

PERSONAL INFORMATION



Paolo Belardinelli, PhD

📍 CIMEC, Via delle Regole 101, 38123, Mattarello (TN)

☎ +39-0461-283097

✉ paolo.belardinelli@untn.it; paolo.belardinelli@gmail.com

🌐 <http://www.linkedin.com/in/pbela>

💬 Skype paul.mueller2nd

Sex M | Date of Birth 08/02/1970 | Nationality Italian, German

RESEARCH ACTIVITIES

Neuroscience

Electrophysiology

EEG, TMS, MEG, fMRI

Modulation of Cortical Networks

- **Physicist with a PhD in Neuroscience** and multidisciplinary interests in measuring and modulating brain function.
- **My research aim:** To improve our understanding of human brain function and dysfunction through exploration and stimulation of neural oscillations & large-scale network dynamics. I have employed several non-invasive tools of measurement (MEG, EEG, fMRI) and stimulation (TMS, TdCS) in health and disease.
- **Multi-year experience** with data analysis and modelling issues connected to these techniques. Combining TMS, EEG and drug assumption, I explored the impact of GABAergic drugs on TMS evoked responses and induced oscillations.
- **Italian National Qualification (ASN) as full professor** for the area: General Psychology (11/E1)
- **Italian National Qualification (ASN) as associate professor** for the areas: Physiology (05/D1), Applied Physics (02/D1), Bioengineering (09/G2), General Psychology (11/E1)

EDUCATION AND TRAINING

MAY 2001 **MS in Mathematical Physics** at “La Sapienza” University, Rome (108/110). Thesis title: “Segmentation Algorithms Applied to Quantum Dots”. Tutors: Prof. Brunello Tirozzi and Mario Capizzi.

FEB. 2005 **Ph.D. in Neuroscience** at the Institute of Advanced Biomedical Technologies (ITAB), “G. D’Annunzio” University, Chieti, Italy. Dissertation title: “Detection of Coherent Brain Areas with MEG Data”. Tutor: Prof. Gian Luca Romani.

JAN. 2005-SEPT. 2007 **Post-doctoral fellow** at ITAB, Institute of Advanced Biomedical Technologies (Leader: Prof. Gian Luca Romani), **Chieti University “G. D’Annunzio”, Italy**. *Focus:* Development of innovative techniques for the localization of brain sources by means of magnetoencephalographic signals.

APPOINTMENTS

Since SEP 2020 **Principal Investigator** at the Center for Mind/Brain Sciences CIMEC, **University of Trento, Italy**. *Focus:* EEG and MEG state dependent stimulation

APR 2015-AUG 2020 **Senior Researcher** in the Neurology department (Leader: Prof. Ulf Ziemann), **Eberhard Karls University Hospital Tübingen, Germany**. *Focus:* EEG state dependent TMS stimulation

- JAN. 2013-MAR 2015** **Senior Researcher** in the department of 'Functional and Restorative Neurosurgery' (Leader: Prof. Alireza Gharabaghi), **Eberhard Karls University Hospital Tübingen, Germany**. *Focus:* Recovery of corticomuscular connectivity in Stroke patients.
- JAN. 2010-DEC. 2012** **Senior Researcher** at the MEG Center (Leader: Prof. Niels Birbaumer), **Eberhard Karls University of Tübingen, Germany**. *Focus:* Bayesian methods for source localization and connectivity.
- OCT. 2007-NOV. 2009** **Senior Researcher** at the O.V. Lounasmaa Lab, in the Language Perception and Production Group (Leader: Prof. Riitta Salmelin), **Helsinki University of Technology, Finland**. *Focus:* Source coherence analysis and localization of sources of cortical rhythms by means of the Relevance Vector Machine.

TEACHING

- Supervision of PhD Students** **University Clinic of Tübingen (Departments of Neurology, Neurosurgery, MEG Center)**
- Since 2010:** Debora Desideri, Chaitanya Lanka, Mathias Vukelic, Kevin Kern, Ramin Azodi-Aval, Erick Ortiz, Kousik Sarathy, Simeon Knieling, Dominic Kraus, Sara Pizzamiglio (now at University of East London). Isabella Premoli (now post-doc at King's College London). Anette Giani.
- Supervision of Master Students** Antti Jalava, Timo Saarinen (**Aalto University, Espoo, Finland**), Mark Olenik (now PhD student at Bristol University), Debora Desideri (University Roma3, Italy, Diandra Brkcic ("La Sapienza" University, Rome, Italy. Now PhD student at Aston University, Birmingham)
- Courses and Seminars**
- Winter Semester 2012/13, 13/14, 14/15, 15/16, 16/17, 17/18, 18/19, 19/20: Course for Medicine students: Title:** "Aktuelle Ansätze der EEG- und MEG-Forschung" (Current Approaches in EEG and MEG Research) **Institute for Medical Psychology, Eberhard-Karls-University of Tübingen**
- Summer Semester 2010/11, 11/12, 12/13, 13/14 15/16, 16/17, 17/18, 18/19, 19/20: Course for Clinical Psychology students: Title:** "Inverse Probleme und Lösungsmethoden für MEG/EEG" (Inverse Problems and Solution Methods) **Institute for Medical Psychology, Eberhard-Karls-University of Tübingen**
- April 15-17th, 2011: Series of seminars for PhD Students. Title:** "MEG and the new perspectives for brain imaging non-invasive techniques" Department of Psychobiology and Physiological Psychology, faculty of Psychology. Invited by **Prof. A. M. Proverbio, University of Milano-Bicocca, Milan, Italy**
- February 24-25th, 2007: Master Class + Hands-on Session. Title:** "Plasticity of the motor system in patients with pre- and perinatally acquired lesions" within the conference "The motor act: planning, organization, timing" organized by da SIPI – Italian Society for Integrated Psychotherapy, **Casoria (NA), Italy**
- Academic Year 2006-2007:** Tenured Professor for the "Applied Physics" Academic Course, Faculty of Economics, University G. D'Annunzio, **Chieti-Pescara, Italy**.
- February 19-20th, 2005: Master Class + Hands-on Session. Title:** "New Neuroimaging Techniques" organized by SIPI – Italian Society for Integrated Psychotherapy, Casoria (NA), Italy.
- Academic Year 2005-2006** Tenured Professor for the "Applied Physics" academic course, Faculty of Economics, University G. D'Annunzio, **Chieti-Pescara, Italy**.

From Academic Year 2001-2002 to 2006-2007: Teaching Assistant for the “Applied Physics” Academic Course, Faculty of Medicine, University G. D'Annunzio, **Chieti-Pescara, Italy.**

Academic Year 2005-2006: Teaching Assistant for the “Applied Physics” Academic Course, Degree Course of Chemistry and Pharmacy, Faculty of Pharmacy, University G. D'Annunzio, **Chieti-Pescara, Italy**

Academic Year 2005-2006: Teaching Assistant for the “Applied Physics” Academic Course, Degree Course of Pharmacy, Faculty of Pharmacy, University G. D'Annunzio, Chieti-Pescara, Italy

Academic Year 2004-2005: Tenured Professor for the “Applied Physics” academic course, Faculty of Economics, University G. D'Annunzio, **Chieti-Pescara, Italy.**

Academic Year 2004-2005: Teaching Assistant for the “Applied Physics” Academic Course, Degree Course of Chemistry and Pharmacy, Faculty of Pharmacy, University G. D'Annunzio, **Chieti-Pescara, Italy**

Academic Year 2003-2004: Teaching Assistant for the “Applied Physics” Academic Course, Degree Course of Chemistry and Pharmacy, Faculty of Pharmacy, University G. D'Annunzio, **Chieti-Pescara, Italy**

Academic Year 2003-2004: Teaching Assistant for the “Applied Physics” Academic Course, Faculty of Economics, University G. D'Annunzio, **Chieti-Pescara, Italy.**

Invited Talks

September 8th 2017: Göttingen, 6th International Conference on Transcranial Brain Stimulation: Title: “Real-time source and sensor-level EEG state triggered TMS with millisecond resolution” invited by **Dr. R. Polania (University of Zürich, Switzerland).**

September 5th 2013: Tübingen, Department of Computer Science: Title: “Neural correlates of the motor act of grasping” invited by **Prof. M. Butz (University of Tübingen, Germany).**

November 4-7th 2012: Asilomar, California: Asilomar Conference on Signals, Systems, and Computers. Title: “New Perspectives in MEG Functional Connectivity” invited by **Prof. H. Preissl (University of Tübingen, Germany).**

May 2012: Frankfurt, MEG Center: “Bayesian Methods for M/EEG Source Localization” invited by **Prof. M. Wibral (Max Planck Institute, Frankfurt, Germany).**

April 2011: University of Milano-Bicocca, Milan, Italy. Title: “MEG and the New Perspectives for Brain Imaging Non-invasive Techniques” invited by **Prof. A. M. Proverbio (Department of Psychology, University of Bicocca, Milan, Italy).**

March 2012: Tübingen, MEG Spring School for Neuroscience Title: “Brain Functional Connectivity Discovered by means of MEG Methods and Experiments” invited by **Prof. C. Braun (CIN, Center for Integrative Neuroscience, Tübingen, Germany).**

October 2010: Frankfurt, ESI, Title: “Cortico-cortical connectivity methods for electrophysiological Signals” invited by **Prof. P. Fries, (ESI, Frankfurt, Germany).**

June 2010: London, UCL, Title: “Bayesian Algorithms in SPM8: Methods and Accuracy” invited by **Prof. K. Friston (University College London, UK).**

September 2009: Frankfurt, MPI, Title: “Interaction of Brain Areas studied by means of algorithms for Chaotic Oscillators” invited by **Prof. P. Uhlhaas (Max Planck Institute Frankfurt, Germany, now University of Glasgow, UK).**

February 2008: Glasgow, Title: “MEG Source Connectivity in Children with Early Acquired Brain Lesions” invited by **Prof. J. Gross (University of Glasgow, UK).**

October 2007: Hangzhou, Title: “Abnormal Cerebro-cerebral Connectivity in Children with Early Brain Injuries” invited by **Prof. K. Sekihara (University of Tokio, Japan).**

September 2007: Title: “Methods for EEG and MEG Source Localization and Connectivity” **Rovereto**, invited by **Prof. C. Braun (University of Trento, Italy).**

September 2007: Helsinki, Title: “Insights from Granger Causality on Cortico-cortical Connectivity” invited by **Prof. R. Salmelin (Aalto University, Finland).**

September 2006: Chieti, ISBET International Society for Brain Electromagnetic Topography Title: “Cortico-cerebellar Coherence in Patients with Perinatally Aquired Brain Lesions” invited by **Prof. Gian Luca Romani (“G. D’Annunzio” University, Chieti, Italy).**

August 2006, Vancouver: BIOMAG Title: “Functional Connectivity in Patients with Perinatally Aquired Brain Lesions” invited by **Prof M Hamalainen (MIT, Boston, USA).**

June 2005: Tübingen, Title: “Coherence as a Tool for Functional Connectivity in EEG and MEG data” invited by **Prof. N. Birbaumer (Eberhard Karls University Tübingen, Germany).**

May 2004: Zürich, Title: “Beamforming Methods for source Localization: an Overview” invited by **Dr. R.D. Pascual Marqui (University of Zürich, Switzerland).**

January 2002: L’Avana, Cuba. NAISO Congress on neuro fuzzy technologies, Title:”A Visual Segmentation Algorithm Applied to Quantum Dots” invited by the organizing committee.

PERSONAL SKILLS

Mother Tongue

Italian

Other Languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken Interaction	Spoken Production	
English	C2	C2	C2	C2	C2
German	C2	C2	C2	C1	B2
French	B1	C1	B1	B1	B1
Spanish	A2	B2	A1	A2	A1

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user

Referee Activity

NeuroImage (Elsevier), *Brain Stimulation* (Elsevier), *Brain Topography* (Springer), *Frontiers in Neurology*, *Plos One* (Plos.com), *IEEE Transactions in Biomedical Engineering* (IEEE), *Journal of Neuroscience Methods* (Elsevier), *IET Science, Measurement & Technology* (Thomson Reuters), *Journal of Experimental Psychology* (APA), *European Journal of Neuroscience* (Blackwell), *Brain Research Bulletin* (Elsevier), *Cognitive Processing* (Springer).

GRANTS WON AS P.I.

2012

Title: The modulatory effect of performance rate on brain motor network functional connectivity. **35000 €** from **CIN, Werner Reichardt Centre for Integrative Neuroscience, Eberhard-Karls-University of Tübingen, Germany.**

- 2010** **Title:** Mapping human brain functions: optimized Bayesian filters for source localization. **37000 € from CIN, Werner Reichardt Centre for Integrative Neuroscience, Eberhard-Karls-University of Tübingen, Germany.**
- 2009** **Title:** Bayesian Models for Source reconstruction. **24000 € from Jan and Antti Wihuri Foundation, Finland.**
- 2006** **Title:** MEG and EEG Functional Connectivity. **10000 € from Regione Abruzzo, Italy.**
- 2003** **Title:** MEG Brain Activity Reconstruction. **12000 € from “La Sapienza” University, Rome, Italy.**

PUBLICATIONS

Patent

Italian Patent nr. IT1323655 for the automatic image segmentation algorithm described in detail in the following publication on Journal of Vacuum Science and Technology B:

Belardinelli P., Mastacchi A., Raffone A., Tirozzi B.: Title: “An Automatic Image Segmentation Algorithm for Quantum Dots Images”

Profile of Publications

List of publications with 1870 citations reported on my **Scholar Google profile:**
http://scholar.google.it/citations?hl=en&user=aDG32yYAAAAJ&view_op=list_works&cstart=20

Peer Reviewed Publications

- 46.** Rogasch N.C., Zipser C., Darmani G., Mutanen T.P., Biabani M., Zrenner C., Desideri D., **Belardinelli P.**, Müller-Dahlhaus F. & Ulf Ziemann (2020): “The effects of NMDA receptor blockade on TMS-evoked EEG potentials from prefrontal and parietal cortex” **Scientific Reports, 10 (3168) doi: 10.1038/s41598-020-59911-6**
- 45.** Desideri D., Zrenner C., Ziemann U., **Belardinelli P. (2019):** “Phase of sensorimotor μ -oscillation modulates cortical responses to TMS of the human motor cortex” **Journal of Physiology, 597(23), doi: 10.1113/JP278638, pp 5671-5686**
- 44. Belardinelli P., Azodi-Avval R., Ortiz E., Naros G., Grimm F., Weiss D., Gharabaghi A. (2019):** “Intraoperative localization of spatially and spectrally distinct resting-state networks in Parkinson’s disease” **Journal of Neurosurgery, 1 (aop), doi: 10.3171/2018.11.JNS181684 pp. 1-9**
- 43. Belardinelli P., Biabiani M., Blumberger D.M., Bortoletto M., Casarotto S., et al. (2019):** “Reproducibility in TMS-EEG studies: A call for data sharing, standard procedures and effective experimental control” **Brain Stimulation, 12(3), doi: 10.1016/j.brs.2019.01.010, pp. 787–790**
- 42. Stefanou MI, Baur D, Belardinelli P, Blum C., Desideri D., Ziemann U, Zrenner C (2019):** “Brain state-dependent brain stimulation with real-time EEG-triggered TMS” **JoVE, Journal of Visualized Experiments, 150, e59711, doi: 10.3791/59711, pp.1-7**
- 41. Desideri D., Zrenner C., Caldana Gordon P., Ziemann U., Belardinelli P. (2019):** “Nil effects of μ -rhythm phase-dependent burst-rTMS on cortical excitability in humans: A resting-state EEG and TMS-EEG study” **Plos one 13(12): e0208747. doi: 10.1371/journal.pone.0208747**

40. Schaworonkow N, Caldana PG, **Belardinelli P**, Ziemann U., Bergman TO, Zrenner C. (2018): “ μ -rhythm extracted with personalized EEG filters correlates with corticospinal excitability in real-time phase-triggered EEG-TMS” **Frontiers in Neuroscience** 12, 954 doi: 10.3389/fnins.2018.00954
39. Stefanou MI, Desideri D, Belardinelli P, Zrenner C, Ziemann U (2018): “Phase synchronicity of μ -rhythm determines efficacy of interhemispheric communication between human motor cortices” **Journal of Neuroscience** 38 (49), pp 10525-10534 doi: 10.1523/JNEUROSCI.1470-18.2018
38. Gordon P.C., Zrenner C., Desideri D., **Belardinelli P.**, Zrenner B., Ziemann U. (2018): “Comparison of cortical EEG responses to realistic sham versus real TMS of human motor cortex” **Brain Stimulation** 11(6), pp 1322-1330, doi: 10.1016/j.brs.2018.08.003
37. Gordon P.C., Zrenner C., Desideri D., **Belardinelli P.**, Zrenner B., Brunoni A.R., Ziemann U. (2018): “Modulation of cortical responses by transcranial direct current stimulation of dorsolateral prefrontal cortex: a resting-state EEG and TMS-EEG study” **Brain Stimulation**, 11(5), doi: 10.1016/j.brs.2018.06.004, pp. 1024-1032
36. **Belardinelli P.** (co-first), Zipser CM, Premoli I, Castellanos N, Rivolta D, Heidegger T, Müller-Dahlhaus F and Ziemann U (2018): “Cortical Excitability and Interhemispheric Connectivity in Early Relapsing–Remitting Multiple Sclerosis Studied With TMS-EEG” **Frontiers in Neuroscience** 12:393. doi: 10.3389/fnins.2018.00393
35. Dietrich S., Hertrich I, Müller-Dahlhaus F., Ackermann H, Belardinelli P., Desideri D., Seibold V.C., Ziemann U.: (2018): “Reduced Performance During a Sentence Repetition Task by Continuous Theta-Burst Magnetic Stimulation of the Pre-supplementary Motor Area” **Frontiers in Neuroscience** 12:361. doi: 10.3389/fnins.2018.00361
34. Premoli I, Királi J, Müller-Dahlhaus, F, Zipser C, Rossini P, Zrenner C, Ziemann U, **Belardinelli P** (2018), “Short-interval and long-interval intracortical inhibition of TMS-evoked EEG potentials” **Brain Stimulation** 11(4) doi: 10.1016/j.brs.2018.03.008 pp 818-829
33. Zrenner C., Desideri D., **Belardinelli P.**, Ziemann U. (2018): “Real-time EEG-defined excitability states determine efficacy of TMS-induced plasticity in human motor cortex” **Brain Stimulation** 11(2), doi: 10.1016/j.brs.2017.11.016 pp. 374-389
32. Premoli I., Bergman T.O., Fecchio M, Rosanova M., Ziemann U., **Belardinelli P.** (2017): “The impact of GABAergic drugs on TMS-induced brain oscillations in human motor cortex” **NeuroImage** 163 doi: 10.1016/j.neuroimage.2017.09.023 pp. 1–12
31. **Belardinelli P.**, Laer L., Ortiz E., Gharabaghi A. (2017): “Plasticity of premotor cortico-muscular coherence in severely impaired stroke patients with hand paralysis” **NeuroImage: Clinical** 14 doi: 10.1016/j.nicl.2017.03.005 pp. 726–733
30. Velázquez-Pérez L., Tünnerhoff J., Rodríguez-Labrada R, Torres-Vega R., **Belardinelli P.**, Medrano-Montero J., Peña-Acosta A., Canales-Ochoa N., Vázquez-Mojena Y., González-Zaldivar Y., Auburger G., Ziemann U. (2017) “Early corticospinal tract damage in prodromal SCA2 revealed by EEG-EMG and EMG-EMG coherence” **Clinical Neurophysiology** 128 (2017) doi: 10.1016/j.clinph.2017.10.009 pp. 2493–2502

29. Stefanou M., Desideri D., Marquetand J., **Belardinelli P.**, Zrenner C., Lerche H., Ziemann U. (2017): "Motor cortex excitability in seizure-free STX1B mutation carriers with a history of epilepsy and febrile seizures" **Clinical Neurophysiology** **128** (2017) doi:10.1016/j.clinph.2017.10.008 pp.2503–2509
28. Darmani G., CM Zipser, GM Böhmer, K Deschet Müller-Dahlhaus F., **Belardinelli P.**, Schwab M., Ulf Ziemann (2016): "Effects of the Selective α 5-GABAAR Antagonist S44819 on Excitability in the Human Brain: A TMS–EMG and TMS–EEG Phase I Study" **Journal of Neuroscience**, **36** (49) doi: 10.1523/JNEUROSCI.1689-16.2016 pp. 12312-12320;
27. Velázquez-Pérez L., Tünnerhoff J., Rodríguez-Labrada R., Torres-Vega R., **Belardinelli P.**, Medrano-Montero J., Peña-Acosta A., Canales-Ochoa N., Vázquez-Mojena Y, González-Zaldivar Y, Auburger G, Ziemann U (2016): "Corticomuscular Coherence: a Novel Tool to Assess the Pyramidal Tract Dysfunction in Spinocerebellar Ataxia Type 2" **The Cerebellum** doi:10.1007/s12311-016-0827-4
26. Zrenner C., **Belardinelli P.**, Mueller-Dahlhaus F., Ziemann U. (2016): "Closed-loop neuroscience and non-invasive brain stimulation: a tale of two loops" **Frontiers in Cellular Neuroscience** doi:10.3389/fncel.2016.00092
25. **Belardinelli P.**, Giani A.S., Ortiz E., Kleiner M., Noppeney U. (2015): "Detecting tones in complex auditory scenes" **NeuroImage** **122**, doi: 10.1016/j.neuroimage.2015.07.001 pp 203-213
24. Knieling S., Kousik S., **Belardinelli P.**, Gharabaghi A. (2015): "An unsupervised online spike sorting framework" **International Journal of Neural Systems** **26**(05) doi: 10.1142/S0129065715500422
23. Premoli I., Rivolta D., Castellanos N., Espenhahn S., **Belardinelli P.**, Müller-Dahlhaus F, Ziemann U. (2014): "Characterization of GABAB-receptor mediated neurotransmission in the human cortex by paired-pulse TMS-EEG" **NeuroImage**, **103**, doi: 10.1016/j.neuroimage.2014.09.028, pp 152–162
22. Premoli I., Castellanos N., **Belardinelli P.**, Bajo R., Rivolta D., Zipser C., Espenhahn S., Heidegger T., Müller-Dahlhaus F, Ziemann U. (2014): " TMS-EEG signatures of GABAergic neurotransmission in the human cortex" **Journal of Neuroscience**, **34**(16): doi:10.1523/JNEUROSCI.5089-13.2014, pp 5603–5612
21. **Belardinelli P.**, Jalava A., Gross J., Kujala J., Salmelin R. (2013): "Optimal spatial filtering for brain oscillatory activity using the Relevance Vector Machine" **Cognitive Processing**, **14** (4), pp 357-369 doi:10.1007/s10339-013-0568-y, pp 357-369
20. **Belardinelli P.**, Ortiz E., Barnes G., Noppeney U., Preissl H. (2012): "Source Reconstruction Accuracy of MEG and EEG Bayesian Inversion Approaches" **PloS One**, **7** (12) e51985 doi:10.1371/journal.pone.0051985
19. Ortiz E., Stingl K., Münßinger J., Braun C., Preissl H., **Belardinelli P.** (2012): "Functional connectivity of resting state networks in children" **Computational and Mathematical Methods in Medicine, Special Issue on Graph theory**, 2012, Article ID: 186353, doi:10.1155/2012/186353 pp. 1-8
18. **Belardinelli P.**, Ortiz E., Braun C (2012): "Source activity correlation effects on LCMV beamformers in a realistic measurement environment" **Computational and**

Mathematical Methods in Medicine, Special Issue on Brain Functional Connectivity 2012 (2012), Article ID 190513, doi:10.1155/2012/190513 pp. 1-12

17. Ruspantini I., Saarinen T., **Belardinelli P.**, Jalava A., Parviainen T., Kujala J. & Salmelin R. (2012): "Corticomuscular coherence is tuned to the spontaneous rhythmicity of speech at 2–3 Hz" **Journal of Neuroscience**, **32 (11)** doi:10.1523/JNEUROSCI.3191-11.2012 pp. 3786-3790
16. Giani A.S., Ortiz E., **Belardinelli P.**, Kleiner M., Preissl H., Noppeney U. (2012): "Steady-state responses in MEG demonstrate information integration within but not across the auditory and visual senses" **NeuroImage**, **60 (2)** doi:10.1016/j.neuroimage.2012.01.114 pp. 1478-1489
15. de Pasquale F., Della Penna S., Mantini D., Marzetti L., Lewis C., **Belardinelli P.**, Ciancetta L., Pizzella V., Snyder A.Z., Romani G.L. and Corbetta M. (2010): "Temporal dynamics of spontaneous MEG activity in brain networks" **PNAS**, **107(13)** doi: 10.1073/pnas.0913863107 pp. 6040-6045
14. **Belardinelli P.**, Ciancetta L., Braun C., Staudt M., Pizzella V., Londei A., Birbaumer N. & Romani, G.L. (2009): "Motor control in patients with prenatal brain lesions" **Cognitive Processing**, **10(2)** doi: 10.1007/s10339-009-0282-y pp. 185-188
13. Franciotti R., Ciancetta L., Della Penna S., **Belardinelli P.**, Pizzella V., Romani G.L. (2009): "Modulation of alpha oscillations in insular cortex reflects the threat of painful stimuli" **NeuroImage**, **46 (4)** doi:10.1016/j.neuroimage.2009.03.034 pp. 1082-90
12. Brunetti M., **Belardinelli P.**, Caulo M, Del Gratta C., Della Penna S., Ferretti A., Cianflone F., Moretti A., Pizzella V., Tartaro A., Torquati K., Olivetti Belardinelli M., Romani G.L. (2008): "Fronto-parietal cortical network for the auditory spatial reorienting in the auditory domain: a human fMRI/MEG study of functional and temporal dynamics" **Cerebral Cortex**, **18(5)** doi:10.1093/cercor/bhm145 pp. 1139-1147
11. **Belardinelli P.**, Ciancetta L., Braun C., Staudt M., Pizzella V., Londei A., Birbaumer N. & Romani, G.L. (2007): "From where to how: assessing mechanisms of neural plasticity in patients with unilateral brain lesions" **NFSI-ICFBI** doi: 10.1109/NFSI-ICFBI.2007.4387776 pp. 362 - 364
10. Franciotti R., Ciancetta L., Della Penna S., **Belardinelli P.**, Pizzella V., Romani G.L. (2007): "Power map during painful and nonpainful stimulation using beamformer technique" **NFSI-ICFBI** doi: 10.1109/NFSI-ICFBI.2007.4387733 pp: 219-221
9. **Belardinelli P.**, Ciancetta L., Braun C., Staudt M., Pizzella V., Londei A., Birbaumer N. & Romani, G.L. (2007): "Corticomuscular and cerebromuscular beta-coherence in patients with pre- and perinatally brain lesions" **NeuroImage**, **37 (4)** doi: 10.1016/j.neuroimage.2007.05.053 pp. 1296-09
8. Brunetti M., **Belardinelli P.**, Caulo M, Del Gratta C., Della Penna S., Ferretti A., Cianflone F., Moretti A., Pizzella V., Tartaro A., Torquati K., Olivetti Belardinelli M., Romani G.L. (2006): "Human brain activation elicited by the localization of sounds delivering at attended or unattended positions: an fMRI Study. **Cognitive Processing**, **7 (2)** doi: 10.1007/s10339-006-0093-3 pp. 116-117

7. **Belardinelli P.**, Ciancetta L., Pizzella V., Del Gratta C., Romani, G.L. (2006): "Localizing complex neural circuits with MEG data" **Cognitive Processing**, 7 (2) doi: 10.1007/s10339-005-0024-8 pp. 53-59
6. **Belardinelli P.**, Ciancetta L., Pizzella V. Romani G.L.(2005) "A versatile approach for detection of coherent brain areas with MEG", **Int. Journal of BioElectroMagnetism, IJBEM**, 7 (2) 66-68
5. Brunetti M., **Belardinelli P.**, Caulo M, Del Gratta C., Della Penna S., Ferretti A., Lucci G., Moretti A., Pizzella V., Tartaro A., Torquati K., Olivetti Belardinelli M., Romani G.L (2005): "Human brain activation during passive hearing of sounds from different locations: A study with fMRI and MEG" **Human Brain Mapping**, 26 (4) doi: 10.1002/hbm.20164 pp. 251-261
4. Stephanics G., Stavrinou M.; Sestieri C., Ciancetta L., **Belardinelli P.**, Cianflone F., Bernath L., Hernadi I., Pizzella V., Romani G.L. (2005): "Cross-Modal visual-auditory-somatosensory integration in a multimodal object recognition task in humans" **International Congress Series**, 1278, doi: 10.1016/j.ics.2004.11.074 pp. 163-166
3. **Belardinelli P.**, Marzetti L., De Cesaris I., Müller H.P., De Melis M., Romani G.L., Ernè S.N. (2004): "A new algorithm to detect coherent activities in separated cortical areas by MEG" **Biomedizinische Technik**, 48 (2) ISSN: 0013-5585 pp. 60-61
2. Brunetti M., **Belardinelli P.**, Del Gratta C., Ferretti A., Caulo M., Sperduti M., Fava L. Romani G.L., Olivetti Belardinelli M. (2004): "Sound Localisation of Acoustic Stimuli: an fMRI Study" **Biomedizinische Technik**, 48 (2) ISSN: 0013-5585 pp. 242-244
1. **Belardinelli P.**, Capoleoni S., Tirozzi B., Coluzza C. (2004): "Application of a Segmentation Algorithm to Quantum Dots Study" **Journal of Vacuum Science and Technology B** 22(2) doi: 10.1116/1.1651114 pp. 588-592

Conferences About 70 communications at conferences. 10 invited talks.