

## Roberta Ronchi, PhD

### PERSONAL INFORMATION

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Date of birth: 17th November 1982

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### WORK EXPERIENCE: Clinical and research

Currently (October 2021-today)	<b>Head-psychologist of the Clinical Neuropsychology Unit (70%)</b> at the Neurology Unit of the <b>University Hospital of Geneva (HUG)</b> , Geneva, Switzerland
Currently (October 2021-today)	<b>Collaborateur Scientifique (senior post-doctoral position) (30%)</b> at the Faculty of Medicine, <b>University of Geneva</b> , Campus Biotech, Geneva, Switzerland (prof. P. Vuilleumier).
January 2019-September 2021	<b>Neuropsychologist (50%)</b> at the Neurology Unit of the <b>University Hospital of Geneva (HUG)</b> , Geneva, Switzerland Neuropsychologist referent for the cognitive assessment after right-brain stroke. Diagnosis and/or early rehabilitation of different acquired brain lesions/dysfunctions: vascular, brain tumour, TBI, infective, degenerative, epileptic.
January 2019-September 2021	<b>Collaborateur Scientifique (senior post-doctoral position) (50%)</b> at the Faculty of Medicine, <b>University of Geneva</b> , Campus Biotech, Geneva, Switzerland (prof. P. Vuilleumier).
December 2017-December 2018	<b>Collaborateur Scientifique (senior post-doctoral position) on a MHV career grant (100%)</b> at the Faculty of Medicine, <b>University of Geneva</b> , Campus Biotech, Geneva, Switzerland (prof. P. Vuilleumier) Research projects on unawareness of neurological diseases, and of spatial neglect symptoms in brain-damaged patients. Use of behavioural, physiological and electrophysiological techniques.
January 2017 – November 2017	<b>Maître Assistante (senior post-doctoral position) (100%)</b> at the Faculty of Medicine, <b>University of Geneva</b> , Campus Biotech, Geneva, Switzerland (prof. D. Van De Ville and prof. P. Vuilleumier) Rehabilitation research project on neurofeedback training in brain-damaged patients with unilateral spatial neglect. Visuo-spatial attention, awareness and body representation of brain-damaged patients with and without unilateral spatial neglect. Research collaboration with LNCO-EPFL (pain modulation, body representation, intero-exteroceptive processing, new assessment tools for unilateral spatial neglect).
January 2013 – December 2016	<b>Post-doc (100%)</b> at the <b>École Polytechnique Fédérale de Lausanne (EPFL)</b> , Laboratory of Cognitive Neuroscience, Campus Biotech, Geneva, Switzerland (prof. O. Blanke) Bodily self-consciousness in healthy participants and brain-damaged patients, using virtual reality and multisensory stimulation. Pain modulation in patients with chronic pain and spinal cord injury. Clinical assessment of unilateral spatial neglect and related disorders. EEG and cognitive paradigms about intero-exteroceptive integration. Supervision of PhD students.

February 2011 – December 2012

**Post-doctoral research (50%)** at the **IRRCS Istituto Auxologico Italiano**, Laboratory of Neuropsychology, Milan, Italy (prof. G. Vallar)  
Unilateral spatial neglect manifestations, focused on productive symptoms, anosognosia, new methods for assessment and rehabilitation of spatial neglect.  
Research coordination.  
Supervision of BA. and MA. students.

November 2009 – December 2012

**Neuropsychologist (50%)** at the **IRRCS Istituto Auxologico Italiano**, Laboratory of Neuropsychology, Milan, Italy (prof. G. Vallar)  
Neuropsychological work with patients following acquired brain diseases.  
Assessment and diagnosis of neuropsychological deficits (e.g., spatial, bodily, memory, dysexecutive, perceptual, language focal deficits, and global cognitive impairment). Planning and execution of rehabilitation programs for cognitive deficits.  
Tutor of psychology internships.

## **WORK EXPERIENCE: Teaching**

Currently (2017-today)

**Coordinator of the course** ‘Clinical and Experimental Neuropsychology’, Master in Neuroscience, university of Geneva, Switzerland.

Currently (2015-today)

*“Left spatial neglect after right hemispheric lesion”*. **Annual class** (English) for the course ‘Clinical and Experimental Neuropsychology’, Master in Neuroscience, university of Geneva, Switzerland.

2022

*“Percevoir et explorer: la négligence spatiale unilatérale”*, **Annual class** (French) for the course “Neuropsychologie”, Bachelor in Psychology, university of Geneva, Switzerland.

2015-2020

*“Disorders of bodily self-consciousness”*. **Annual class** (French) for the course ‘Corps et Cognition: l’embodiment’, Master in Psychology, university of Geneva, Switzerland.

2020

*“Anosognosie et conscience de soi”*, **Annual class** (French) for the course “Neuropsychologie clinique de l’adulte”, Master in Psychology, university of Geneva, Switzerland.

2017

*“To rehabilitate left unilateral spatial neglect”*. **Annual class** (English) for the course ‘Clinical and Experimental Neuropsychology’, Master in Neuroscience, university of Geneva, Switzerland.

2010-2012

*“Methods and techniques of the neuropsychological assessment”*. **Annual 24-hours course** (Italian) of teaching support, Bachelor in Psychology, University of Milano-Bicocca, Milan, Italy.

## **EDUCATION and TRAINING**

November 2006-October 2010

**PhD program: Experimental psychology, linguistics and cognitive neuroscience**, university of Milano-Bicocca, Milan, Italy (Supervisor: prof. G. Vallar).  
Title of the Doctoral Thesis: *“Behavioural Monitoring Disorders in Unilateral Spatial Neglect: Productive Symptoms and Impaired Awareness of Disease”*.  
Thesis Defence: January 31<sup>st</sup>, 2011.

October 2008-March 2009

**Visiting PhD Student**, INSERM, UMR-S 864 “Espace et Action”, Lyon, France (Supervisors: prof. Y. Rossetti, prof. A. Farnè).

September 2006-March 2007

**Training (Research)**, IRRCS Istituto Auxologico Italiano hospital, Laboratory of Neuropsychology, Milano, Italy.

November 2004-July 2006	<b>Master Degree: Clinical Psychology and Neuropsychology</b> , university of Milano-Bicocca, Milan, Italy (Supervisor: prof. G. Vallar). Title of the thesis: <i>“Unilateral spatial neglect, perseveration and executive dysfunctions”</i> . Final degree: 110/110 cum laude.
November 2005-July 2006	<b>Training and Internship (Clinical neuropsychology)</b> , “Ospedali Riuniti” hospital, Bergamo, Italy (Supervisor: dr. B. Cadonati).
September 2001-October 2004	<b>Bachelor Degree: Psychology</b> (“Scienze e Tecniche Psicologiche”), university of Milano-Bicocca, Milan, Italy (Supervisor: prof. G. Vallar). Title of the thesis: <i>“Somatoparaphrenia: a review”</i> .
April 2004-August 2004	<b>Training (Clinical psychology)</b> , hospital of Treviglio-Caravaggio, Treviglio, Italy (Supervisor: dr. P. Molinari).
October 2003-February 2004	<b>“Visiting”: semester of international mobility program</b> , Université Paris Descartes, Paris, France.

## GRANTS

Approved (starting in Sept 2022)	<i>“This is not my body: the disrupted bodily self of neurological patients”</i> : HUG research funding.
September 2021-September 2023	<i>“This is not my body: the disrupted bodily self of neurological patients”</i> : SNSF project funding.
January 2020-December 2021	<i>“Unawareness of neurological disease: explicit and implicit measures, brain correlates, and recovery of awareness”</i> : Additional contribution from the Boninchi Foundation (co-PI with Prof. Patrik Vuilleumier).
December 2017-December 2020	<i>“Unawareness of neurological disease: explicit and implicit measures, brain correlates, and recovery of awareness”</i> : SNSF’s Marie Heim-Vögtlin career grant.
April 2014 – July 2016	<i>“Brain mechanisms of exteroceptive and interoceptive integration in bodily self-consciousness”</i> : EPFL’s international postdoctoral fellowship program co-founded by Marie Curie.
April 2014-March 2015	<i>“A novel virtual reality toolbox for unilateral spatial neglect syndrome assessment (VRAT)”</i> : Commission for Technology and Innovation (CTI), Life Sciences Division, Switzerland (with prof. Olaf Blanke).

## PEER-REVISION

**Journal:** Restorative Neurology and Neuroscience; Cortex; PlosONE; Neuropsychologia; Cognitive and Behavioral Neurology; Neurocase; Frontiers in Human Neuroscience; Journal of Neuropsychology; Journal of Neuroscience Research.  
**Grant:** Research Foundation - Flanders (Fonds Wetenschappelijk Onderzoek - Vlaanderen, FWO).

## SOCIETY MEMBERSHIP

Italian Society of Neuropsychology (SINP), Swiss Society for Neuroscience (SSN).

## CLINICAL ABILITATION

- Italian Psychology Association (OPL) for the independent profession of psychologist.
- « Droit de pratique dépendant » for the profession of psychologist in the Geneva canton.

## LINGUISTIC COMPETENCES

Italian (mother tongue). French and English (high proficiency).

## SYMPOSIA ORGANIZATION

- 14 September 2017 Co-Organizer with Francesca Garbarini of the symposium: “*My body is in pain! Exploring the interaction between pain processing and body representation*” – 6th FESN Conference, Maastricht, Netherlands. Speakers: Francesca Garbarini, Roberta Ronchi, Flavia Mancini, Daniele Romano; Discussant: Bigna Lenggenhager.
- 11 September 2015 Organizer of the symposium: “*My bodily-self in space: from bodily self-consciousness to out-of-body experiences*” - 5th FESN Conference, Tampere, Finland. Speakers: Angela Rossetti, Elisa Canzoneri, Katerina Fotopoulou, Andrea Serino.

## ORAL PRESENTATIONS

- 20 December 2021 “*Not only omissions: neglect and perseverative errors*” – Scientific event in the honour of Prof. Giuseppe Vallar, Milan, Italy.
- 11 October 2020 “*Anosognosia for unilateral spatial neglect: explicit and implicit knowledge of errors*” – 11<sup>th</sup> World Congress for Neurorehabilitation, virtual edition.
- 7 September 2019 “*Disownership of body parts as revealed by a continuous visual scale evaluation*” – 8<sup>th</sup> FESN Conference, Milan, Italy.
- 14 September 2017 “*Heartbeat-enhanced virtual reality alleviates chronic pain in complex regional pain syndrome*” - 6th FESN Conference, Maastricht, Netherlands.
- 17 October 2016 “*Productive symptoms in unilateral spatial neglect: visuo-motor and reading tasks*” – Colloques Neuropsychologie-Psychiatrie, HUG, Geneva, Switzerland.
- 16 September 2016 “*When the self leaves the body: functional mechanisms and disorders of bodily self-consciousness*” (Invited Talk) – International symposium “Selfies and Dronies: the self in art and therapy”, Wil, Switzerland.
- 11 January 2016 “*From internal signals to visual processing: cardio-visual integration for body perception*” – Alpine Imaging Brain Meeting, Champéry, Switzerland
- 3<sup>rd</sup> April 2014 “*La réalité virtuelle diminue la douleur par un contrôle de signaux corporels multi sensoriels*”(Invited Talk) - Research Day of the IRR, Sion, Switzerland.
- 2<sup>nd</sup> August 2013 “*Productive Symptoms in Unilateral Spatial Neglect Syndrome*” (Invited Talk) - CIMEc - Center for Mind/Brain Sciences, Rovereto, Italy.
- 10 November 2012 “*Omissions, substitutions and additions: neglect dyslexia in a word reading task*” – Italian Society of Neuropsychology (SINP), Roma, Italy.
- 27 May 2011 “*Perseveration in patients with left spatial neglect during visuo-motor exploration tasks: the role of target disposition and neural correlate*” – Italian Society of Neuropsychology (SINP), Bologna, Italy.
- 7 May 2010 “*(Un)awareness of unilateral spatial neglect*” – Italian Society of Neuropsychology (SINP), Bologna, Italy.
- 16 October 2009 “*Après lésion droite: somatoparaphrénie*”(Invited Talk) - Société de Neuropsychologie de Langue Française, Lyon, France.

## PUBLICATIONS

1. **R. Ronchi** and G. Vallar, “La riabilitazione della negligenza spaziale unilaterale”, *Manuale di Riabilitazione Neuropsicologica*, Il Mulino ed, (2022), 191-208.
2. G. Vallar and **R. Ronchi**, “Unilateral Spatial Neglect”, *Encyclopedia of Behavioral Neuroscience* (2022), vol. 2. Elsevier, 605–618. <https://doi.org/10.1016/B978-0-12-819641-0.00144-4>.
3. A. Saj, J. Pierce, **R. Ronchi**, T. Ros, M. Thomasson, T. Bernati, D. Van De Ville, A. Serino, P. Vuilleumier, “Real-time fMRI and EEG neurofeedback : a perspective on applications for the rehabilitation of spatial

- neglect”, *Annals of Physical and Rehabilitation Medicine* (2021), 64(5), 101561. doi: 10.1016/j.rehab.2021.101561.
4. M. Thomasson, D. Benis, A. Saj, P. Voruz, **R. Ronchi**, D. Grandjean, F. Assal, J. Peron, “Sensory contribution to vocal emotion deficit in cerebellar stroke patients”, *NeuroImage: Clinical*, 31 (2021), 102690. doi: 10.1016/j.nicl.2021.102690.
  5. J. Pierce, **R. Ronchi**, M. Thomasson, I. Rossi, C. Casati, A. Saj, G. Vallar, P. Vuilleumier, “A novel computerized assessment of manual spatial exploration in unilateral spatial neglect”, *Neuropsychol Rehabil* (2021), 21, 1-22. doi: 10.1080/09602011.2021.1875850.
  6. C. Corradi-Dell’Acqua, **R. Ronchi**, M. Thomasson, T. Bernati, A. Saj, P. Vuilleumier, “Cognitive and affective theory of mind underlie common lesion pattern in temporo-parietal junction, but not in insular and prefrontal cortex”, *Cortex* (2020), 128, 218-233. DOI: 10.1016/j.cortex.2020.03.019.
  7. **R. Ronchi**, M. Bassolino, D. Viceic, A. Bellmann, P. Vuadens, O. Blanke\*, G. Vallar\*, “Disownership of body parts as revealed by a visual scale evaluation. An observational study”, *Neuropsychologia* (2020), 138, 107337. DOI: 10.1016/j.neuropsychologia.2020.107337.
  8. A. Saj, J. Pierce, A. Caroli, M. Thomasson, **R. Ronchi**, P. Vuilleumier, “Rightward exogenous attentional shifts impair perceptual memory of spatial locations in patients with left unilateral spatial neglect”, *Cortex* (2020), 122, 187-197. DOI: 10.1016/j.cortex.2019.10.002.
  9. P. Fortis, **R. Ronchi**, V. Velardo, E. Calzolari, E. Banco, L. Algeri, M.S. Spada, G. Vallar, “A home-based prism adaptation training for neglect patients”, *Cortex* (2020), 122, 61-80. DOI: 10.1016/j.cortex.2018.09.001.
  10. G. Vallar and **R. Ronchi**, “Negligenza spaziale unilaterale e altri disordini unilaterali di rappresentazione”, *Manuale di Neuropsicologia*, Zanichelli ed, 3rd edition (2019), 577-626.
  11. **R. Ronchi**, I. Rossi, E. Calzolari, N. Bolognini, G. Vallar, “Exploring prism exposure after hemispheric damage: reduced aftereffects following left-sided lesions”. *Cortex* (2019), 120: 611-628. DOI: 10.1016/j.cortex.2018.10.014.
  12. M. Solcà, **R. Ronchi**, J. Bello-Ruiz, T. Schmidlin, B. Herbelin, F. Luthi, M. Konzelmann, J.Y. Beaulieu, F. Delaquaize, A. Schnider, A.G. Guggisberg, A. Serino, O. Blanke. “Heartbeat-enhanced immersive virtual reality to treat complex regional pain syndrome”, *Neurology* (2018), 91(5): e479-e489. DOI: 10.1212/WNL.0000000000005905.
  13. **R. Ronchi**, H.D. Park, O. Blanke, “Bodily self-consciousness and its disorders”, *The Parietal lobes. Neurological and neuropsychological deficits*, in *Handbook of Clinical Neurology* (2018), 151: 313-330. DOI: 10.1016/B978-0-444-63622-5.00015-2.
  14. R. Salomon, **R. Ronchi**, J. Dönnz, J. Bello-Ruiz, B. Herbelin, N. Faivre, K. Schaller, O. Blanke. “Insula mediates heartbeat related effects on visual consciousness”, *Cortex* (2018), 101: 87-95. DOI: 10.1016/j.cortex.2018.01.005.
  15. **R. Ronchi**, L. Heydrich, A. Serino, O. Blanke, “Illusory body ownership in a patient with personal neglect, but no somatoparaphenia”, *Journal of Neuropsychology* (2018), 12(3), 442-462. DOI: 10.1111/jnp.12123.
  16. P. Pozeg, E. Paluel, **R. Ronchi**, M. Solca, A. Al Khodairy, A. Kassouha, X. Jordan, O. Blanke, “Virtual reality improves embodiment and neuropathic pain caused by spinal cord injury”, *Neurology* (2017), 89: 1894-1903. DOI: 10.1212/WNL.0000000000004585.
  17. **R. Ronchi\***, F. Bernasconi\*, C. Pfeiffer, J. Bello-Ruiz, M. Kaliuzhna, O. Blanke, “Interoceptive signals impact visual processing: cardiac modulation of visual body perception”, *NeuroImage* (2017), 158: 176-185. DOI: 10.1016/j.neuroimage.2017.06.064.
  18. N.F. Bernardi, M.C. Cioffi, **R. Ronchi**, A. Maravita, E. Bricolo, L. Zigiotta, L. Perucca, G. Vallar, “Improving left spatial neglect through music scale playing”, *Journal of Neuropsychology* (2017) DOI: 10.1111/jnp.12078.
  19. **R. Ronchi**, L. Algeri, L. Chiapella, M. Gallucci, M.S. Spada, G. Vallar, “Left neglect dyslexia: perseveration and reading error types”, *Neuropsychologia* (2016), 89: 453-464. DOI: 10.1016/j.neuropsychologia.2016.07.023.
  20. R. Salomon, **R. Ronchi**, J. Dönnz, J. Bello-Ruiz, B. Herbelin, R. Martet, N. Faivre, K. Schaller, O. Blanke, “The insula mediates access to awareness of visual stimuli presented synchronously to the heartbeat”, *The Journal of Neuroscience* (2016), 36(18): 5115-5127. DOI: 10.1523/JNEUROSCI.4262-15.2016.
  21. **R. Ronchi**, J. Bello-Ruiz, M. Lukowska, B. Herbelin, I. Cabrilo, K. Schaller, O. Blanke, “Right insular damage decreases heartbeat awareness and alters cardio-visual effects on bodily self-consciousness”, *Neuropsychologia* (2015), 70: 11-20. DOI: 10.1016/j.neuropsychologia.2015.02.010.
  22. **R. Ronchi**, N. Bolognini, M. Gallucci, L. Algeri, L. Chiapella, M.S. Spada, G. Vallar, “(Un)awareness of unilateral spatial neglect. A quantitative evaluation of performance in visuo-spatial tasks”, *Cortex* (2014), 61: 167-82. DOI: 10.1016/j.cortex.2014.10.004.
  23. N. Bolognini, **R. Ronchi**, C. Casati, P. Fortis and G. Vallar, “My hand is back! Multisensory remission of somatoparaphrenic delusion”, *Neurology Clinical Practice* (2014), 4(3): 216-225. DOI: 10.1212/CPJ.0000000000000033.

24. G. Rode, **R. Ronchi**, P. Revol, Y. Rossetti, S. Jacquin-Courtois, G. Vallar, “Hyperschematia after right brain damage: a meaningful entity?”, *Frontiers in Human Neuroscience* (2014), 8, 8. DOI: 10.3389/fnhum.2014.00008.
25. **R. Ronchi**, G. Rode, F. Cotton, A. Farnè, Y. Rossetti, S. Jacquin-Courtois, “Remission of anosognosia for right hemiplegia and neglect after caloric vestibular stimulation”, *Restorative Neurology and Neuroscience* (2013), 31(1), 19-24. DOI: 10.3233/RNN-120236.
26. P. Fortis, **R. Ronchi**, E. Calzolari, M. Gallucci, G. Vallar, “Exploring the effects of ecological activities during the exposure to optical prisms in healthy individuals”, *Frontiers in Human Neuroscience* (2013), 7, 29. DOI: 10.3389/fnhum.2013.00029.
27. C. F. Sambo, G. Vallar, P. Fortis, **R. Ronchi**, L. Posteraro, B. Forster, A. Maravita, “Visual and spatial modulation of tactile extinction: behavioural and electrophysiological evidence”, *Frontiers in Human Neuroscience* (2012), 6, 217. DOI: 10.3389/fnhum.2012.00217.
28. **R. Ronchi**, L. Algeri, L. Chiapella, M.S. Spada, G. Vallar, “Spatial neglect and perseveration in visuomotor exploration”, *Neuropsychology* (2012), 26 (5), 588-603. DOI: 10.1037/a0029216.
29. **R. Ronchi**, P. Revol, M. Katayama, Y. Rossetti, A. Farnè, “Seeing your error alters my pointing: observing systematic pointing errors induces sensori-motor after-effects”, *PLoS ONE* (2011), 6 (6), e21070. DOI: 10.1371/journal.pone.0021070.
30. P. Fortis, A. Maravita, M. Gallucci, **R. Ronchi**, E. Grassi, I. Senna, E. Olgiati, L. Perucca, E. Banco, L. Posteraro, L. Tesio, G. Vallar, “Rehabilitating patients with left spatial neglect by prism exposure with a visuomotor activity”, *Neuropsychology* (2010), 24(6), 681-697. DOI: 10.1037/a0019476.
31. **R. Ronchi** and G. Vallar, “Somatoparaphrénie après lésion droite”, *Revue de Neuropsychologie* (2010), 2 (3), 225-230. DOI : 10.3917/rne.023.0225.
32. G. Vallar and **R. Ronchi**, “Somatoparaphrenia: a body delusion. A review of the neuropsychological literature”, *Experimental Brain Research* (2009), 192 (3), 533-551. DOI: 10.1007/s00221-008-1562-y.
33. **R. Ronchi**, L. Posteraro, P. Fortis, E. Bricolo, G. Vallar, “Perseveration in left spatial neglect: Drawing and cancellation tasks”, *Cortex* (2009), 45 (3), 300-312. DOI: 10.1016/j.cortex.2008.03.012.
34. G. Vallar and **R. Ronchi**, “Anosognosia for motor and sensory deficits after unilateral brain damage: a review”, *Restorative Neurology and Neuroscience* (2006), 24 (4-6), 247-257.

#### MANUSCRIPTS SUBMITTED

- J. Martin, P. Vuilleumier, F. Assal\*, **R. Ronchi**\*, “Neglecting the bottom space: an object-based disorder? A two-case study”.

#### MANUSCRIPTS IN PREPARATION

- D.Perez-Marcos\*, **R. Ronchi**\*, A. Giroux, F. Brenet, T. Tadi, O. Blanke, “An Immersive Virtual Reality System for Ecological Assessment of Peripersonal and Extrapersonal Unilateral Spatial Neglect”.
- M. Thomasson, D. Perez-Marcos, S. Herbertte, F. Brenet, A. Saj, T. Bernati, A. Serino, T. Tadi, O. Blanke\*, **R. Ronchi**\*, “Clinical validation of an ecological assessment of unilateral spatial neglect using immersive virtual reality”.
- **R. Ronchi**, I. Iturrate, M. Almatò, A. Collignon, I. Jacot de Alcântara, S. Delplanque, P. Vuilleumier, “Anosognosia for unilateral spatial neglect: explicit and implicit knowledge of errors”.