

## Alessio Avenanti – SHORT CV

### Full Professor in Cognitive Neuroscience, Alma Mater Studiorum – University of Bologna (UNIBO)

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**Orcid ID:** <https://orcid.org/0000-0003-1139-9996S>

**Scholar:** <https://scholar.google.com/citations?user=rZlolvAAAAJ&hl=en>

### Professional history:

- 2019 - to date Director of the Organizational Unit (UOS) Cesena, Dept. of Psychology, UNIBO.
- 2019 - to date Full Professor in Cognitive neuroscience, Dept. of Psychology, UNIBO.
- 2019 - to date Research consultant at Universidad Católica del Maule, Chile.
- 2018 - 2021 Director of the Master degree in Neuroscience and neuropsychological rehabilitation, UNIBO.
- 2014 - 2019 Associate Professor in Cognitive neuroscience, Dept. of Psychology, UNIBO.
- 2012 - to date Research fellow. IRCCS Fondazione Santa Lucia, Rome, Italy.
- 2006 - to date Head of the Non-invasive Brain Stimulation research group, UNIBO.
- 2006 - 2012 Assistant Professor in Psychobiology (SSD M-PSI/02), Faculty of Psychology, UNIBO.
- 2003 - 2006 Research Fellow, IRCCS Fondazione Santa Lucia, Rome, Italy.

### Education:

- 2003-2006 - PhD in "Cognitive Neuroscience". Sapienza Univ. of Rome. Score: Excellent.
- 1997-2002 - Master degree in "Experimental Psychology". Sapienza Univ. of Rome. Score: magna cum laude.
- High School Diploma in Scientific Studies. Liceo Scientifico Statale A. Labriola, Rome. Score: 60/60.

### Research Statement:

I am a cognitive neuroscientist with scientific expertise in Social, cognitive and affective neuroscience, Brain plasticity, Neuromodulation and Functional imaging methods. My research is mainly focused on the understanding of how the brain represents one's own and other's actions, emotions, thoughts and bodily feelings. In addition, I am interested in developing novel brain stimulation methods for investigating brain-behavior relationships and boosting brain plasticity in healthy individuals and neurological and psychiatric patients. These issues are approached by combining behavioral methods with non-invasive brain stimulation (transcranial magnetic stimulation, TMS; transcranial electrical stimulation, tES), electrophysiology (electroencephalography, EEG; electromyography, EMG) and brain imaging (functional magnetic resonance imaging, fMRI) methods in healthy and clinical populations.

My commitment to research is demonstrated by my track records of publications in top-tiers neuroscientific journals (e.g. Nature Neuroscience, Current Biology, eLife, Neurology, Biological Psychiatry, Journal of Neuroscience, etc.), my editorial commitments, and national and international research awards and research grant capture.

### Extramural competitive research funding as PI / Co-PI (selection last 5 years):

- 2021 - 2024 Ministero della Salute, Bando Ricerca Finalizzata 2019. Title: "A new ultrasonic method based on Bessel Beam diffraction for non-invasive, focal, ultra-selective, deep and superficial brain stimulation". Prot. num. RF-2019-12368598. Tot: € 449.700. Role: Co-PI, PI: Salvatore Maria Aglioti (IRCCS Santa Lucia Foundation)
- 2019 - 2022 PRIN 2017. Title: "Motor sociality through the lens of error monitoring. Behavioural and neurophysiological studies in healthy and brain-damaged people". Prot. num. 2017N7WCLP. Tot: € 760.000. Role: Co-PI, PI: Salvatore Maria Aglioti (Sapienza Univ. Roma)
- 2019 - 2021 Bial Foundation 2018/2019. Title: "Driving synaptic plasticity in motor-to-visual neural pathways to enhance action prediction". Tot: € 50.000. Prot. num. 2019. Role: PI
- 2018 - 2020 Fondazione del Monte di Bologna e Ravenna, Italy. Title: "Empowering the aging brain: Enhancing cortico-cortical connectivity in the aging brain via non-invasive brain stimulation". Tot: € 24.000. Prot. num. 339bis/2017. Role: PI
- 2017 - 2019 Bial Foundation 2016/2017. Title: "Empowering feedback connections in temporo-occipital network to boost visual perception of emotions". Tot: € 45.000. Prot. num. 298/16. Role: Co-PI, PI: Sara Borgomaneri (Univ. Bologna, postdoc in my lab).
- 2014 - 2018 Italian Ministry of Health - Giovani Ricercatori 2010. Title: "Empowering the brain. Induction of Hebbian-like plasticity in cortico-cortical neural networks with TMS: investigations of functional connectivity in healthy subjects and clinical trials in stroke patients". Tot: € 314.000. Prot. Num. GR-2010-2319335). Role: PI.
- 2013 - 2018 Research projects 2013 and 2014. Cogito Foundation, Switzerland. Title: "Embodied (e)motions: brain mechanisms and their socio-cultural modulation". Prot. num. R-117/13 and 14-139-R. Tot: € 100.000. Role: PI
- 2013 - 2017 Bando Futuro in Ricerca 2012. MIUR. Title: "Neuropsychological bases of social and emotion perception". Tot: € 680.000. Role: Co-PI, PI: Marco Tamietto (Univ. Torino).

### Research commitment and bibliographic impact:

- Since 2006, I devoted ~65% of my FTE to research and 35% to teaching and institutional duties at UNIBO.
- I have authored 90 publications, including 78 SCOPUS publications (first / last / correspondent author in 65% of them).
- ISI publications: Total Impact Factor: ~420; mean IF: ~5.7; >90% of my articles are in Q1 (Journal of Citation Reports)
- Citations: ~6200 (Scholar), ~4000 (Scopus);
- H-index: 38 (Scholar), 34 (Scopus)

### Representative publications:

1. Chiappini E, Borgomaneri S, Marangon M, Turini S, Romei V, **Avenanti A** (2020). Driving associative plasticity in premotor-motor connections through a novel paired associative stimulation based on long-latency cortico-cortical interactions. *BRAIN STIMULATION* 5, 1461-1463 (IF=9,0).
2. Borgomaneri S, Battaglia S, Garofalo S, Tortora F, **Avenanti A**, di Pellegrino G (2020). State-dependent TMS over prefrontal cortex disrupts fear memory reconsolidation and prevents the return of fear. *CURRENT BIOLOGY* 30, 3672-3679. (IF=10.8).
3. Fiori F, Chiappini E, **Avenanti A** (2018). Enhanced action performance following TMS manipulation of associative plasticity in ventral premotor-motor pathway. *NEUROIMAGE* 183, 847-858. (IF=5.9)

4. **Avenanti A**, Paracampo R, Annella L, Tidoni E, Aglioti SM (2018). Boosting and decreasing action prediction abilities through excitatory and inhibitory tDCS of inferior frontal cortex. *CEREBRAL CORTEX* 28, 1282–1296. (IF=5.4)
5. Vicario CM, Rafal RD, Martino D, **Avenanti A** (2017). Core, social and moral disgust are bounded: A review on behavioral and neural bases of repugnance in clinical disorders. *NEUROSCIENCE AND BIOBEHAVIORAL REVIEWS* 80, 185–200 (IF=8.0)
6. Romei V, Chiappini E, Hibbard P, **Avenanti A** (2016). Empowering reentrant projections from V5 to V1 boosts sensitivity to motion. *CURRENT BIOLOGY* 26, 2155–2160. (IF=9.0)
7. Jacquet PO, **Avenanti A** (2015). Perturbing the Action Observation Network during perception and categorization of actions' goals and grips: state-dependency and virtual lesion TMS effects. *CEREBRAL CORTEX* 25, 598–608. (IF=8.3)
8. **Avenanti A**, Annella L, Candidi M, Urgesi C, Aglioti SM (2013). Compensatory plasticity in the action observation network: virtual lesions of STS enhance anticipatory simulation of seen actions. *CEREBRAL CORTEX* 23, 570–580. (IF=8.3)
9. Tidoni E, Borgomaneri S, di Pellegrino G, **Avenanti A** (2013). Action simulation plays a critical role in deceptive action recognition. *JOURNAL OF NEUROSCIENCE* 33, 611–623. (IF=6.7)
10. **Avenanti A**, Coccia M, Ladavas E, Provinciali L, Ceravolo MG (2012). Low-frequency rTMS promotes use-dependent motor plasticity in chronic stroke: a randomized trial. *NEUROLOGY* 78, 256–264. (IF=8.3)
11. **Avenanti A**, Sirigu A, Aglioti SM (2010). Racial bias reduces empathic sensorimotor resonance with other-race pain. *CURRENT BIOLOGY* 20, 1018–1022. (IF=10.0).
12. **Avenanti A**, Bolognini N, Maravita A, Aglioti SM (2007). Somatic and motor components of action simulation. *CURRENT BIOLOGY* 17, 2129–2135. (IF=10.5)
13. **Avenanti A**, Buetti D, Galati G, Aglioti SM (2005). Transcranial magnetic stimulation highlights the sensorimotor side of empathy for pain. *NATURE NEUROSCIENCE* 8, 955–960. (IF=15.5)

#### **Editorial activity and review:**

I serve as an associate/academic editor for the following scientific journals: Scientific Reports (since 2016), PLOS ONE (since 2011); Cognitive, Affective and Behavioral Neuroscience (since 2015), Brain Sciences (since 2021). I have served PLOS ONE as Section editor (2011-2019). I have served as associate editor for Frontiers in Aging Neuroscience; Frontiers in Human Neuroscience; Frontiers in Psychology (2011-2018) and now serve these journals as Guest associate editor.

I serve as ad-hoc reviewer for several peer-reviewed ISI journals including top-tiers journals in the field (e.g. American Psychology, Behavioral and Brain Science, Cerebral Cortex, Current Biology, Journal of Neuroscience, Nature Neuroscience, Neuroscience and Biobehavioral Reviews, PNAS, TICS, Neuroimage, etc.).

#### **Research committees, funding agencies and review:**

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| 2015 – 2021 | Member of the research committee at UNIBO, Italy.   |
| 2014 – 2016 | Member of the international panel of Integrative Neuroscience for the selection of research grant projects at Agence Nationale de la Recherche, France. |
| 2019        | Member of the EU panel Human Brain Project “FLAG-ERA JTC 2019 – HBP - Basic and Applied Research”, EU.  |

Ad hoc reviewer of research projects for national and international research funding agencies, including: ANR - Agence Nationale de la Recherche, France (2014, 2015, 2016, 2018, 2020); BSF - Binational Science Foundation, United States of America – Israel (2016); DFG - Deutsche Forschungsgemeinschaft (German Research Foundation), Germany (2019); ERC - European Research Council (ERC-starting grants; ERC-advanced grants), European Union (2017, 2019); FWO - Fonds Wetenschappelijk Onderzoek– Vlaanderen (Research Foundation – Flanders), Belgium (2019, 2020); ISF - Israel Science Foundation, Israel (2017); LT - Leverhulme Trust, United Kingdom (2016, 2017, 2018); MIUR - Ministero Istruzione Universita' Ricerca Italy (2015, 2019); NSC - National Science Centre, Poland (2015, 2017, 2019); NOW - Nederlandse Organisatie voor Wetenschappelijk Onderzoek, Netherland (2015, 2017); La Caixa foundation, Spain (2020).

## **Research awards and honors:**

- 2021 Honor: Member of Consiglio generale of the Fondazione Cassa di Risparmio di Cesena, Cesena, Italy.
- 2021 Honor: Member of the international Advisory Board of the Latin American Brain Health institute, at Universidad Adolfo Ibáñez, Santiago, Chile.
- 2020 Honor: Paul Harris Fellow – Rotary international. Honorific recognition for outstanding achievements in social, cultural and scientific activities.
- 2019 Honor: Associate member of the CINPSI Neurocog, Universidad Católica del Maule, Chile
- 2019 Honor: Elected member of the International Neuropsychology Symposium.
- 2018 Honor: Honorary member of the Instituto de Neurociencia, Universidad de la Laguna, Tenerife, Spain.
- 2016 Research Award: "Premio SIPF 2016". Italian national award for outstanding achievements in Psychophysiology (best Italian psychophysiolgist 2016). Associazione Italiana di Psicofisiologia, IT.
- 2014 Research Award: "Programa de Talento Tricontinental 2014". Award for research in Cognitive Neuroscience at La Laguna Univ. CEI Canarias: Campus Atlantico Tricontinental, ES.
- 2011 Research Award: "Young Investigator Award". International award for outstanding achievements Transcranial Magnetic Stimulation research. Magstim Corporation & Univ. of Oxford, UK.
- 2007 Fellowship & travel grant: "European Diploma in Cognitive and Brain Sciences, III". Hanse Institute for Advanced Study, Delmenhorst, DE.
- 2004 Fellowship & travel grant: "Summer Institute in Cognitive Neuroscience". Dartmouth College, US.
- 2004 Research Award: "Golden Degree Award– Life Science". International Award for graduate students, Rome, IT.
- 2003 Research Award: "Young Investigator Award". Italian national award to the best young scientist in psychology. National Congress of the Italian Association of Psychology (AIP), Bari, IT.

More than 10 best presentation / best paper / young research awards assigned to my students and strict collaborators for collaborative scientific research (i.e., abstracts or papers where I am 1st or senior author).

## **Research dissemination, public events and media:**

I gave more than 100 talks in major scientific meetings and international institutes, including the following: Harvard University; IDG/McGovern Institute for Brain Research; Peking University; University College of London; Max Planck Institute, Leipzig; Netherland Institute of Neuroscience; University of Groningen; Bangor University; University of Ghent; CNRS - Université de Lyon; Université de Lille, University of Malta; Universidad de la Laguna; Fondacion INECO, Buenos Aires; Univesidad Diego Portalez, Cile; Colombian Psychiatry association; International Neuropsychology Symposium; International Convention of Psychological Science etc

I am actively engaged in the promotion of scientific culture and dissemination of research results, through participation to public national events for scientific dissemination (e.g., Genoa Science Festival, Foligno Science and Philosophy Festival) and the organization of events at UNIBO during the Brain Awareness Week.

My research has received media attention, including TV interviews dedicated to my research at RAI (National TV channel in Italy), and interviews and articles dedicated to my research appearing in the international press (e.g. CNN, The Times, MSNBC, Fox News), national and local newspaper (e.g. Corriere della Sera, Repubblica, La Stampa, Il Resto del Carlino), non-specialist magazines (e.g. Mind and Brain, Focus), websites (e.g., UniboMagazine) and several Blogs.

Full list of publications in indexed databases	Impact Factor
1. Meconi F, Hodsoll J, Goranova Z, Degano G, Di Lello N, Miniussi C, Avenanti A, Mevorach C (2021). Remember as we empathize. Do brain mechanisms engaged in autobiographical memory retrieval causally affect empathy awareness? A combined TMS and EEG registered report. <i>Journal of Neuroscience Research</i> . 2021 Jun 29. doi: 10.1002/jnr.24906.	4.164
2. Borgomaneri S, Battaglia S, Avenanti A, di Pellegrino G (2021). Don't Hurt Me No More: State-dependent Transcranial Magnetic Stimulation for the treatment of specific phobia. <i>Journal of Affective Disorders</i> 286, 78-79.	4.839
3. Botta A, Lagravinese G, Bove M, Avenanti A, Avanzino L (2021). Modulation of reaction times during processing of emotional body language. <i>Frontiers in Psychology</i> , 12:616995.	2.990
4. Vitale F, Padron I, Avenanti A, de Vega (2021). Enhancing motor brain activity improves memory for action language: a tDCS study. <i>Cerebral Cortex</i> 31, 1569-1581 (corr author).	5,043
5. Breveglieri R, Bosco A, Borgomaneri S, Tessari A, Galletti C, Avenanti A, Fattori P (2021). Transcranial magnetic stimulation over the human medial posterior parietal cortex disrupts depth encoding during reach planning. <i>Cerebral Cortex</i> 31, 257-280.	5,043
6. Patri JF, Cavallo A, Pullar K, Soriano M, Valente M, Koul A, Avenanti A, Panzeri S, Becchio C (2020). Transient Disruption of the Inferior Parietal Lobule Impairs the Ability to Attribute Intention to Action. <i>Current Biology</i> 30, 4594-4605.	10.834
7. Chiappini E, Borgomaneri S, Marangon M, Turini S, Romei V, Avenanti A (2020). Driving associative plasticity in premotor-motor connections through a novel paired associative stimulation based on long-latency cortico-cortical interactions. <i>Brain Stimulation</i> 5, 1461-1463. (corr author)	8.955
8. Decroix J, Borgomaneri S, Kalenine S, Avenanti A (2020). State-dependent TMS of inferior frontal and parietal cortex highlights integration of motor acts and functional goals during action recognition. <i>Cortex</i> 132, 51-62.	4.027
9. Vicario CM, Salehinejad MA, Avenanti A, Nitsche MA (2020). Transcranial direct current stimulation (tDCS) in Anxiety Disorders. In: Dell'Osso B, Di Lorenzo G (ed.) <i>Non Invasive Brain Stimulation in Psychiatry and Clinical Neurosciences</i> . Springer Nature Switzerland, Switzerland, pp 301-317.	book chapter
10. Vicario CM, Rafal RD, di Pellegrino G, Lucifora C, Salehinejad MA, Nitsche MA, Avenanti A (2020). Indignation for moral violations suppresses the tongue motor cortex: preliminary TMS evidence. <i>Social Cognitive and Affective Neuroscience</i> , In press. (corr author)	3.436
11. Borgomaneri S, Battaglia S, Garofalo S, Tortora F, Avenanti A, di Pellegrino G (2020). State-dependent TMS over prefrontal cortex disrupts fear memory reconsolidation and prevents the return of fear. <i>Current Biology</i> 30, 3672-3679.	10.834
12. Salehinejad MA, Nejati V, Mosayebi-Samani M, Mohammadi A, Wischnewski M, Kuo MF, Avenanti A, Vicario CM, Nitsche MA (2020). Transcranial Direct Current Stimulation in ADHD: A systematic review of efficacy, safety, and protocol-induced electrical field modeling results. <i>Neuroscience Bulletin</i> , 36, 1191-1212.	5.203
13. Borgomaneri S, Vitale F, Avenanti A (2020). Early motor reactivity to observed human body postures is affected by body expression, not gender. <i>Neuropsychologia</i> , 146, 107541. (corr author)	3.139
14. Bagnis A, Diano M, Celeghin A, Mendez CA, Spadaro G, Mosso CO, Avenanti A, Tamietto M (2020). Functional neuroanatomy of racial categorization from visual perception: a meta-analytic study. <i>Neuroimage</i> , 217, 116939.	6.556
15. Vicario CM, Salehinejad MA, Mosayebi Samani M, Maezawa H, Avenanti A, Nitsche MA (2020). Transcranial Direct Current Stimulation over the tongue motor cortex reduces appetite in healthy humans. <i>Brain Stimulation</i> , 13, 1121-1123.	8.955
16. Borgomaneri S, Bolloni C, Sessa P, Avenanti A (2020). Blocking facial mimicry affects recognition of facial and body expressions. <i>Plos One</i> 15, e0229364. (corr author)	3.240
17. Vicario CM, Nitsche MA, Hoyster I, Yavari F, Avenanti A, Salehinejad MA, Felmingham KL (2020). Anodal transcranial direct current stimulation over the ventromedial prefrontal cortex enhances fear extinction in healthy humans: A single blind sham-controlled study. <i>Brain Stimulation</i> 13, 489-491.	8.955
18. Agnoli S, Zanon M, MASTRIA S, Avenanti A, Corazza G (2020). Predicting response originality through brain activity: an analysis of changes in EEG alpha power during the generation of alternative ideas. <i>Neuroimage</i> 207, 116385.	6.556
19. Fino E, Melegatti M, Avenanti A, Rubini M (2019). Unfolding political attitudes through the face: facial expressions when reading emotion language of left- and right-wing political leaders. <i>Scientific Reports</i> 30, 15689	3,998
20. Paracampo R, Montemurro M, De Vega M, Avenanti A (2018). Primary motor cortex crucial for action prediction: a tDCS study. <i>Cortex</i> 109, 287-302. (corr author)	4,907
21. Fiori F, Chiappini E, Avenanti A (2018). Enhanced action performance following TMS manipulation of associative plasticity in ventral premotor-motor pathway. <i>Neuroimage</i> 183, 847-858. (corr author)	5,426
22. Agnoli M, Zanon M, MASTRIA S, Avenanti A, Corazza GE (2018). Enhancing creative cognition with a rapid right-parietal neurofeedback procedure. <i>Neuropsychologia</i> 118, 99-106.	2,889
23. Zanon M, Borgomaneri S, Avenanti A (2018). Action-related dynamic changes in inferior frontal cortex effective connectivity: a TMS/EEG coregistration study. <i>Cortex</i> 108, 193-209. (corr author)	4,907
24. Paracampo R, Pirruccio M, Costa M, Borgomaneri S, Avenanti A (2018). Visual, sensorimotor and cognitive routes to understanding others' enjoyment: an individual differences rTMS approach to empathic accuracy. <i>Neuropsychologia</i> 116, 86-98. (corr author)	2,889
25. Chiappini E, Silvano J, Hibbard PB, Avenanti A, Romei V (2018). Strengthening functionally specific neural pathways with transcranial brain stimulation. <i>Current Biology</i> 28, R735-R736.	9,251
26. Gallo S, Paracampo R, Müller-Pinzler L, Severo MC, Blömer L, Fernandes-Henriques C, Henschel A, Lammes BK, Maskaljunas T, Suttrup J, Avenanti A, Keyzers C, Gazzola V (2018). The causal role of the somatosensory cortex in prosocial behaviour. <i>eLife</i> 7, e32740.	7,616

27. Avenanti A, Paracampo R, Annella L, Tidoni E, Aglioti SM (2018). Boosting and decreasing action prediction abilities through excitatory and inhibitory tDCS of inferior frontal cortex. *Cerebral Cortex* 28, 1282-1296. (corr author) 6,308
28. Bertossi E, Peccenini L, Solmi A, Avenanti A, Ciaramelli E (2017). Transcranial direct current stimulation of the medial prefrontal cortex dampens mind-wandering in men. *Scientific Reports* 7, 16962. 4,122
29. Fiori F, Chiappini E, Candidi M, Romei V, Borgomaneri S, Avenanti A (2017). Long-latency interhemispheric interactions between motor-related areas and the primary motor cortex: a dual site TMS study. *Scientific Reports* 7, 14936. (corr author) 4,122
30. Paracampo R, Tidoni E, Borgomaneri S, di Pellegrino G, Avenanti A (2017). Sensorimotor network crucial for inferring amusement from smiles. *Cerebral Cortex* 27, 5116-5129. (corr author) 6,308
31. Valchev N, Tidoni E, Hamilton AF, Gazzola V, Avenanti A (2017). Primary somatosensory cortex necessary for the perception of weight from other people's action: a continuous theta-burst TMS experiment. *Neuroimage* 152, 195-206. (corr author) 5,426
32. Vicario CM, Rafal RD, Martino D, Avenanti A (2017). Core, social and moral disgust are bounded: A review on behavioral and neural bases of repugnance in clinical disorders. *Neuroscience & Biobehavioral Reviews* 80, 185-200. 8,037
33. Borgomaneri S, Vitale F, Avenanti A (2017). Behavioral inhibition system sensitivity enhances motor cortex suppression when watching fearful body expressions. *Brain Structure and Function* 7, 3267-3282. (corr author) 4,321
34. Vicario CM, Rafal RD, Borgomaneri S, Paracampo R, Kritikos A, Avenanti A (2017). Pictures of disgusting foods and disgusted facial expressions suppress the tongue motor cortex. *Social Cognitive and Affective Neuroscience* 12, 352-362. (corr author) 3,500
35. Fiori F, Chiappini E, Soriano M, Paracampo R, Romei V, Borgomaneri S, Avenanti A (2016). Long-latency modulation of motor cortex excitability by ipsilateral posterior inferior frontal gyrus and pre-supplementary motor area. *Scientific Reports* 6, 38396. (corr author) 5,578
36. Romei, V., Chiappini, E., Hibbard, P., Avenanti, A. (2016). Empowering reentrant projections from V5 to V1 boosts sensitivity to motion. *Current Biology* in press. (corr author) 8,983
37. Fino E, Menegatti M, Avenanti A, Rubini M. (2016). Enjoying vs. smiling: Facial muscular activation in response to emotional language. *Biological Psychology* 118, 126-135. (corr author) 3,234
38. Valchev, N., Gazzola, V., Avenanti, A., Keysers, C. (2016). Primary somatosensory contribution to action observation brain activity-combining fMRI and cTBS. *Social Cognitive and Affective Neuroscience* 11, 1205-1217. 5,101
39. Borgomaneri, S., Vitale, F., Avenanti, A. (2015). Early changes in corticospinal excitability when seeing fearful body expressions. *Scientific Reports* 5, 14122. (corr author) 5,228
40. Borgomaneri, S., Gazzola, V. Avenanti, A. (2015). Transcranial magnetic stimulation reveals two functionally distinct stages of motor cortex involvement during perception of emotional body language. *Brain Structure and Function* 220, 2765-2781. (corr author) 5,811
41. Borhani, K., Ladavas, E., Maier, M.E., Avenanti, A., Bertini, C. (2015). Emotional and movement-related body postures modulate visual processing. *Social Cognitive and Affective Neuroscience* 10, 1092-1101. 5,101
42. Valchev, N., Čurčić-Blake, B., Renken, R., Avenanti, A., Keysers, C., Gazzola, V., Maurits, N.M. (2015). cTBS delivered to the left somatosensory cortex changes its functional connectivity during rest. *Neuroimage* 114, 386-387. 5,463
43. Mengarelli, F., Spoglianti, S., Avenanti, A., di Pellegrino, G. (2015). Cathodal tDCS over the left prefrontal cortex diminishes choice-induced preference change. *Cerebral Cortex* 25, 1219-1227. 8,285
44. Ladavas, E., Giulietti, S., Avenanti, A., Bertini, C., Lorenzini, E., Quinquinio, C., Serino, A. (2015). a-tDCS on the ipsilesional parietal cortex boosts the effects of prism adaptation treatment in neglect. *Restorative Neurology and Neuroscience* 33, 647-662. 2,661
45. Borgomaneri, S., Vitale, F., Gazzola, V., Avenanti, A. (2015). Seeing fearful body language rapidly freezes the observer's motor cortex. *Cortex* 65, 232-245. (corr author) 4,314
46. Vicario, C.M., Rafal, R.D., Avenanti, A. (2015). Counterfactual thinking affects the excitability of the motor cortex. *Cortex* 65, 139-148. (Editorial mention) 4,314
47. Jacquet, P.O., Avenanti, A. (2015). Perturbing the action observation network during perception and categorization of actions' goals and grips: state-dependency and virtual lesion TMS effects. *Cerebral Cortex* 25, 598-608. (corr author) 8,285
48. Valchev, N., Zijdwind, I., Keysers, C., Gazzola, V., Avenanti, A., Maurits, N.M. (2015). Weight dependent modulation of motor resonance induced by weight estimation during observation of partially occluded lifting actions. *Neuropsychologia* 66, 237-245 2,989
49. Borgomaneri, S., Gazzola, V., Avenanti, A. (2014). Temporal dynamics of motor cortex excitability during perception of emotional scenes. *Social Cognitive and Affective Neuroscience* 9, 1451-1457 (corr author) 7,372
50. Urgesi, C., Candidi, M. Avenanti, A. (2014). Neuroanatomical substrates of action perception and understanding: an anatomic likelihood estimation meta-analysis of lesion-symptom mapping studies in brain injured patients. *Frontiers in Human Neuroscience*. 8, 344. 2,986
51. Avenanti, A., Vicario, C.M., Borgomaneri, S. (2014). Social dimensions of pain: Comment on "Facing the experience of pain: A neuropsychological perspective" by Fabbro and Crescentini. *Physics of Life Review*, 11:558-61. (corr author) 7,478
52. Avenanti, A., Candidi, C., Urgesi, C. (2013). Vicarious motor activation during action perception: beyond correlational evidence. *Frontiers in Human Neuroscience* 7, 185. (corr author) 2,895
53. Azevedo, R.T., Macaluso, E., Avenanti, A., Santangelo, V., Cazzato, V., Aglioti, S.M. (2013). Their pain is not Our pain: Brain and autonomic correlates of empathic resonance with the pain of same and different race individuals. *Human Brain Mapping*, 34, 3168-3181. 6,924

54. Avenanti, A., Annella, L., Candidi, C., Urgesi, C., Aglioti, S.M. (2013). Compensatory plasticity in the action observation network: virtual lesions of STS enhance anticipatory simulation of seen actions. *Cerebral Cortex* 33, 611-623. (corr author) 8,305
55. Tidoni, E., Borgomaneri, S., di Pellegrino, G., Avenanti, A. (2013). Action simulation plays a critical role in deceptive action recognition. *The Journal of Neuroscience* 33, 611-623. (Media Coverage) (corr author) 6,747
56. Vicario, C.M., Kritikos, A., Avenanti, A., Rafal, R. (2013). Reward and Punishment: investigating cortico-bulbar excitability to disclose the value of goods. *Frontiers in Psychology* 4, 39. 2,843
57. Avenanti, A., Annella, L., Serino, A. (2012). Suppression of premotor cortex disrupts motor coding of peripersonal space. *Neuroimage* 63, 281–288. (corr author) 6,252
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