

## Luca Tarasi

### Education and training:

[2023] **Visiting PhD Student** in Neuroscience at the Department of Psychology, University of Essex, UK. Supervisor: Prof. Alex Sel.

[2023] Successfully passed the **state examination to practice as a psychologist**, University of Pavia, Italy, 100/100.

[2020 – 2023] **PhD Student** in "Health and Technologies," University of Bologna, Italy. Supervisors: Prof. Vincenzo Romei, Department of Psychology "Renzo Canestrari" – PSI and Prof. Stefano Diciotti, Department of Electrical Energy and Information Engineering "Guglielmo Marconi" - DEI.

[2019-2020] **Postgraduate training internship**. Center for Studies and Research in Cognitive Neuroscience (CsrNC), University of Bologna, Italy. Supervisor: Prof. Caterina Bertini.

[2017-2019] **Master's Degree** in "Neurosciences and Neuropsychological Rehabilitation" (110/110 with honors). Thesis: "The role of re-entrant projections V5-V1 and IPS-V1 in perceptual decision making". Supervisor: Prof. Vincenzo Romei.

[2014-2017] **Bachelor's Degree** in "Psychological Sciences and Techniques" (110/110). Thesis: "Analyticity and Intuitiveness as modulators of the feeling of regret". Supervisor: Elisa Gambetti.

### **Courses and certificates**

- Summer School - Structural Equation Models, June 27-July 2, 2022, organized by Italian Psychology Association (AIP), Bertinoro (Italy).
- *Winter School - Data Analysis in R, 10-14 January 2022, Vrije Universiteit Amsterdam*
- *Statistical Parametric Mapping (SPM) MEG/EEG course* organized by the Wellcome Centre for Human Neuroimaging (UCL) 18th October – 21st October 2021
- *Computational Psychiatry Course 2021* organized by the Translational Neuromodeling Unit, University of Zurich & ETH Zurich
- Winter School on Biotechnology, 7<sup>th</sup> Edition – Virtual Edition. *Biotechnologies in the time of COVID – 19*, 18-25 January 2021, Perugia (Italy).
- *Corso Strumenti di data analysis and visualization (60 ore) II edizione*, financed by the Emilia Romagna Region and the European Social Fund, July 2020.
- Summer School - *Advanced Tools for Psychology and Social Science*, 26-30 August 2019, Università Cattolica del Sacro Cuore, Milan (Italy).

### Languages

- Native Italian speaker
- English (B2)

### Publication

- **Tarasi, L.**, Martelli, M. E., Bortoletto, M., di Pellegrino, G., & Romei, V. (2023). Neural Signatures of Predictive Strategies Track Individuals Along the Autism-Schizophrenia Continuum. *Schizophrenia Bulletin*, 49(5), 1294-1304.
- **Tarasi, L.**, Borgomaneri, S., & Romei, V. (2023). Antivax attitude in the general population along the autism-schizophrenia continuum and the impact of socio-demographic factors. *Frontiers in Psychology*, 14, 1059676.
- **Tarasi, L.**, & Romei, V. (2023). Individual alpha frequency contributes to the precision of human visual processing. *Journal of Cognitive Neuroscience*, 1-11.
- Bertaccini, R., Ippolito, G., **Tarasi, L.**, Zazio, A., Stango, A., Bortoletto, M., & Romei, V. (2023). Rhythmic TMS as a Feasible Tool to Uncover the Oscillatory Signatures of Audiovisual Integration. *Biomedicine*, 11(6), 1746.
- O'Hare, L., **Tarasi, L.**, Asher, J. M., Hibbard, P. B., & Romei, V. (2023). Excitation-Inhibition Imbalance in Migraine: From Neurotransmitters to Brain Oscillations. *International Journal of Molecular Sciences*, 24(12), 10093.
- Ippolito, G., Bertaccini, R., **Tarasi, L.**, Di Gregorio, F., Trajkovic, J., Battaglia, S., & Romei, V. (2022). The role of alpha oscillations among the main neuropsychiatric

disorders in the adult and developing human brain: Evidence from the last 10 years of research. *Biomedicines*, 10(12), 3189.

- **Tarasi, L.**, di Pellegrino, G., & Romei, V. (2022). Are you an empiricist or a believer? Neural signatures of predictive strategies in humans. *Progress in Neurobiology*, 219, 102367.
- **Tarasi, L.**, Trajkovic, J., Diciotti, S., di Pellegrino, G., Ferri, F., Ursino, M., & Romei, V. (2022). Predictive waves in the autism-schizophrenia continuum: A novel biobehavioral model. *Neuroscience & Biobehavioral Reviews*, 132, 1-22.
- Ursino, M., Serra, M., **Tarasi, L.**, Ricci, G., Magosso, E., & Romei, V. (2022). Bottom-up vs. top-down connectivity imbalance in individuals with high-autistic traits: An electroencephalographic study. *Frontiers in Systems Neuroscience*, 16, 932128.
- 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(8), e3001750.
- **Tarasi, L.**, Magosso, E., Ricci, G., Ursino, M., & Romei, V. (2021). The directionality of fronto-posterior brain connectivity is associated with the degree of individual autistic traits. *Brain Sciences*, 11(11), 1443.

## Conferences

- **Tarasi L.**, Romei V. "*Pre-stimulus alpha frequency shapes sensory precision*". Talk, XXXI Annual Congress of the Italian Society of Psychophysiology and Cognitive Neuroscience (SIPF). 9-11 November 2023, Siena, Italy.
- Ippolito G., **Tarasi L.**, Bertaccini R., Trajkovic J., Fusco G., Finisguerra A., Urgesi C., Romei V. "*Believe to see: manipulating prior visual expectations shapes religious attitudes in exteroceptive tasks*". Poster, XXXI Annual Congress of the Italian Society of Psychophysiology and Cognitive Neuroscience (SIPF). 9-11 November 2023, Siena, Italy.
- Romei V., Bertini C., Avenanti A., **Tarasi L.** "*Neurobehavioral signatures of predictive coding in aging*". Poster, XXXI Annual Congress of the Italian Society of Psychophysiology and Cognitive Neuroscience (SIPF). 9-11 November 2023, Siena, Italy.
- Bertaccini R., Ippolito G., **Tarasi L.**, Zazio A., Stango A., Bortoletto M., Romei V. "*Rhythmic TMS as a Feasible Tool to Uncover the Oscillatory Signatures of Audiovisual Integration*". Poster, XXXI Annual Congress of the Italian Society of Psychophysiology and Cognitive Neuroscience (SIPF). 9-11 November 2023, Siena, Italy.

- Invited seminar on "*Autistic and schizotypal traits shape neural markers of predictive inference*" by Prof. Franziska Knolle, 02 November 2023, Technical University of Munich (DE).
- **Tarasi L.**, Lobov A., Rainer C., Kowshik V., Romei V., Sel A. "*Manipulating connectivity in the primary motor cortex changes interregional oscillatory communication*". Poster, Brainbox Initiative Conference 2023 for non-invasive brain stimulation & imaging. 21-22 September 2023, London, UK
- Chairman of the session "*Clinical aspects of vision*", European Conference on Visual Perception (ECVP). 27-31 August 2023, Paphos, Cyprus.
- **Tarasi L.**, Martelli M.E., di Pellegrino G., Romei V. "*Autistic and schizotypal traits shape neural markers of predictive inference*". Talk, European Conference on Visual Perception (ECVP). 27-31 August 2023, Paphos, Cyprus.
- Romei V., Poch C., **Tarasi L.** "*Pre-stimulus alpha speed dictates the precision of visual perception*". Talk, European Conference on Visual Perception (ECVP). 27-31 August 2023, Paphos, Cyprus.
- Invited lecture on "*Non Invasive Brain Stimulation: Methods and Applications*" course, for MSc in Neurosciences and neuro-psychological rehabilitation, University of Bologna (Italy), by Prof. Simone Battaglia, 27-28 October 2022.
- Orsoni, M., Scutari, M, **Tarasi, L.**, Romei, V., and Benassi, B., (2022) "*Bayesian networks and Jensen-Shannon divergence for item selection.*" European Mathematical Psychology Group (EMPG 2022), 5-7 September 2022 Rovereto TN-Italy)
- **Tarasi L.**, Di Pellegrino G., Romei V. "*Neurocomputational underpinnings of predictive perception*". Neuromatch Conference. Flash Talk, 27-28 September 2022.
- Chairman of the symposium "*Predictive waves in human perception*", XXX Annual Congress of the Italian Society of Psychophysiology and Cognitive Neuroscience (SIPF). 15-17 September 2022, Udine, Italy.
- **Tarasi L.** "*Neural signatures of human predictive processes along the autism-schizophrenia continuum*". Talk, XXX Annual Congress of the Italian Society of Psychophysiology and Cognitive Neuroscience (SIPF). 15-17 September 2022, Udine, Italy.
- Invited lecture on "*Electrophysiological measures in cognitive neuroscience*", Centre for studies and research in Cognitive Neuroscience, Department of Psychology, University of Bologna (Italy), by prof. Simone Battaglia, 28 January 2022.
- **Tarasi L.**, Di Pellegrino G., Romei V. "*Decision-making along the autism continuum: behavioural and electrophysiological evidence*". Annual Congress of the Italian

*Society of Psychophysiology and Cognitive Neuroscience (SIPF)*. Poster, September 2021, Palermo, Italy.

- Di Luzio P., **Tarasi L.**, Avenanti A., Romei V. "*Functional modulation of targeted perceptual decision-making networks causally dissociates accuracy and confidence components performance*". European Conference on Visual Perception (ECVP). Poster, August 22-27, 2021.
- **Tarasi L.**, Di Pellegrino, G., Romei V. "*Electrophysiological correlates underlying reduced use of priors in the autistic continuum*". Salzburg Mind-Brain Annual Meeting (SAMBA). Poster, 15-16 July 2021.
- Di Luzio P., **Tarasi L.**, Silvanto J., Avenanti A., Romei V. "Induced plasticity in feedback visual networks selectively affect subjective and objective forms of perceptual decisions". Salzburg Mind-Brain Annual Meeting (SAMBA). Poster, 15-16 July 2021.
- Di Luzio P., **Tarasi L.**, Silvanto J., Avenanti A., Romei V. "*Driving associative plasticity in reentrant visual networks dissociate subjective vs. objective components of perceptual decision-making*". Transcranial Brain Stimulation in Cognitive Neuroscience Workshop (CIMeC). Poster, 3-4 December 2020, Rovereto, Italy.
- Di Luzio P., **Tarasi L.**, Russo A., Romei V. "*Driving plasticity in recurrent visual networks affects perceptual decision-making*". 7th International Conference on Non-Invasive Brain Stimulation (NIBS), March 24 - 26, 2020 in Baden-Baden, Germany.

## Honours and awards

- SIPF GIOVANI Award for the best scientific contribution presented at the XXXI SIPF National Congress by young researchers under the age of 35.
- 2019 - Study Grant (€1,500) for deserving students enrolled during the 2018/19 a.y. in Degree Programmes at the University of Bologna.
- 2018 - Study Grant (€1,500) for deserving students enrolled during the 2017/18 a.y. in Degree Programmes at the University of Bologna.
- 2017 - Study Grant (€1,500) for deserving students enrolled during the 2016/17 a.y. in Degree Programmes at the University of Bologna.

## Computer software

- Productive software: OpenOffice, Microsoft Suite (Word, Excel, Powerpoint)
- Statistical analysis: SPSS, JASP

- Programming languages: MATLAB, R, Python
- Images editing: Adobe Illustrator

Cesena, 23/11/2023

A handwritten signature in black ink, appearing to read "Tom Lian". The signature is stylized with a large, sweeping initial "T" and a long, horizontal stroke for the "L".