data Analysis Workshop"; 07-12/09/2015
22. Invited speaker - *4th TMS/EEG Science Factory (Summer School/Workshop), Helsinki, Finland*: "TMS/EEG Data Analysis Workshop"; 06-11/06/2016
23. Invited speaker - *2nd Moscow International Conference NON-INVASIVE BRAIN STIMULATION AND FUNCTIONAL BRAIN MAPPING, Moscow, Russia*: "Towards quantitative measurement of consciousness: TMS-EEG, PCI"; 25-27/05/2017
24. Invited Speaker - *5th TMS/EEG Science Factory (Summer School/Workshop), Helsinki, Finland*: "Introduction to data analysis" and "Signal processing and data analysis workshop"; 04-09/09/2017
25. Invited speaker - *6th TMS/EEG Science Factory (Summer School/Workshop), Helsinki, Finland*: "TMS/EEG Data Analysis Workshop"; 18-23/05/2018
26. Invited speaker - *7th International Summer School of Neuroengineering MASSIMO GRATTAROLA, Genova, Italy*: "A perturbational approach to non-invasively measure brain responses to direct stimulation: estimating excitability, effective connectivity and complexity"; 18-22/06/2018
27. Invited speaker - *School of Neurointensive Care: Update 2018, Como, Italy*: "Unravelling coma and altered consciousness states"; 04-08/06/2018
28. Invited speaker - *19th World Congress of Psychophysiology IOP, Lucca, Italy*: "A non-invasive perturbation approach to disorders of consciousness"; 04-08/09/2018
29. Invited speaker - *Multimodal Non-Invasive Brain Stimulation Seminar series - University of Bern, Switzerland*: "A non-invasive perturbation approach to disorders of consciousness"; 13/03/2019
30. Invited speaker - *7th TMS/EEG Science Factory (Summer School/Workshop), Helsinki, Finland*: "TMS/EEG Hands-on and Data Analysis Workshop"; 17-22/05/2019
31. Invited speaker - *Merton College, University of Oxford, UK*: "Studying, Measuring and Altering Consciousness"; within the Workshop organized by the European Project LUMINOUS

H2020-FETOPEN 686764: STUDYING, MEASURING AND ALTERING CONSCIOUSNESS THROUGH INFORMATION THEORY IN THE ELECTRICAL BRAIN; 20-21/11/2019

32. Invited speaker - *International Symposium MIDOC 2019 BIOMARKERS OF AWARENESS AND WAKEFULNESS AND THERAPEUTIC OPTIONS IN PATIENTS WITH DISORDERS OF CONSCIOUSNESS, Milan, Italy*: “A non-invasive perturbational approach to DoC”; 16-17/12/2019

## NATIONAL CONFERENCES PARTICIPATION

### 2003-2010

1. Speaker - *XI National Conference of the Italian Society of Psychophysiology (SIPF), Pisa, Italy*: “La rimozione degli artefatti oculari nei potenziali lettura-correlati: metodo ed applicazione clinica” [Reduction of ocular artifacts in reading-related potentials]; 14-16/2/2003
2. Speaker - *XII National Conference of the Italian Society of Psychophysiology (SIPF), Alghero, Italy*: “Single-sweep analysis of reading-related potentials”; 09-11/10/2004
3. Invited Speaker - *XIII National Conference of the Italian Society of Psychophysiology (SIPF), Marina di Carrara, Italy*: “Mapping funzionale dei processi di lettura” [Functional mapping of reading processes]; 02-04/12/2005
4. Speaker - *101° National Conference of the Italian Federation of Electronics, Automation, Informatics and Telecommunications (AEIT), Capri, Italy*: “Integrazione di potenziali evocati evento-relati e risonanza magnetica funzionale durante protocolli di lettura” [Integrating event-related potentials and functional magnetic resonance imaging during reading processes]; 16-20/09/2006
5. Speaker - *XVII National Conference of the Italian Society of Psychophysiology (SIPF), Siena, Italy*: “Caratterizzazione della risposta corticale alla TMS nella malattia di Alzheimer” [Characterization of the cortical response to TMS in Alzheimer’s disease]; 28-31/10/2009
6. Invited speaker - *XIV Annual Meeting of the Italian Society for Sleep Research (SIRS), Bologna, Italy*: “Modificazioni dell’eccitabilità delle corteccie frontali in pazienti depressi trattati con privazione di sonno” [Excitability changes in the frontal cortex of depressed patients during sleep deprivation]; 14-15/11/2009

### 2011-2020

7. Invited speaker - *XXX Annual School of the National Group of Bioengineering NEUROINFORMATICS, Bressanone, Italy*: “Approccio elettrofisiologico allo studio dell’eccitabilità e connettività corticale nell’uomo: metodi ed applicazioni cliniche” [Electrophysiological approach to study cortical excitability and connectivity in humans: methodology and clinical applications]; 19-23/09/2011
8. Invited speaker - *XXI National Conference of the Italian Society of Psychophysiology (SIPF), Lecce, Italy*: “Caratterizzazione della reattività corticale nella malattia di Alzheimer e nella depressione” [Characterizing cortical reactivity in Alzheimer’s disease and depression]; 24-26/10/2013
9. Poster presentation - *XXI National Congress of the Italian Society of Psychophysiology, Lecce, Italy*: “Perturbational complexity in chronic patients”; 24-26/10/2013
10. Invited speaker - *Workshop within a course for neurophysiopathology technicians UNITI DALLA NEUROFISIOLOGIA - III EDIZIONE [TOGETHER FOR NEUROPHYSIOLOGY - III EDITION]*: “EEG-TMS: una misura oggettiva dello stato di coscienza” [EEG-TMS: an objective measure of consciousness]; 11/06/2015

11. Invited Speaker - *XVI National Conference of the Italian Society for Neurological Rehabilitation (SIRN), Ascoli Piceno, Italy*: "Ruolo delle indagini neurofisiologiche per il progetto riabilitativo" [The role of neurophysiological tools in rehabilitation]; 07-09/04/2016
12. Invited speaker - *29° Conference of the Italian Association of Diagnostic and Interventional Neuroradiology (AINR), Milano, Italy*: "Functional neuroanatomy of disorders of consciousness"; 27-30/09/2017
13. Invited speaker - *XXVI National Conference of the Interdisciplinary Italian Society of Neurovascular Diseases (SINV), Lecce, Italy*; Keynote Lecture: "Come misurare la coscienza?" [How to measure consciousness?]; 01-02/12/2017
14. Invited speaker - *I° Conference AITN-ARIR (Italian Association of Neurophysiopathology Technicians and Association of Technicians for Respiratory Rehabilitation), Milano, Italy*: "Un approccio perturbazionale per misurare la reattività corticale" [A perturbational approach to measure cortical reactivity]; 23-24/02/2018
15. Invited speaker - *Course for Physicians LE CRISI E LE EPILESSIE NELLE MALATTIE DEMIELINIZZANTI" [EPILEPSY AND SEIZURES IN PATIENTS WITH DEMYELINATING DISEASES], Reggio Calabria, Italy*: "Valutazione dello stato di coscienza: dalla neurofisiologia ai pazienti con lesioni cerebrali" [Assessment of consciousness: from neurophysiology to brain-injured patients]; 20-21/07/2018
16. Invited speaker - *Course for Physicians LA COSCIENZA: DALLA CLINICA AGLI ASPETTI NEUROFISIOLOGICI" [CONSCIOUSNESS: FROM CLINICAL ASSESSMENT TO A NEUROPHYSIOLOGICAL APPROACH], Viterbo, Italy*: "Valutazione clinica ed elettrofisiologica del disturbo di coscienza: un approccio perturbazionale" [Clinical and neurophysiological assessment of consciousness: a perturbational approach]; 22/02/2019

## ATTENDED WORKSHOPS AND SCHOOLS

25-29/09/2006	2006 Neuroscan Maglink School, Egham, London, United Kingdom
26-30/06/2006	"fMRI analysis with AFNI (Analysis of Functional Neuroimages) and SUMA (Surface Mapping with AFNI)" workshop, Pisa, Italy
26-29/09/2005	XXIV Annual School of the National Group of Bioengineering "Biomaterials: from prosthetic treatment to regenerative medicine", Brixen, Italy
08/10/2004	Cognitive neurophysiology workshop, Alghero (SS), Italy
26-30/09/2004	"fMRI analysis with AFNI (Analysis of Functional Neuroimages) and SUMA (Surface Mapping with AFNI)" workshop, Pisa, Italy
20-23/09/2004	XXIII Annual School of the National Group of Bioengineering "Advanced methods for biomedical signal processing", Brixen, Italy
22-26/09/2003	XXII Annual School of the National Group of Bioengineering "Bioengineering of posture and movement", Brixen, Italy
16-20/06/2003	First European School on Neuroengineering 'Massimo Grattarola', Venice, Italy

## CONFERENCE PROCEEDINGS

1. Legostaeva L, Zmeykina E, **Casarotto S**, Fecchio M, Kremneva E, Poydasheva A, Chervyakov A, Sergeev D, Ryabinkina J, Massimini M, Suponeva N, Piradov M (2016): Assessing disorders of consciousness with PCI: a replication study. *Proceedings of HBM2016*: 2266. [22nd Annual Meeting of the Organization for Human Brain Mapping]
2. Isaias IU, Turco F, Rosanova M, Marotta G, Frazzitta G, Landi C, Perretti A, Giusti del Giardino L, Massimini M, Pezzoli G, **Casarotto S** (2015): Cortical excitability changes induced by L-dopa mirror the unbalanced nigro-striatal denervation in Parkinson's disease. *Movement Disorders* 30(S1):26. [19th International Congress of Parkinson's Disease and Movement Disorders]
3. Fecchio M, **Casarotto S**, Trimarchi PD, Casali AG, Landi C, Pigorini A, Saia L, Napolitani M, Sarasso S, Rosanova M, Devalle G, Massimini M (2015): Reliability of the perturbational complexity index in discriminating chronic patients with disorders of consciousness. *Clinical Neurophysiology*, 126(1):e1-e2. [59° National Congress of the Italian Society of Clinical Neurophysiology]
4. Fecchio M, **Casarotto S**, Trimarchi PD, Casali AG, Pigorini A, Napolitani M, Sarasso S, Rosanova M, Devalle G, Massimini M (2014): Perturbational complexity in chronic patients with disorders of consciousness. *Proceedings of FENS*. [9th Forum of the Federation of European Neuroscience Societies]
5. Pigorini A, Sarasso S, Proserpio P, Szymanski C, Arnulfo G, **Casarotto S**, Rosanova M, Mariotti M, Lo Russo G, Palva MJ, Nobili L, Massimini M (2014): Cortical downstates and breakdown of causality within sleeping brain: an intracerebral study in humans. *Journal of Sleep Research*, 23:88. [22nd Congress of the European Sleep Research Society]
6. Seregni F, Fecchio M, Rosanova M, Sarasso S, Pigorini A, Napolitani M, **Casarotto S**, Gosseries O, Massimini M (2013): Cortical bistability in pathological loss of consciousness after brain injury: A TMS/EEG study. *Clinical Neurophysiology*, 124(11):e211. [58° National Congress of the Italian Society of Clinical Neurophysiology]
7. **Casarotto S**, Canali P, Rosanova M, Pigorini A, Casali AG, Mariotti M, Benedetti F, Massimini M (2012): Effects of time of day and sleep pressure on cortical excitability in bipolar depression as measured by TMS/EEG. *Journal of Sleep Research*, 21(S1):S91. [21st Congress of the European Sleep Research Society]
8. Canali P, **Casarotto S**, Rosanova M, Pigorini A, Casali AG, Mariotti M, Massimini M, Benedetti F (2012): Depression, cortical excitability and sleep deprivation: a TMS/EEG study. *European Neuropsychopharmacology* 22:S276-S277. [10th World Congress of Biological Psychiatry]
9. Gosseries O, Rosanova M, Boly M, **Casarotto S**, Schnakers C, Napolitani M, Bruno M, Sarasso S, Ledoux D, Massimini M, Laureys S (2012): Transcranial magnetic stimulation combined with electroencephalography in severely brain-injured patients: methodological aspects. *Frontiers in Human Neuroscience*. [Belgian Brain Council]
10. Rosanova M, Gosseries O, **Casarotto S**, Boly M, Casali AG, Bruno MA, Boveroux P, Tononi G, Laureys S, Massimini M (2011): Assessing cortical effective connectivity in patients with disorders of consciousness. *Journal of Neurology*, 258(S1):S42. [21st Meeting of the European Neurological Society]
11. Niskanen E, Könönen M, Määttä S, Hallikainen M, Kivipelto M, **Casarotto S**, Massimini M, Vanninen R, Soininen H (2011): New insight in the Alzheimer's disease progression revealed by a combination of functional and structural information. *Proceedings of ISMRM*, 19:4117. [XIX Annual Meeting and Exhibition of the International Society for Magnetic Resonance in Medicine]

12. Pigorini A, Szymanski C, **Casarotto S**, Casali AG, Rosanova M, Lo Russo G, Mariotti M, Nobili L, Massimini M (2011): Cortical effective connectivity across the sleep wake cycle: an intracerebral study in humans. *Clinical Neurophysiology*, 122(S1):S103. [14th European Congress of Clinical Neurophysiology and 4th International Conference on Transcranial Magnetic and Direct Current Stimulation]
13. Canali P, **Casarotto S**, Rosanova M, Pigorini A, Casali AG, Mariotti M, Massimini M (2010): Depression, cortical excitability and sleep deprivation: a TMS/EEG study. *Proceedings of SINPF*. [XVII National Congress of the Italian Society of Neuropsychopharmacology]
14. Chiarenza GA, **Casarotto S**, Ricciardi E, Sani L, Pietrini P (2010): Early dysfunction of perceptual processes in developmental dyslexia. *International Journal of Psychophysiology*, 77:237. [15th World Congress of Psychophysiology IOP]
15. Pigorini A, Szymanski C, Casali AG, **Casarotto S**, Rosanova M, Lo Russo G, Mariotti M, Proserpio P, Nobili L, Massimini M (2010): Cortical effective connectivity across sleep-wake cycle: an intracerebral study in humans. *Proceedings of HBM2010*. [16th Annual Meeting of the Organization for Human Brain Mapping] (Selected as Top Ranked abstract, E-Poster, and Trainee Abstract Travel Award)
16. Boly M, Rosanova M, Bruno MA, Boveroux P, Gosseries O, Napolitani M, Hans G, Ledoux D, Schnakers C, Brichant JF, **Casarotto S**, Casali A, Tononi G, Laureys S, Massimini M (2010): Breakdown of cortical effective connectivity and loss of differentiation of brain responses during propofol-induced loss of consciousness: a TMS-EEG study. *Proceedings of HBM2010*. [16th Annual Meeting of the Organization for Human Brain Mapping]
17. **Casarotto S**, Rosanova M, Casali AG, Pigorini A, Romero Lauro LJ, Canali P, Mariotti M, Benedetti F, Massimini M (2009): Modifications of frontal cortical excitability in depressed patients undergoing sleep deprivation. *Proceedings of SIRS*. [XIV Annual Congress of the Italian Society for Sleep Research]
18. Dalli D, Romani S, Corciolani M, **Casarotto S**, Ricciardi E, Pietrini P (2008): Covert visual brand recognition results in a distinct modulation of emotional neuronal networks according to the individual preference: a fMRI study. *Proceedings of ConNEcs08*. [Conference on Neuroeconomics]
19. Dalli D, Corciolani M, Sanna F, Pietrini P, Ricciardi E, **Casarotto S**, Romani S (2008): The neurological basis of consumer-brand relationship. In: The contribution of neuroimaging to marketing research. U. Collesei, J.C. Andreani Eds. [VII International Congress of Marketing Trends]
20. Pietrini P, Ricciardi E, **Casarotto S**, Sanna F, Corciolani M, Romani S, Dalli D (2007): Covert visual brand recognition modulates emotional neuronal networks: a fMRI study. Society for Neuroscience Press Book - Part 2, Section B: pp. 480-481. [37th Annual Meeting of the Society for Neuroscience]
21. Pietrini P, Ricciardi E, **Casarotto S**, Bonino D, Sani L, Guazzelli M (2007): The Laboratory of Clinical Biochemistry and Molecular Biology of the University of Pisa: experimental activity and fields of interests. 10th Brain Science Institute Retreat, Riken, Japan.
22. Chiarenza GA, **Casarotto S** (2007): Distributed source imaging of single-letter reading aloud in healthy and dyslexic children. *Proceedings of ESCAP*. [XIII Congress of the European Society for Child and Adolescent Psychiatry]
23. **Casarotto S**, Bianchi AM, Cerutti S, Vanello N, Ricciardi E, Gentili C, Sani L, Bonino D, Guazzelli M, Pietrini P, Landini L, Chiarenza GA (2006): Integration of event-related potentials and functional magnetic resonance imaging during reading. *Proceedings of AEIT*. [101° National Congress of the Italian Federation of Electronics, Automation, Informatics and Telecommunications]



24. **Casarotto S**, Bianchi AM, Chiarenza GA, Vanello N, Ricciardi E, Pietrini P (2006): Physiological reading processes by integrating ERP and fMRI data. *International Journal of Psychophysiology*, 58 (2-3):319. [13th World Congress of Psychophysiology IOP]
25. Chiarenza GA, Olgiati P, Trevisan C, **Casarotto S** (2006): Preparatory and pre-lexical periods in dyslexic children: a reading-related potential study. *International Journal of Psychophysiology*, 58 (2-3):303. [13th World Congress of Psychophysiology IOP]
26. **Casarotto S**, Bianchi AM, Cerutti S, Vanello N, Ricciardi E, Gentili C, Sani L, Bonino D, Guazzelli M, Pietrini P, Landini L, Chiarenza GA (2006): A combined ERPs and fMRI approach to investigate the neural correlates of reading in the human brain. *Neuroimage*, 31 (suppl. 1):315 M-AM. [12th Annual Meeting of the Organization for Human Brain Mapping]
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