

## Curriculum Vitae - Alessio Avenanti

Full Professor in Cognitive Neuroscience, University of Bologna (UNIBO)

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### Professional history:

- 2021 - to date Director of the Organizational Unit (UOS) Cesena, Dept. of Psychology, UNIBO.
- 2019 - to date Full Professor of 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:

- 2007 - PhD in "Cognitive Neuroscience". Sapienza Univ. of Rome. Score: Excellent.
- 2003 - Master degree in "Experimental Psychology". Sapienza Univ. of Rome. Score: magna cum laude.
- 1996 - 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, PLoS Biology, Neurology, Biological Psychiatry, Journal of Neuroscience, Neuroscience and Biobehavioral Reviews 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):

Since 2006, I received competitive research grant funding for >3 million euros. Here is a selection of recent grants:

- 2022 - 2025 Bial Foundation 2022/2023. Title: *"Boosting and hindering action imitation by modulating spike-timing dependent plasticity"*. Tot: € 55.500. Prot. num. 304/2022. Role: PI
- 2022 - 2024 Fondazione del Monte di Bologna e Ravenna, Italy. Title: *"Driving neuroplasticity of fronto-parietal motor circuits in aging"*. Tot: € 120.000. Prot. num. 1402bis/2021. Role: PI
- 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. 347/2018. 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. Title: *"Embodied (e)motions: brain mechanisms and their socio-cultural modulation"*. Prot. num. R-117/13, 14-139-R. Tot: € 100.000. Role: PI

### 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 100 publications, including 94 SCOPUS publications (first/last/correspondent author in 64% of them).
- WoS publications: Total Impact Factor: 544; mean IF: ~5.8; 86% of my articles are in Q1 (Journal of Citation Reports)
- Citations: ~7600 (Scholar), ~5000 (Scopus); H-index: 45 (Scholar), 37 (Scopus)

### Representative publications (see annex 1 for a complete list):

1. Chiappini E, Sel A, Hibbard PB, **Avenanti A**, Romei V (2022). Increasing interhemispheric connectivity between human visual motion areas uncovers asymmetric sensitivity to horizontal motion. *CURRENT BIOLOGY* (IF=10.9).
2. 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).
3. 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)

4. 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)
5. **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)
6. **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).
7. **Avenanti A**, Bolognini N, Maravita A, Aglioti SM (2007). Somatic and motor components of action simulation. *CURRENT BIOLOGY* 17, 2129–2135. (IF=10.5)
8. **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: Cognitive, Affective and Behavioral Neuroscience (since 2015), Brain Sciences (since 2021). I have served PLOS ONE as Section editor (2011-2019), Scientific Reports (2016-2020). 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, Neuroimage, Neuroscience and Biobehavioral Reviews, PNAS, TICS, 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 for 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, 2021); FWO - Fonds Wetenschappelijk Onderzoek– Vlaanderen (Research Foundation – Flanders), Belgium (2019, 2020); FNRS - Fonds de la Recherche Scientifique (F.R.S.– FNRS), Belgium (2020, 2021); 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:

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| 2021 | Honor: Member of the Council of the Fondazione Cassa di Risparmio di Cesena, Cesena, IT.  |
| 2021 | Honor: Member of the international Advisory Board of the Latin American Brain Health institute, at Universidad Adolfo Ibáñez, Santiago, CL.             |
| 2020 | Honor: Paul Harris Fellow – Rotary international. Honorific recognition for outstanding achievements in social, cultural and scientific activities, IT. |
| 2019 | Honor: Associate member of the CINPSI Neurocog, Universidad Católica del Maule, Talca, CL.  |
| 2019 | Honor: Elected member of the International Neuropsychology Symposium.   |
| 2018 | Honor: Honorary member of the Instituto de Neurociencia, Universidad de la Laguna, Tenerife, ES.  |

- 2016 Research Award: "Premio SIFP 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 Univ.; IDG/McGovern Institute for Brain Research; Peking Univ.; Univ. College of London; Max Planck Institute, Leipzig; Netherland Institute of Neuroscience; Univ. of Groningen; Univ. of Ghent; CNRS – Univ. de Lyon; Univ. de Lille, Univ. de la Laguna; Univ of Malta; Fondacion INECO, Buenos Aires; 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 local events, including 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 newspapers (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 on the web.

### Teaching and mentoring:

Since 2006, I have been teaching in Bachelor and Master degree courses in Psychology and Neuroscience as well as Ph.D. courses at the UNIBO, both in Italian and English. My main courses/subjects are: "Cognitive neuroscience", "Social and affective neuroscience", "Research methods in neuroscience", "Non-invasive brain stimulation". I have taught short courses, workshops and seminars in Cognitive neuroscience and brain stimulation in several Master and Ph.D. programs in Europe, as well as North and South America and Asia (>50 courses).

Since 2006 I have supervised the research of over 100 undergraduate and graduate students for their dissertation at UNIBO. I am currently supervising 2 PhD students at UNIBO (Sonia Turrini and Antonio Cataneo) and I have supervised or co-supervised the Ph.D. research project of the following young researchers: 1) Paolo Di Luzio (2022) now postdoc at the Univ. of Chieti-Pescara; 2) Francesca Vitale (2021) now Margarita Salas scholar at the Univ. de la Laguna and the Univ. of Bologna; 3) Emilio Chiappini, Ph.D. (2017), now postdoc at the Univ. of Vienna; 4) Riccardo Paracampo, Ph.D. (2016) now editor at Elsevier and postdoc at the Netherland Institute of Neuroscience; 5) Sara Borgomaneri, Ph.D. (2015) now associate professor at UNIBO; 6) Emmanuele Tidoni, Ph.D. (2013) now Lecturer at the University of Hull, UK; 7) Nikola Valchev, Ph.D. at the Univ. Of Groningen (2014), now Data scientist at TNT / FedEx; 8) Laura Annella, Ph.D. at UNIBO (2012) now Clinical Neuropsychologist at S.Biagio institute.

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Cesena, February 6 2023

## ANNEX 1 - List of publications

## Impact Factor

1. Turrini S, Bevacqua N, Cataneo A, Chiappini E, Fiori F, Candidi M, **Avenanti A** (2023). Transcranial cortico-cortical paired associative stimulation (ccPAS) over ventral premotor-motor pathways enhances action performance and corticomotor excitability in young adults more than in elderly adults. *Frontiers in Aging Neuroscience*, In press (corr author). 5.702
2. Spaccasassi C, Cenka K, Petkovic S, **Avenanti A** (2023). Sense of agency predicts severity of moral judgments. *Frontiers in Psychology* 13, 1070742. 4.232
3. Pennisi P, Salehinejad, MA, Corso AM, Merlo EM, **Avenanti A**, Vicario CM. (2023). Delay discounting in Parkinson's disease: a systematic review and meta-analysis. *Behavioural Brain Research* 436, 114101. 3.352
4. Vicario CM, Turrini S, Lucifora C, Culicetto L, Ferraioli F, Falzone A, Nitsche MA, **Avenanti A** (2022). When defeat leaves a bad taste in the mouth: modulation of tongue corticobulbar output during monetary loss in a gambling task. *Brain Stimulation* 15, 1448-1450. 9.184
5. Turrini S, Fiori F, Chiappini E, Santarnecki E, Romei V, **Avenanti A** (2022). Gradual enhancement of corticomotor excitability during cortico-cortical paired associative stimulation. *Scientific Reports* 12, 14670 (corr author). 4.996
6. Vicario CM, Nitsche MA, **Avenanti A** (2022). Tongue motor cortex: the back door of the reward system. *Neuroscience & Biobehavioral Reviews* 141, 104820. 9.052
7. Chiappini E, Sel A, Hibbard P, **Avenanti A**, Romei V (2022). Increasing interhemispheric connectivity between human visual motion areas uncovers asymmetric sensitivity to horizontal motion. *Current Biology* 32, 4064-4070. 10.900
8. Di Luzio P, Tarasi L, Silvanto J, **Avenanti A**, Romei V (2022). Human perceptual and metacognitive decision-making rely on distinct brain networks. *PLoS Biology* 20, e3001750. 9.593
9. Spaccasassi C, Zanon M, Borgomaneri S, **Avenanti A** (2022). Mu rhythm and corticospinal excitability capture two different frames of motor resonance: a TMS/EEG co-registration study. *Cortex* 154, 197-211 (corr author). 4.996
10. Lucifora C, Grasso G, Nitsche MA, D'Italia G, Sortino M, Salehinejad MA, Falzone AM, **Avenanti A**, Vicario CM (2022). Enhanced fear acquisition in individuals with evening chronotype. A virtual reality fear conditioning/extinction study. *Journal of Affective Disorders* 311, 344-352. 6.533
11. Botta A, Lagravinese G, Bove M, Pelosin E, Bonassi G, **Avenanti A**, Avanzino L (2022). Sensorimotor inhibition during emotional processing. *Scientific Reports* 12, 6998. 4.380
12. Di Gregorio F, Traikovic J, Roperti C, Marcantoni E, Di Luzio P, **Avenanti A**, Thut G, Romei V (2022). Tuning alpha rhythms to shape conscious visual perception. *Current Biology* 32, 988-998. 10.900
13. Terranova S, Meconi F, **Avenanti A** (2002). Representación cerebral de la empatía y de los procesos intergrupales, in: *Neurocognición del lenguaje: más allá de las palabras*, Madrid, Editorial Médica Panamericana, 187-200. book chapter
14. Vitale F, Monti I, Padron I, **Avenanti A**, de Vega (2022). The neural inhibition network is causally involved in the disembodiment effect of linguistic negation. *Cortex* 147, 72-82. 4.996
15. Vicario CM, Rafal RD, di Pellegrino G, Lucifora C, Salehinejad MA, Nitsche MA, **Avenanti A** (2022). Indignation for moral violations suppresses the tongue motor cortex: preliminary TMS evidence. *Social Cognitive and Affective Neuroscience* 17, 151-159. (corr author) 4.235
16. Ahumada-Méndez F, Lucero B, **Avenanti A**, Saracini C, Muñoz-Quezada MT, Cortés-Rivera C, Canales-Johnson A (2022). Affective modulation of cognitive control: A systematic review of EEG studies. *Physiology & Behavior* 249, 113743. 3.742
17. Borgomaneri S, Vitale F, Battaglia S, **Avenanti A** (2021). Early right motor cortex response to happy and fearful facial expressions: a TMS motor-evoked potential study. *Brain Sciences* 11, 1203 (corr author) 3.333
18. Oldrati V, Finisguerra A, **Avenanti A**, Aglioti SM, Urgesi C (2021). Differential influence of the dorsal premotor and primary somatosensory cortex on corticospinal excitability during kinesthetic and visual motor imagery: a low-frequency repetitive transcranial magnetic stimulation study. *Brain Sciences* 11, 1196. 3.333
19. Meconi F, Goranova Z, Degano G, Di Lello N, Miniussi C, **Avenanti A**, Mevorach C (2020). Remember as we empathize. Do brain mechanisms engaged in autobiographical memory retrieval causally affect empathy awareness? A combined TMS and EEG registered report. *Journal of Neuroscience Research* 99, 2377-2389 4.433
20. 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. *Journal of Affective Disorders* 286, 78-79. 6.533
21. Botta A, Lagravinese G, Bove M, **Avenanti A**, Avanzino L (2021). Modulation of reaction times during processing of emotional body language. *Frontiers in Psychology*, 12:616995. 4.223
22. Vitale F, Padron I, **Avenanti A**, de Vega (2021). Enhancing motor brain activity improves memory for action language: a tDCS study. *Cerebral Cortex* 31, 1569-1581 (corr author). 4,861

23. 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. *Cerebral Cortex* 31, 257-280. 4,861
24. Patri JF, Cavallo A, Pullari 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. *Current Biology* 30, 4594-4605. 10,834
25. 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. (corr author) 8,955
26. 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. *Cortex* 132, 51-62. 4,027
27. 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.) *Non Invasive Brain Stimulation in Psychiatry and Clinical Neurosciences*. Springer Nature Switzerland, Switzerland, pp 301-317. book chapter
28. 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. 10,834
29. 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. *Neuroscience Bulletin* 36, 1191-1212. 5,203
30. Borgomaneri S, Vitale F, **Avenanti A** (2020). Early motor reactivity to observed human body postures is affected by body expression, not gender. *Neuropsychologia*, 146, 107541. (corr author) 3,139
31. 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. *Neuroimage* 217, 116939. 6,556
32. 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. *Brain Stimulation* 13, 1121-1123. 8,955
33. Borgomaneri S, Bolloni C, Sessa P, **Avenanti A** (2020). Blocking facial mimicry affects recognition of facial and body expressions. *Plos One* 15, e0229364. (corr author) 3,240
34. 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. *Brain Stimulation* 13, 489-491. 8,955
35. 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. *Neuroimage* 207, 116385. 6,556
36. 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. *Scientific Reports* 30, 15689 3,998
37. Paracampo R, Montemurro M, De Vega M, **Avenanti A** (2018). Primary motor cortex crucial for action prediction: a tDCS study. *Cortex* 109, 287-302. (corr author) 4,907
38. 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. (corr author) 5,426
39. Agnoli M, Zanon M, MASTRIA S, **Avenanti A**, Corazza GE (2018). Enhancing creative cognition with a rapid right-parietal neurofeedback procedure. *Neuropsychologia* 118, 99-106. 2,889
40. Zanon M, Borgomaneri S, **Avenanti A** (2018). Action-related dynamic changes in inferior frontal cortex effective connectivity: a TMS/EEG coregistration study. *Cortex* 108, 193-209. (corr author) 4,907
41. 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. *Neuropsychologia* 116, 86-98. (corr author) 2,889
42. Chiappini E, Silvanto J, Hibbard PB, **Avenanti A**, Romei V (2018). Strengthening functionally specific neural pathways with transcranial brain stimulation. *Current Biology* 28, R735-R736. 9,251
43. 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. *eLife* 7, e32740. 7,616
44. **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
45. 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

46. 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
47. 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
48. 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
49. 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
50. 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
51. 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
52. 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
53. 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. (corr author) 8,983
54. 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
55. 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
56. 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
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