

Corrado Corradi-Dell'Acqua, PhD



GENERAL INFORMATION Place and Date of Birth: Cremona (CR), Italy, 28/10/1977
Nationality: Italian

Working Address:
University of Geneva – CISA,
Campus Biotech, Uni Dufour
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EDUCATION **Cognitive Neuroscience Sector, International School for Advanced Studies (SISSA/ISAS), Trieste (TS), Italy**
Ph D., Neuroscience *October 2007*
Dissertation Title: "Psychological and Neurological Reality of the Body Structural Description".
Supervisor: prof. Raffaella. I. Rumiati

UHSR Università Vita-Salute San Raffaele, Milano (MI), Italy
M S., Psychology *October 2001*
Dissertation Title: "An Experimental Study of the Isochrony Principle".
Final Degree: 110/110 cum laude.
Supervisor: prof. Paolo Viviani.

PRESENT POSITION **Swiss Centre for Affective Sciences, University of Geneva, Geneva, Switzerland**
Maître assistant *October 2014 – present*
Postdoctoral position *October 2009 – September 2014*
Topic: Brain responses to pain & disgust. Interaction between basal somatic sensations and high-level social cognition
Technique/equipment: Pain, Olfactory Gustatory stimulation, 3T functional Magnetic Resonance Imaging (fMRI).
Supervisor: Prof. Patrik Vuilleumier.

WORKING EXPERIENCES **Cognitive Neuroscience Sector, International School for Advanced Studies (SISSA/ISAS), Trieste (TS), Italy**
Postdoctoral position *December 2007 – September 2009*
Topic: Neural and electrodermal signatures of economical choices, neural connectivity of tool-use.
Technique/equipment: Electrodermal activity, 3T fMRI, Positron Emission Tomography (PET), Transcranial Magnetical Stimulation (TMS).
Supervisor: Prof. Raffaella I. Rumiati.

Dept. of Neurology, University Hospital of Aachen, RWTH Aachen, Aachen, Germany
Institute of Neuroscience and Biophysics, Research Centre Jülich, Jülich, Germany
Postdoctoral position *March 2006 – November 2007*
Topic: Neural bases of Body Representations, effect of top-down modulation in high-level visual processes of the human brain.
Technique/equipment: 3T fMRI.
Supervisor: Prof. Gereon R. Fink.

RIKEN Brain Science Institute (BSI), Wako-Shi, Japan

RIKEN BSI Summer School Fellow

July 2005 – September 2005

Topic: Neural correlates of Self-processing.

Technique/equipment: 4T fMRI.

Supervisors: Dr. Atsushi Iriki and Dr. Kang Cheng.

Cognitive Neuroscience Sector, International School for Advanced Studies (SISSA/ISAS), Trieste (TS), Italy

PhD Student

November 2001 – December 2005

Topic: Neural bases of Body Representations.

Technique/equipment: Psychophysical techniques, 1.5T fMRI

Supervisor: Prof Raffaella I. Rumiati.

UHSR Università Vita-Salute San Raffaele, Milano (MI), Italia

Undergraduate Student (M.S. thesis project)

October 2000 – October 2001

Topic: Motor Control.

Technique/equipment: Kinematics of bimanual movements.

Supervisor: Prof. Paolo Viviani.

GRANTS

September, 2011 – Vullemier P., & **Corradi-Dell'Acqua C.** Your pains and my dangers: Linking empathy to shared predictive coding in the human anterior insula. *Swiss National Science Foundation*. n. 32003B_138413. Sum awarded: 305'803CHF

PUBLICATIONS

Corradi-Dell'Acqua C., Schwartz S., Meaux E., Hubert B., Vuilleumier. P. & Deruelle C. (2014). Neural responses to emotional expression information in high- and low-spatial frequency in autism. Evidence for a cortical dysfunction. *Frontiers in Human Neurosciences*, 8, 189.

Corradi-Dell'Acqua C., Hofstetter C. & Vuilleumier P. (2014). Cognitive and affective theory of mind share the same local patterns of activity in posterior temporal but not medial prefrontal cortex. *Social Cognitive and Affective Neuroscience*, 9, 1175-1184.

Mengotti P., **Corradi-Dell'Acqua C.**, Negri G. A. L., Ukmar M., Pasavento V., & Rumiati, R. I. (2013). Selective imitation impairments differentially interact with language processing. *Brain*, 136,2602-2618

Corradi-Dell'Acqua C., Civai C., Rumiati R.I., & Fink G. R. (2013). Disentangling self- and fairness-related mechanisms in the Ultimatum Game: an fMRI study. *Social Cognitive and Affective Neuroscience*, 8, 424-431

Koban L., **Corradi-Dell'Acqua C.**, & Vuilleumier P. (2013) Integration of Error Agency and Representation of Others' Pain in the Anterior Insula. *Journal of Cognitive Neuroscience*, 25, 258–272.

Mengotti P., **Corradi-Dell'Acqua C.**, & Rumiati R.I. (2012) Imitation components in the human brain: An fMRI study. *NeuroImage*, 59, 1622–1630.

Corradi-Dell'Acqua C., Tomelleri L., Bellani M., Rambaldelli G., Cerini R., Pozzi Mucelli R., Balestrieri M., Tansella M. & Brambilla P. (2012). Thalamic-insular dysconnectivity in Schizophrenia. Evidence from Structural Equation Modeling. *Human Brain Mapping*, 33, 740-752.

Corradi-Dell'Acqua C., Hofstetter C. & Vuilleumier P. (2011) Felt and observed pain have shared distributed representations in human anterior insula. *Journal of Neuroscience*, *31*, 17996-18006.

Papeo L., **Corradi-Dell'Acqua C.,** & Rumiati R.I. (2011) "She" is not like "I". The tie between language and action is in our imagination. *Journal of Cognitive Neuroscience*, *23*, 3939-3948.

Rumiati R.I., Papeo L., & **Corradi-Dell'Acqua C** (2010). Higher-level motor processes. *Annals of the New York Academy of Sciences*, *1191*, 219-241.

Corradi-Dell'Acqua C., & Tessari A. (2010) Is the Body in the Eye of the Beholder? Visual Processing of Bodies in Individuals with Anomalous Anatomical, Sensory and Motor Features. *Neuropsychologia*, *48*, 689-702.

Civai C., **Corradi-Dell'Acqua C.,** Gamer M., & Rumiati R. I. (2010) Are irrational reactions to unfairness truly emotionally-driven? Dissociated behavioral and emotional responses in the Ultimatum Game task. *Cognition*, *114*, 89-95.

Rumiati R. I., Carmo J. C., & **Corradi-Dell'Acqua C.** (2009) Neuropsychological perspectives on the mechanisms of imitation. *Philosophical Transactions of the Royal Society. B.*, *364*, 2337-2347.

Corradi-Dell'Acqua C., Tomasino B., & Fink G. R. (2009) What is the Position of an Arm relative to the Body? Neural Correlates of Body Schema and Body Structural Description. *Journal of Neuroscience*, *29*, 4162-4171.

Viviani P., Burkhard P., Catalano Chiuvé S., **Corradi-Dell'Acqua C.,** & Vindras P. (2009) Velocity control in Parkinson's disease: A quantitative analysis of isochrony in scribbling movements. *Experimental Brain Research*, *194*, 259-283.

Corradi-Dell'Acqua C., Hesse M. D., Rumiati R. I., & Fink G. R. (2008). Where Is A Nose With Respect To A Foot? The Left Posterior Parietal Cortex Processes Spatial Relationships Among Body Parts. *Cerebral Cortex*, *18*, 2879-2890.

Corradi-Dell'Acqua C., Ueno K., Ogawa A., Cheng K., Rumiati R. I., & Iriki A. (2008). Effects of Shifting Perspective of The Self: an fMRI study. *NeuroImage*, *40*, 1902-1911.

Corradi-Dell'Acqua C., & Rumiati R. I. (2007). What Does The Brain Know About The Body? Evidence of Dissociable Representations. In: F. Santoianni and C. Sabatano (Eds.), *Brain Development In Learning Environments: Embodied Cognition and Perceptual Learning* (pp. 50-64). Newcastle, UK: Cambridge Scholar Publishing.

Tomasino B., **Corradi-Dell'Acqua C.,** Tessari A., Spiezio C., & Rumiati R. I. (2004). A Neuropsychological Approach to Motor Control and Imagery. *Behavioral and Brain Sciences*, *23*, 419.

MANUSCRIPTS
SUBMITTED
FOR PUBL.

Corradi-Dell'Acqua C., Turri F., Kaufmann L., Clément F., & Schwartz S. How the brain predicts people's behavior in relation to rules and desires. Evidence of a medio-prefrontal dissociation. *Cortex*. (under revision)

MANUSCRIPTS
IN PREP.

Sharvit G., **Corradi-Dell'Acqua C.,** Delplanque S., & Vuilleumier P. Does Pain Smell Bad? Cross-modal anticipatory effects between nociception and olfaction.

Corradi-Dell'Acqua C., Tusche A., Vuilleumier P. & Singer T. Neural signatures of pain and disgust

are reenacted during vicarious emotional experiences and economical decision making.

SPECIAL ISSUES **Corradi-Dell'Acqua C.,** Leiberg S., Koban L., Vuilleumier P., & Fehr E. (2013). What Determines Social Behavior? Investigating the role of emotions, self-centered motives, and social norms. Research Topic co-hosted by *Frontiers in Human Neuroscience* & *Frontiers in Emotional Science*.

ABSTRACTS AND CONFERENCE PROCEEDINGS **Corradi-Dell'Acqua,** Civai C., & Rumiati R.I. Do I care for others' money as much as for my own? Playing the ultimatum game task in behalf of a third-party. In: F. Morganti, A. Carassa and G. Riva, Editors, *Enacting intersubjectivity a cognitive and social perspective to the study of interactions*, IOP Press, Amsterdam – Presented at: “Enacting Intersubjectivity: paving the way for a dialogue between cognitive science, social cognition and neuroscience”, Lugano, Switzerland, 14 February 2009

Conference abstracts from:

- Cognitive Neuroscience annual Meeting in years 2008, 2012 and 2013 (published as a supplement of the *Journal of Cognitive Neuroscience*)
- Annual Meeting of the Organization of the Human Brain Mapping in 2006 (published as a supplement of *Neuroimage*).
- Annual Meeting of the Psychonomic Society in 2004 (published in *Abstracts of the Psychonomic Society*).

ORAL PRESENTATIONS *16 January 2014* – “Neural responses to emotional expression information in high- and low-spatial frequency in autism: Evidence for a cortical dysfunction” Presentation to the Alpine Brain Imaging Meeting 2014, Champéry, Switzerland

9 September 2013 – “Common activation patterns between basal cognitive/emotional processes and high-level social interactions” 13th biannual congress of the swiss psychological society, Basel, Switzerland

2 August, 2013 – “Common activation patterns between basal cognitive/emotional processes and high-level social interactions”. University of Trento, Rovereto, Italy. (*invited talk*)

15 June 2012 – “Felt and seen pain evoke same local patterns of cortical activity in the human insular and cingulate cortex” Human Brain Seminars at CHUV, Lausanne, Switzerland (*invited talk*)

11 May, 2012 – “Do I care for others' money as much as for my own? Disentangling self- and fairness- related neural mechanisms involved in the Ultimatum Game”. First conference of the European Society for Cognitive and Affective Neuroscience, Marseille, France.

27 January, 2011 – “Felt and observed pain have shared distributed representations in human anterior insula”. USGEB Symposium (Union Schwetzerischer Gesellschaften für Experimentelle Biologie/Union des Sociétés Suisses de Biologie Expérimentale), Zurich, Switzerland. (*invited talk*)

13 January 2011 – “Felt and seen pain evoke same local patterns of cortical activity in the human insular and cingulate cortex” Presentation to the Alpine Brain Imaging Meeting 2011, Champéry, Switzerland

14 December, 2010 – “Shared insular structures in first- and third- person processing: evidence from pain sensation and economical decision making”, University Paris Sud 11, Orsay, France. (*invited talk*)

7 May, 2010 – “Applicazione della Voxel-based Lesion-Symptom Mapping in uno studio su

aprassia ed afasia”, SINP (Società Italiana di Neuropsicologia), Bologna, Italy. (*invited talk*)

29 January, 2010 – “Neural Mechanisms of Body Space”, Twenty-Eight European Workshop On Cognitive Neuropsychology, Bressanone, Italy (*invited talk*).

5 October, 2009 – “Do I care for others' money as much as for my own? Playing the ultimatum game task in behalf of a third-party”, SINS (Italian Society for Neuroscience), Milano, Italy.

4 September, 2008 – “The Left Posterior Parietal Cortex Processes Spatial Relationships Among Body Parts”, First Meeting of the Federation of the European Societies of Neuropsychology, Edinburgh, UK.

27 June, 2007 – “Neural Correlates of Egocentric and Allocentric Body Reference Frames”, Frontiers of Knowledge in the XXI Century – Sciences in Dialogue in the New Europe, Trieste, Italy

TEACHING/ ACADEMIC EXPERIENCES

From 2012 to 2014. “Investigating Moral Judgment through Cognitive Neuroscience and Neuroimaging”. Class for the Course of “Neurosciences, éthique et evolution” (by Mauron A., Hurst S., Baertschi B.) in the Master in Neuroscience, University of Geneve, Geneve, Switzerland.

From 2010 to 2014 – “Action and Body Representations”. Class for the Course of “Introduction aux neurosciences cognitives et affectives” in the Master in Neuroscience. University of Geneve, Geneve, Switzerland.

Other theoretical lectures:

- 28 August 2013 – “Common activation patterns between basal cognitive/emotional processes and high-level social interactions” Talk at the FENS-IBRO Training Centre 2013, Lausanne & Geneve, Switzerland.
- 10 July 2013 – “Value, emotion and decision-making: psychological and neural mechanisms” (T. Brosch and C. Corradi-Dell’Acqua). International Summer School in Affective Sciences 2013, Château de Bossey, Bogis-Bossey, Switzerland.
- 30 April 2013 – “Self-based vs. Fairness-based economical decisions: neural correlates”. Class for the Course of “Emotions et processus d’évaluation : Comprendre autrui” (by T. Brosch) in the Master in Affective Psychology, University of Geneve, Geneve, Switzerland.
- 23 Mars 2010 – “Do I care for others' money as much as for my own? Playing the ultimatum game task in behalf of a third-party” Class of the course of Cognitive Psychology (2nd year of bachelor) as part of SHS (science humaine et sociale), EPFL, Lausanne, Switzerland.

Methodological lectures:

- 17-21 February, 2014 – “First and second analysis fMRI data and multivoxel pattern analysis”, Neuroscience Area, International School for Advanced Studies (SISSA-ISAS), Trieste, Italy.
- 18-19 July, 2013 – “fMRI tutorial”, SISSA International Summer School in Social Cognitive Neuroscience 2013 (SocNe), Trieste, Italy.
- 25 August, 2011 – “Investigation of Emotion Expression and Perception using fMRI” (C. Corradi-Dell’Acqua and S. Pichon). International Summer School in Affective Sciences 2011, Château de Bossey, Bogis-Bossey, Switzerland.

ECM (Educazione Continua in Medicina, *Continuing medical education*) classes:

- 15 February, 2013 – “Empatia ed autismo”, Class of the ECM course: “Neurobiologia e Neuroriabilitazione dell’autismo: le nuove frontiere della ricerca traslazionale”, Udine, Italy

- *24 September, 2009* – “Le Neuroimmagini Funzionali”, Class of the ECM course: “Incontri con le Neuroscienze” Trieste, Italy
- *25 May, 2007* – “La Rappresentazione visiva del corpo umano e le sue basi neurali”, Class of the ECM course – “Neuropsicologia e Neuroimaging”, Trieste, Italy.

Member of the committee for a PhD defence:

- *15 December, 2011* – “Les Mécanismes Neurocognitifs de l’inscription corporelle dans les jugements de lateralité” by Francois Traiel, Doctorat en Science du Sport, de la Motricité et du Muvement Humain, University Paris Sud 11, Orsay, France.
- *13 December, 2010* – “Mécanismes Neurocognitifs de l’Auto-projection pour la Reconnaissance des Objets 3D” by Hela Chouk, Doctorat en Science du Sport, de la Motricité et du Muvement Humain, University Paris Sud 11, Orsay, France.

Member of the committee for a Master defence:

- *9 September, 2014* – “Est-il possible d’induire un affect implicite en utilisant des cibles sémantiques subliminaires?” by Virginie Pointer, Master in Neuroscience, University of Geneva.
- *03 June, 2014* – “Rejection: effects of social exclusion on error monitoring and pain sensitivity” by Dylan Matheson, Master in Neuroscience, University of Geneva.
- *04 December, 2013* – “Role of the Human Amygdala in Processing of Goal-Relevance” by Hana Kutlíková, Master in Neuroscience, University of Geneva, Geneva, Switzerland.
- *31 August, 2012* – “Social Appraisal in Adolescents, an fMRI study” by Brittany Anderson, Master in Neuroscience, University of Geneva, Geneva, Switzerland.

PEER-REVISION Ad-hoc article for Science, Neuroscience & Biobehavioral Reviews, Journal of Neuroscience, Cerebral Cortex, Cortex, Social Cognitive and Affective Neuroscience, Journal of Cognitive Neuroscience, Human Brain Mapping, Neuroimage, Cognition, PLoS One, European Journal of Neuroscience, Brain Topography, Brain and Cognition, Experimental Brain Research, Cognition & Emotion, Neurocase, Frontiers in Human Neurosciences, Journal of Psychiatric Research, Brain & Behavior.

Ad-hoc project reviewer for the Netherland Organization for Scientific Research (NWO).

SOCIETIES
MEMBERSHIP Society for Neuroscience; Cognitive Neuroscience Society; European Society for Cognitive and Affective Neuroscience; Swiss Society for Neuroscience.