

## Curriculum Vitae

Updated February, 2015



### Personal information

First name(s) / Surname(s)

**Cristina Becchio**

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Nationality

Italian

Place and date of birth

San Paolo (Brazil), March 12, 1976

### Current and past positions

2013-

Senior Researcher, Robotics, Brain and Cognitive Sciences, Italian Institute of Technology, Genova

2011-

Associate Professor, Department of Psychology, University of Turin

2006-2011

Researcher, Department of Psychology, University of Turin

2004-2006

Post-Doctoral Research Scientist, Department of Psychology, University of Turin

### Education

2000-2003

Ph.D. in Cognitive Science, University of Turin. Final dissertation: Syllogistic reasoning in production and evaluation tasks. Tutor: Prof. Monica Bucciarelli. Date: June 26, 2003

1996-2000

B.A. (summa cum laude) in Philosophy, University of Turin. Thesis: Deductive reasoning and space. An experimental hypothesis and some philosophical considerations (in Italian). Supervisor: Prof. Maurizio Ferraris. Date: November 19, 2000

### Awards

2014

Research Award for Best Platform by the Consortium of Multiple Sclerosis Centers (CMSC) (role: senior author)

2014

Award for Best Paper published in the Journal of Neuroscience, Psychology and Economics (role: first author)

- 2013 Nominated to AcademiaNet, Robert Bosch Stiftung and Spektrum der Wissenschaft
- 2002 Premio Optime for the best Master Degree Thesis in Philosophy awarded by Unione Industriale, Turin

**Visiting**

- 2012 Stanford Psychophysiology Laboratory, Stanford University (USA)
- 2007-2008 Center of Functionally Integrative Neuroscience (CFIN), University of Aarhus (Denmark). Interacting Minds: a biological basis project

**Main research interests**

- Influence of social context on motor planning and control
- Role of the motor system in social cognition (action prediction, intention understanding, automatic alignment during social interaction)
- Role of gaze in intention understanding and gaze-action coupling mechanisms in neurotypical individuals and individuals affected by autism
- Influence of action observation on space representation (social space, influence of action observation on the altercentric remapping of space)

**Funding ID**

**Individual grants**

- 2013-2018 Principal Investigator in the ERC Starting grant project: Intention-from-movement understanding: from moving bodies to interacting minds. Agency: European Research Council. € 999.921
- 2010-2012 Principal Investigator in the project: The Invisible Grammar of Social Relations. Agency: Regione Piemonte. € 236.000
- 2004-2006 Post-doctoral grant. Agency: Fondazione Cassa di Risparmio di Torino. € 24.466
- 2000-2003 Ph.D. studentship grant. Agency: University of Turin. € 31.683

**Grants as member of research groups**

- 2009-2011 Use of fMRI in the evaluation of work-related stress disease (in Italian; PI: Enrico Pira, University of Turin). Agency: INAIL (Italian Workers Compensation Authority). € 221.900
- 2007-2009 Communicative interaction. At the roots of autism (in Italian; PI: Bruno G. Bara, University of Turin). Agency: Fondazione Cassa di Risparmio di Torino. € 100.000

- 2005-2007 Language comprehension: psycholinguistic and neuropsychological studies (in Italian; PI: Stefano Cappa, University Vita Salute S. Raffaele). Agency: PRIN-MIUR (Italian Ministry for University and Research, National Research Program). € 145.000
- 2003-2005 Functional and neural organization of referential and figurative language: studies on normal, monolingual and multilingual, and pathological subjects (in Italian; PI: Stefano Cappa, University Vita Salute S. Raffaele). Agency: PRIN-MIUR (Italian Ministry for University and Research, National Research Program). € 280.000
- 2002-2005 Assessment of communicative disorders in a rehabilitation perspective (in Italian; PI: Bruno G. Bara, University of Turin). Agency: FIRB-MIUR (Italian Ministry for University and Research, Basic Research Funds). € 205.000

### **Supervision Activities and Teaching**

- 2013- Scientific Board of the Scuola di Studi Superiori of the University of Turin (SSST)
- 2013- Coordinator of the PhD training program, Program in Neuroscience, University of Turin
- 2007- Faculty Member in the PhD Program in Neuroscience, University of Turin. Supervisor of 3 Ph.D. students
- 2007- Supervisor of more than 30 undergraduate students
- 2013- Teaching: Psychology of Action, Department of Psychology, University of Turin
- 2006-2012 Teaching: Psychology, Faculty of Psychology, University of Turin.

### **Organization of International Meetings**

- 2003-2007 Mind & Brain Prize
- 2006 What is language, J. Searle, Turin, May 25
- 2005 XXVII Conference of the Cognitive Science Society, July 21-23, Stresa, Italy

### **Editorial activity**

*Academic Editor* for Cognition, PeerJ, Plos One, and Social Neuroscience  
*Review Editor* for Frontiers in Emotion Science  
*Guest reviewer* for: Behavioural and Brain Sciences, Brain and Language, Cognition, Cognitive Science, Consciousness & Cognition, Cortex, Experimental Brain Research, Frontiers in Human Neuroscience, Human Brain Mapping, Journal of Cognition and Development, Journal of Cognitive Science, Journal of Experimental Psychology: General, NeuroImage, NeuroImage: Clinica, PLoS One, Proceedings of the Royal Society B-Biological Sciences, Psychological Science, Psychonomic Bulletin & Review, Neuropsychologia, NeuroImage, Social Neuroscience, Social Cognitive and Affective Neuroscience

## Journal articles

- in press Ansuini C., Cavallo A., Koul A., Jacono M., Yang Y., Becchio C. (in press). Predicting object size from hand kinematics: a temporal perspective. *PLoS One*.
- in press Cavallo A., Ansuini C., Becchio C. (in press). The (un)coupling between action execution and observation: Comment on "Grasping synergies: A motor-control approach to the mirror neuron mechanism" by D'Ausilio, Bartoli and Maffongelli. *Physics of Life Reviews*.  
First published online Jan 14, 2015, pii: S1571-0645(15)00007-X, doi: 10.1016/j.plrev.2015.01.006.
- in press Ansuini C., Cavallo A., Bertone C., Becchio C. (in press). Intentions in the brain: The unveiling of Mister Hyde. *The Neuroscientist*.  
First published online May 2, 2014, doi:10.1177/1073858414533827
- in press Capozzi F., Bayliss A.P., Elena M.R., Becchio C. (in press). One is not enough: Group size modulates social gaze-induced object desirability effects. *Psychonomic Bulletin & Review*.  
First published online August 23, 2014, doi:10.3758/s13423-014-0717-z
- 2015 Okruszek Ł., Haman M., Kalinowski K., Talarowska M., Becchio C., Manera V. (2015). Impaired recognition of communicative interactions from biological motion in schizophrenia. *PLoS One* 10, e0116793.
- 2014 Capozzi F., Cavallo A., Furlanetto T., Becchio C. (2014). Altercentric intrusions from multiple perspectives: Beyond dyads. *PLoS One* 9, e114210.
- 2014 Becchio C., Zanatto D., Straulino E., Cavallo A., Sartori G., Castiello C. (2014). The kinematic signature of voluntary actions. *Neuropsychologia*, 64, 169–175.
- 2014 Cavallo A., Catmur C., Sowden S., Ianì F., Becchio C. (2014). Stopping movements: when others slow us down. *European Journal of Neuroscience*, 40, 2842-2849.
- 2014 Cavallo A., Heyes C., Becchio C., Bird G., Catmur C. (2014). Timecourse of mirror and counter-mirror effects measured with transcranial magnetic stimulation. *Social Cognitive and Affective Neuroscience*, 9, 1082-1088.
- 2014 Ciaramidaro A., Becchio C., Colle L., Bara B.G., Walter H. (2014). Do you mean me? Communicative intentions recruit the mirror and the mentalizing system. *Social Cognitive and Affective Neuroscience*, 9, 909-916.
- 2014 Ansuini C., Cavallo A., Bertone C., Becchio C. (2014). The visible face of intention: why kinematics matters. *Frontiers in Psychology*, 5, 815.
- 2014 Manera V., Elena M.R., Bayliss A.P., Becchio C. (2014). When seeing is more than looking: Intentional gaze modulates object desirability. *Emotion*, 14, 824-832.

- 2014 Furlanetto T., Gallace A., Ansuini C., Becchio C. (2014). Effects of arm crossing on spatial perspective taking. *PLoS One* 9, e95748.
- 2013 Cavallo A., Buccioni G., Castiello U., Becchio C. (2013). Goal or movement? Action representation within the primary motor cortex. *European Journal of Neuroscience*, 38, 3507-3512.
- 2013 Furlanetto T., Cavallo A., Manera V., Tversky B., Becchio C. (2013). Through your eyes: Incongruence of gaze and action increases spontaneous perspective. *Frontiers in Human Neuroscience*, 7, 455.
- 2013 Furlanetto T., Bertone C., Becchio C. (2013). The bilocated mind: New perspectives on self-localization and self-identification. *Frontiers in Human Neuroscience*, 7, 71.
- 2013 Becchio C., Del Giudice M., Dal Monte O., Latini-Corazzini L., Pia L. (2013). In your place: Neuropsychological evidence for altercentric remapping in embodied perspective taking. *Social Cognitive and Affective Neuroscience*, 8, 165-170.
- 2013 Manera V., Schouten B., Verfaillie K., Becchio C. (2013). Time will show: Real time predictions during interpersonal action perception. *PLoS One*, 8, e54949.
- 2012 Becchio C., Castiello U. (2012). Visuomotor resonance in autism spectrum disorders. *Frontiers in Integrative Neuroscience*, 6, 110.
- 2012 Manera V., Cavallo A., Chiavarino C., Schouten B., Verfaillie K., Becchio C. (2012). Are you approaching me? Motor execution influences perceived action orientation. *PLoS One*, 7, e37514.
- 2012 Becchio C., Manera V., Sartori L., Cavallo A., Castiello U. (2012). Grasping intentions: from thought experiments to empirical evidence. *Frontiers in Human Neuroscience*, 6, 117.
- 2012 Becchio C., Cavallo A., Begliomini C., Sartori L., Feltrin G., Castiello U. (2012). Social grasping: from mirroring to metalizing. *NeuroImage*, 61, 240-248.
- 2012 Cavallo A., Becchio C., Sartori L., Castiello U. (2012). Grasping with tools: Corticospinal excitability reflects observed hand movements. *Cerebral Cortex*, 22, 710-716.
- 2011 Manera V., Del Giudice M., Bara B.G., Verfaillie K. Becchio C. (2011). The second-agent effect: Communicative gestures increase the likelihood of perceiving a second agent. *PLoS One*, 6, e22650.
- 2011 Manera V., Becchio C., Cavallo A., Sartori L., Castiello U. (2011). Cooperation or competition? Discriminating between social intentions by observing prehensile movements. *Experimental Brain Research*, 211, 547-556.
- 2011 Sartori L., Becchio C., Castiello U. (2011). Cues to intention: the role of movement information. *Cognition*, 119, 242-252.

- 2011 Manera V., Becchio C., Shouten B., Bara B.G., Verfaillie K. (2011). Communicative interactions improve visual detection of biological motion. *PLoS One*, 6, e14594.
- 2011 Becchio C., Skewes J., Lund T. E., Frith U., Frith C. D., Roepstorff A. (2011). How the brain responds to the destruction of money. *Journal of Neuroscience, Psychology and Economics*, 4, 1-10.
- 2010 Castiello U., Becchio C., Zoia S., Nelini C., Sartori L., Blason L., D'Ottavio G., Bulgheroni M., Gallese V. (2010). Wired to Be Social: The Ontogeny of Human Interaction. *PLoS One*, 5, e13199.
- 2010 Becchio C., Mari M., Castiello U. (2010). Perception of shadows in children with autism spectrum disorders. *PLoS One*, 5, e10582.
- 2010 Becchio C., Sartori L., Castiello U. (2010). Towards you: the social side of actions. *Current Directions in Psychological Science*, 19, 183-188.
- 2010 Manera V., Shouten B., Becchio C., Bara B.G., Verfaillie K. (2010). Inferring intentions from biological motion: A stimulus set of point-light communicative interactions. *Behavior Research Methods*, 42, 168-178.
- 2009 Sartori L., Becchio C., Bulgheroni M., Castiello U. (2009). Modulation of the action control system by social intention: unexpected social requests override preplanned action. *Journal of Experimental Psychology: Human Perception and Performance*, 35, 1490-1500.
- 2009 Sartori L., Becchio C., Bara B. G., Castiello U. (2009). Does the intention to communicate affect action kinematics? *Consciousness and cognition*, 18, 766-772.
- 2008 Colle L., Becchio C., Bara B.G. (2008). The non-problem of other minds: a neuro-developmental perspective on shared intentionality. *Human Development*, 51, 336-348.
- 2008 Becchio C., Sartori L., Bulgheroni M., Castiello U. (2008). The case of Dr. Jekyll and Mr. Hyde: A kinematic study on social intention. *Consciousness and cognition*, 17, 557-564.
- 2008 Becchio C., Bertone C., Castiello U. (2008). How the gaze of others influences object processing. *Trends in Cognitive Sciences*, 12, 254-258.
- 2008 Pierno A.C., Becchio C., Tubaldi F., Turella L., Castiello U. (2008). Motor ontology in representing gaze-object relations. *Neuroscience Letters*, 430, 246-51.
- 2008 Pierno A.C., Becchio C., Turella L., Tubaldi F., Castiello U. (2008). Observing social interactions: The effect of gaze. *Social Neuroscience*, 3, 51-59.
- 2008 Becchio C., Sartori L., Bulgheroni M., Castiello U. (2008). Both your intention and mine are reflected in the kinematics of my reach-to-grasp movement. *Cognition*, 106, 894-912.

- 2007 | Becchio C., Pierno A., Mari M., Lusher D., Castello U. (2007). Motor contagion from gaze: the case of autism. *Brain*, 130, 2401-2411.
- 2007 | Georgiou I., Becchio C., Glover S., Castiello U. (2007). Different action patterns for cooperative and competitive behaviour. *Cognition*, 102, 415-433.
- 2006 | Becchio C., Bertone C. (2006). Prior intentions: evidence in favour of a motor theory. *Journal of Cognitive Science*, 7, 103-113.
- 2006 | Becchio C., Bertone C. (2006). Time and neglect: Abnormal temporal dynamics in unilateral spatial neglect. *Neuropsychologia*, 44, 2775-2782.
- 2006 | Pierno A.C., Becchio C., Wall M.B., Smith A.T., Castiello U. (2006). Transfer of interfered motor patterns to self from others. *European Journal of Neuroscience*, 23, 1949-1955.
- 2006 | Pierno A.C., Becchio C., Wall M.B., Smith A.T., Turella L., Castiello U. (2006). When Gaze Turns into Grasp. *Journal of Cognitive Neuroscience*, 18, 2130-2137.
- 2006 | Becchio C., Adenzato M., Bara B.G. (2006). How the brain understands intentions: Different neural circuits identify the componential features of motor and prior intentions. *Consciousness and Cognition*, 15, 64-74.
- 2005 | Becchio C., Bertone C. (2005). Beyond Cartesian Subjectivism: Neural Correlates of Shared Intentionality. *Journal of Consciousness studies*, 12, 20-30.
- 2005 | Becchio C., Bertone C. (2005). The ontology of neglect. *Consciousness and Cognition*, 14, 483-494.
- 2004 | Becchio C., Bertone C. (2004). Wittgenstein running: Neural mechanisms of collective intentionality and we-mode. *Consciousness and Cognition*, 13, 123-133.
- 2003 | Becchio C., Bertone C. (2003). Object temporal connotation. *Brain and Cognition*, 52, 192-196.

## Book Chapters

- in press | Ansuini C., Cavallo A., Bertone C., Becchio C. (in press). Reading intention in action. To appear in: S.S. Obhi & E.S. Cross (eds.), *Shared representation: sensorimotor foundation of social life*. Cambridge University Press, Cambridge, UK.
- 2014 | Becchio C., Bertone C. (2014). How Objects Become Social in the Brain: Five Questions for a Neuroscience of Social Reality. In: M. Gallotti & J. Michaels (eds.), *Perspectives on Social Ontology and Social Cognition*, *Studies in the Philosophy of Sociality*, Springer Netherlands, Volume 4, pp. 125-134.
- 2009 | Becchio C., Bertone C. (2009). Intention. In: L. Cummings (ed.), *The Pragmatics Encyclopedia*, Routledge, pp. 226-227.

2008 Becchio C., Bertone C. (2008). Neuroscienze. In M. Ferraris (ed.), Storia dell'Ontologia, Milano, Bompiani, pp. 452-464.

### **International Proceedings**

2008 Sartori L., Becchio C., Bulgheroni M., Castiello U. (2008). Effects of social intention on the control of action. *International Journal of Psychology*, 43, 473.

2006 Pierno A.C., Becchio C., Wall M.B., Smith A.T., Turella L., Castiello U. (2006). When Gaze Turns into Grasp. *Journal of Psychophysiology*, 20, 330.

2005 Adenzato M., Becchio C., Bertone C., Tuomela R. (2005). Neural Correlates Underlying Action-intention and Aim-intention. In B.G. Bara, L. Barsalou, & M. Bucciarelli (Eds.), *Proceedings of the Conference of the Cognitive Science Society 2005*. Mahwah, New Jersey: Lawrence Erlbaum Associates, 62-66.

2003 Becchio C., Bertone C. (2003). Neural bases of We-ness. In F. Schmalhofer, R. Young, & G. Katz (Eds.), *Proceedings of the European Conference of the Cognitive Science Society 2003*. Mahwah, New Jersey: Lawrence Erlbaum Associates, 49-53.

### **Journal articles in Italian**

2012 Furlanetto T., Bertone C., Becchio C. (2012). Fenomeni autoscopici: una prospettiva sociale. *Giornale italiano di Psicologia*, 4, 819-835.

2009 Becchio C., Bertone C., Castiello U. (2009). Lo sguardo di Medusa. Come lo sguardo dell'altro modifica il processamento dell'oggetto. *Giornale italiano di Psicologia*, 2, 247-254.

2006 Becchio C., Bertone C. (2006). Un'ontologia dimezzata: alterazioni temporali nella negligenza spaziale unilaterale. *Sistemi intelligenti*, 2, 199-214.

2005 Becchio C., Bertone C. (2005). Il paradosso dell'intenzionalità collettiva. *Giornale italiano di Psicologia*, 4, 851-860.

2003 Becchio C., Bertone C. (2003). L'intenzionalità collettiva: lo stato dell'arte. *Giornale italiano di Psicologia*, 3, 441-449.

2002 Becchio C., Bertone C. (2002). Il problema della condivisione. *Sistemi intelligenti*, 2, 207-216.



## Invited presentations at international meetings

- 2014 Becchio C. (2014). On grasping intentions from movement observation. IEEE ICDL-Epirob 2014, Genova, October 13-16.
- 2014 Becchio C. (2014). Social intentions in action. Perspectives and Future Directions in Social Neuroscience. Satellite Symposium to the Annual Meeting of the OHBM, Marburg, June 4-6.
- 2013 Becchio C. (2013). Action in perspective: from movement observation to intention understanding. Enactive and Phenomenological Approaches to Intersubjectivity. Copenhagen, Denmark, February 7-8.
- 2012 Becchio C. (2012). Objects in others' minds: How the gaze of others influences object processing. Objects in Mind. First Aarhus-Paris Conference in Social Ontology and Cognition. University of Aarhus, Denmark, June 25-26.
- 2012 Becchio C. (2012). Social grasping. Intention-from-movement understanding. Social Interaction, Engagement and the Second-Person Perspective Conference. Universität zu Köln, Germany, May 25-27.
- 2012 Becchio C. (2012). Grasping the intentions of others: from thought experiments to empirical evidence. Interdisciplinary Workshop: Personal and Shared Intentions. Max Planck Institute for Human Development, Berlin, Germany, May 3-5.

## Other invited presentations

- 2014 Becchio C. (2014). Intention in action. Philosophy Lectures: Epistemology, Philosophy of Science, Social Ontology. Department of Philosophy, University of Vienna, January 23.
- 2013 Becchio C. (2013). Intention in action: from moving bodies to interacting minds. Collective intentionality Workshop, ZiF - Bielefeld University's Institute for Advanced Study, Bielefeld, Germany, April 2-4.
- 2013 Becchio C. (2013). On understanding intention in action (and interaction). Departmental colloquium. Department of Cognitive Science, CEU, Budapest, Hungary, March, 6.
- 2011 Becchio C. (2011). Grasping intentions from movement: from thought experiments to empirical evidence. PhiloNeuro, Department of Philosophy, University of Milan, Italy, January 25.
- 2010 Becchio C. (2010). Grasping other intentions: from kinematics to intention (in Italian). Giornata di studio Dall'Azione all'Intenzione, Department of General Psychology, University of Padua, Italy, November 19.

- 2009 | Becchio C. (2009). The power of gaze: linking the gaze of others to object processing. Social Cognition and Neuroscience (SCoNe) seminar at the School of Psychology, University of Birmingham, UK, May 20.
- 2007 | Becchio C. (2007). Social action: motor and neural correlates. Seminar on Social Cognition. Center for Semiotics, University of Aarhus, Denmark, November 22.
- 2007 | Becchio C. (2007). Social actions: kinematic and neuromaing evidence (in Italian). Giornata di studio Cognizione sociale e Neuroscienze, Department of General Psychology, University of Padua, Italy, February 5.