

Curriculum Vitae

Name: Antonino
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Born in: Lecce (Italy)
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Academic formation and degrees

- BSc and MSc in “Psychology” (with laude), 1990-1995, Sapienza University of Rome.
- Specialization in “Cognitive Psychology and Neural Networks”, 1996, Sapienza University of Rome.
- Award from the Sapienza University of Rome to spend a year abroad for (research) specialization activities (at the Cognitive Psychology Unit of Leiden University, Netherlands), 1997-98.
- “European Diploma in Cognitive and Brain Sciences” (EDCBS) for selected European Ph.D. students, 1999-2001.
- Ph.D. in “Psychology and Cognitive Sciences”, 1998-2002, Sapienza University of Rome.

Academic positions

1999-2000: Teaching Assistant, Department of Psychology, Sapienza University of Rome.

2001-2005: Lecturer/Senior Lecturer in Psychology, University of Sunderland (United Kingdom).

2003-2011: Visiting Researcher at the RIKEN Brain Science Institute, Saitama, Japan.

July 2005- June 2009: Senior Researcher with the “Re-entry of the Brains” award of the Italian University and Research State Ministry – at the Department of Psychology of Sapienza University of Rome.

November 2009 – present: Associate Professor at the Department of Psychology of Sapienza University of Rome.

December 2016 – Visiting Professor, funded by the Global Initiative of Academic Networks (GIAN), India (<http://www.gian.iitkgp.ac.in/>).

Main current research interests

- Cognitive neurocomputational modelling of consciousness, attention and working memory.
- Psychophysics and electroencephalography of perceptual awareness and related functions;
- Neuroimaging of meditation states and traits;
- Interactions between emotion, attention and working memory;
- Mindfulness, cognitive processes and emotion regulation.

Current academic teaching and management roles

- Module leader in “Psychology of consciousness” and “General psychology” (Faculty of Medicine and Psychology, Sapienza University of Rome).
- Vice-Director of ECONA – Interuniversity Center for Research on Cognitive Processing in Natural and Artificial Systems – at Sapienza University of Rome
- Director of the Master in “Mindfulness: practice, clinical applications and neuroscience” at Sapienza University of Rome.

International management roles

- 2014-present: Co-Founder and Chair of “Consciousness, Mindfulness, Compassion – CMC – International Association”.
- 2016-present: Member of the Advisory Board/Assembly of the Mind & Life Europe.

International research publications in peer-reviewed journals and chapters

Pantani, M., Tagini, A., & Raffone, A. (2017). Phenomenal consciousness, access consciousness and self across waking and dreaming: Bridging phenomenology and neuroscience. *Phenomenology and the Cognitive Sciences*, in press.

Haazebroek, P., Raffone, A., & Hommel, B. (2017). HiTEC: a connectionist model of the interaction between perception and action planning. *Psychological Research*, in press.

Simione, L., Akyurek, E.G., Vastola, V., Raffone, A., & Bowman, H. (2017). Illusions of integration are subjectively impenetrable: Phenomenological experience of Lag 1 percepts during dual-target RSVP. *Consciousness and Cognition*, 51, 181-192.

Raffone, A., & Srinivasan, N. (2017). Mindfulness and cognitive functions: Toward a unifying neurocognitive framework. *Mindfulness*, 8, 1-9.

Di Francesco, S.A., Simione, L., Lopez-Ramon, M.F., Olivetti Belardinelli, M., Lupianez, J., & Raffone, A. (2017). Dispositional mindfulness facets predict the efficiency of attentional networks. *Mindfulness*, 10, 1-109.

Raffone, A. (2016). The cognitive and affective neurosciences of meditation. In M.A. West, *The Psychology of Meditation: Research and Practice*. Oxford: Oxford University Press.

Mauro, F., Raffone, A., & VanRullen, R. (2015). A bidirectional link between brain oscillations and geometric patterns. *Journal of Neuroscience*, *35*, 7921-7926.

Raffone, A., Srinivasan, N., & van Leeuwen, C. (2015). Rapid switching and complementary evidence accumulation enable flexibility of an all-or-none global workspace for control of attentional and conscious processing: a reply to Wyble et al. *Philosophical Transactions of the Royal Society B*, *370*, 20140315.

Marzetti, L., Di Lanzo, C., Zappasodi, F., Chella, F., Raffone, A., & Pizzella, V. (2014). Magnetoencephalographic alpha band connectivity reveals differential default mode network interactions during focused attention and open monitoring meditation. *Frontiers in Human Neuroscience*, *8*, 832, 1-11.

Simione, L., Calabrese, L., Marucci, F.S., Olivetti Belardinelli, M., Raffone, A., & Maratos, F. (2014). Emotion based attentional priority for storage in visual short-term memory. *PLoS ONE*, *9*(5): e95261.

Raffone, A., Srinivasan, N., & van Leeuwen, C. (2014). The interplay of attention and consciousness in visual search, attentional blink and working memory consolidation. *Philosophical Transactions of the Royal Society B*, *369* (1641). 20130215.

Raffone, A., Srinivasan, N., & Barendregt, H. P. (2014). Attention, consciousness and mindfulness in meditation. In N. Singh (Ed.), *Psychology of Meditation* (pp. 147-166). New York: Nova Science Publications.

Federico, F., Delogu, F., & Raffone, A. (2014). Maintenance and manipulation of object sequences in working memory: a lifespan study. *Neurological Sciences*, *35*, 1883-1887.

Raffone, A., Srinivasan, N., & van Leeuwen, C. (2014). Perceptual awareness and its neural basis: bridging experimental and theoretical paradigms. *Philosophical Transactions of the Royal Society B*, *369*, (1641), 20130203.

van der Heiden, L., Liberati, G., Sitaram, R., Kim, S., Jaśkowski, P., Raffone, A., Olivetti Belardinelli, M., Birbaumer, N., Veit, R. (2014). Insula and inferior frontal triangularis activations distinguish between conditioned brain responses using emotional sounds for basic BCI communication. *Frontiers in Behavioral Neuroscience*, *8*: 247.

Nakatani C, Raffone A, & van Leeuwen C. (2014). Increased efficiency of conscious access with enhanced coupling of slow and fast neural oscillations. *Journal of Cognitive Neuroscience*, *26*, 1168-1179.

Barendregt, H.P., & Raffone, A. (2013). Conscious cognition as a discrete, deterministic and universal Turing Machine process. In B. Cooper & J. van Leeuwen (Eds.), *Alan Turing: his work and impact* (pp. 92–97). Amsterdam: Elsevier.

A.N.A. Singh, J.L. Kristeller, A. Raffone, & F.M. Giommi (2013). Advances in mindfulness research. *Neuropsychiatry*, 3, 467-470.

Simione, L., Raffone, A., Wolters, G., Salmas, P., Nakatani, C., Olivetti Belardinelli, M., & van Leeuwen, C. (2012). ViSA: A neurodynamic model for visuo-spatial working memory, attentional blink and conscious access. *Psychological Review*, 119, 745-769.

Liberati, G., Raffone, A., & Olivetti Belardinelli, M. (2012). Cognitive reserve and its implications for rehabilitation and Alzheimer's disease. *Cognitive Processing*, 13, 1-12.

Liberati, G., Dalboni da Rocha, J.L., van der Heiden, L., Raffone, A., Birbaumer, N., Olivetti Belardinelli, & M., Sitaram, R. (2012). Toward a Brain-Computer Interface for Alzheimer's disease patients by combining classical conditioning and brain state classification. *Journal of Alzheimer's Disease: JAD*. 03/2012.

Liberati, G., Raffone, A., & Olivetti Belardinelli, M. (2012). Cognitive reserve and its implications for rehabilitation and Alzheimer's disease. *Cognitive Processing*, 13, 1-12.

D'Alessio, M., Laghi, F., Baiocco, R., & Raffone, A. (2012). Children's preference of television programs: "Long-tail" evidence. *Journal of Applied Social Psychology*, 4, 822-833.

Van Dantzig, S., Raffone, A., & Hommel, B. (2011). Acquiring contextualized concepts: a connectionist approach. *Cognitive Science*, 35, 1162-1189.

Botta, F., Santangelo, V., Raffone, A., Sanabria, D., Lupianez, J., & Olivetti Belardinelli, M. (2011). Multisensory integration affects visuo-spatial working memory. *Journal of Experimental Psychology: Human Perception and Performance*, 37, 1099-1109.

Manna, A., Raffone, A., Perrucci, M. G., Nardo, D., Ferretti, A., Tartaro, A., Londei, A., Del Gratta, C., Olivetti Belardinelli, M., & Romani, G.L. (2010). Neural correlates of focused attention and cognitive monitoring in meditation. *Brain Research Bulletin*, 82, 46-56.

Botta, F., Santangelo, V., Raffone, A., Olivetti Belardinelli, M., & Lupianez, J. (2010). Exogenous and endogenous spatial attention effects on visuo-spatial working memory. *Quarterly Journal of Experimental Psychology*, 63, 1590-1602.

Raffone, A., & Pantani, M. (2010). A global workspace model for phenomenal and access consciousness. *Consciousness and Cognition*, 19, 580-596.

Raffone, A., Tagini, A., & Srinivasan, N. (2010). Mindfulness and the cognitive neuroscience of attention and awareness. *Zygon*, 45, 627-646.

Raffone, A., & Srinivasan, N. (2010). The exploration of meditation in the neuroscience of attention and consciousness. *Cognitive Processing*, *11*, 1-7.

Tagini, A., & Raffone, A. (2010). The 'I' and the 'Me' in self-referential awareness: a neurocognitive hypothesis. *Cognitive Processing*, *11*, 9-20.

Simione, L., Raffone, A., Micciantuono, G., Olivetti Belardinelli, M., & van Leeuwen, C. (2010). Color binding in visuo-spatial working memory. In C. Hölscher, T. F. Shipley, M. Olivetti Belardinelli, J. A. Bateman & N. S. Newcombe (Eds.), *Spatial Cognition VII*, Lecture Notes in Computer Science (Vol. 6222/2010, pp. 179-190). Berlin: Springer.

Raffone, A., & Srinivasan, N. (2009). An adaptive workspace hypothesis about the neural correlates of consciousness: insights from neuroscience and meditation studies. In N. Srinivasan (Ed.) *Progress in Brain Research: Attention* (pp. 161-180), 176, Amsterdam: Elsevier.

Herrero, J.L., Nikolaev, A.R., Raffone, A., & van Leeuwen, C. (2009). Selective attention in visual short-term memory consolidation. *Neuroreport*, *20*, 652-656.

Delogu, F., Raffone, A., & Olivetti Belardinelli, M.O. (2009). Semantic encoding in working memory: is there a (multi)modality effect? *Memory*, *17*, 655-663.

Wolters, G., & Raffone, A. (2008). Coherence and recurrency: maintenance, control and integration in working memory. *Cognitive Processing*, *9*, 1-17.

Santangelo, V., Finoia, P., Raffone, A., Olivetti Belardinelli, M., & Spence, C. (2008). Perceptual load affects exogenous orienting while working memory load does not. *Experimental Brain Research*, *184*, 371-382.

Herrero, J.L., Crawley, R., van Leeuwen, C., & Raffone, A. (2007). Visual marking and change detection. *Cognitive Processing*, *8*, 233-244.

Kwok, H.F., Jurica, P., Raffone, A., & van Leeuwen, C. (2007). Robust emergence of small-world structure in networks of spiking neurons. *Cognitive Neurodynamics*, *1*, 39-51.

Raffone, A. (2006). Synthetic computational models of selective attention. *Neural Networks*, *19*, 1458-1460.

Murre, J. M. J., Wolters, G., & Raffone, A. (2006). Binding in Working Memory and Long-term Memory: Towards an Integrated Model. Zimmer, H. D., Mecklinger, A., & Lindenberger, U. (Eds.). *Binding in human memory: A neurocognitive perspective*. Oxford, UK: Oxford University Press.

Colzato, L. S., Raffone, A., & Hommel, B. (2006). What do we learn from binding features? Evidence for multilevel feature integration. *Journal of Experimental Psychology: Human Perception and Performance*, *32*, 705-716.

Lisman, J.E., Talamini, L.M., & Raffone, A. (2005). Recall of memory sequences by interaction of the dentate and CA3: A revised model of the phase precession. *Neural Networks*, 18, 1191-1201.

Kwok, H.F., Giorgi, A., & Raffone, A. (2005). Improving interpretability: combined use of LVQ and ARTMAP in decision support. *Journal of Telecommunications and Information Technology*, 4.

Kwok, H.F., & Raffone, A. (2004). Neuro-fuzzy systems in biomedicine: comparing backpropagation and ARTMAP networks. In I. Takumi, K. Yoshida (Ed.) *Knowledge Based Intelligent Systems for Health Care*, pp. 87-119.

Raffone, A., & van Leeuwen, C. (2003). Dynamic synchronization and chaos in an associative neural network with multiple active memories. *Chaos*, 13, 1090-1104.

Wolters, G., & Raffone, A. (2001). How are events represented? *Behavioral and Brain Sciences*, 24, 908-909.

Raffone, A., & van Leeuwen, C. (2001). Chaos and neural coding: Is the binding problem a pseudo-problem? *Behavioral and Brain Sciences*, 24, 826-827.

van Leeuwen, C., & Raffone, A. (2001). Coupled nonlinear maps as models of perceptual pattern and memory trace dynamics. *Cognitive Processing*, 2, 67-116.

Raffone, A., Olivetti Belardinelli, M., van Leeuwen, C. (2001). Context and neural coding: Are cognitive universals reflected in the experienced world? *Behavioral and Brain Sciences*, 24, 701-702.

Raffone, A., & van Leeuwen, C. (2001). Activation and coherence in memory processes: revisiting the PDP approach to retrieval. *Connection Science*, 13, 349-382.

Raffone, A., Wolters, G., & Murre J.M.J. (2001). A neurophysiological account of working memory limited capacity: Within-chunk integration and between-item segregation. *Behavioral and Brain Sciences*, 24, 139-141.

Raffone, A., & Wolters, G. (2001). A cortical mechanism for binding in visual working memory. *Journal of Cognitive Neuroscience*, 13, 766-785.

Funded international research projects

- 2002-2004: Coordinator of the Unit of the University of Sunderland (UK) in the HEARTS (Health Early Alarm Recognition and Telemonitoring System) project funded by the European Union (FP5) (Project cost: 2,306,002; EU funding: 1,204,000) (http://cordis.europa.eu/project/rcn/63294_en.html).

- 2003-2005: Coordinator at the University of Sunderland in a collaborative international computational modelling project with the RIKEN Brain Science Institute (Japan) – with funding of a Ph.D. position at the University of Sunderland from the RIKEN.

- 2008-2011: Coordinator at the University Sapienza of Rome in a collaborative international computational modelling project with the RIKEN Brain Science Institute

(Japan) on multimodal binding, conscious access, attentional blink and visuo-spatial working memory, with funding of a post-doc position and of a Ph.D. student position at the Sapienza University from the RIKEN.

- 2015-2017: Coordinator of the project “Aware Mind-Brain: bridging insights on the mechanisms and neural substrates of human awareness and meditation” funded by BIAL Foundation.

Supervision of post-doc researchers and Ph.D students

Since 2003, supervision of 3 post-doc researchers (1 in UK and 2 in Italy) and 16 Ph.D. students (2 in UK and 14 in Italy).

Editorial activities

- Advisory Board of “Cognitive Processing”.
- Advisory Board of “Mindfulness”.
- Review Editor of “Frontiers in Cognition”.
- Review Editor of “Frontiers in Cognitive Science”.
- Former Associate Editor of the “International Journal of Mind, Brain and Cognition”.
- Editor of the Springer Book Series on “Awareness, emotion and empathy” (with H.P. Barendregt, F.M. Giommi and N. Srinivasan).

Guest editor work

- For “Cognitive Processing” (2010), Guest Editor of the Special Issue on “Neuroscience of meditation and consciousness (with N. Srinivasan).
- For “Philosophical Transactions of the Royal Society B” (2014), for the Theme Issue on “Understanding perceptual awareness and its neural basis” (with N. Srinivasan and C. van Leeuwen).
- For “Mindfulness”, for the Special Issue on “Mindfulness and cognition” (with N. Srinivasan).

Organization of international conferences and workshops

- Chief organizer of the Lorentz Workshop on “Models of consciousness and clinical implications” (with H.P. Barendregt, F.M. Giommi, W.A. Phillips), Leiden, Netherlands, April 2-5, 2013.
- Chief organizer of the First International Conference on Mindfulness (ICM-1), Rome, May 8-13, 2013 (with F. Giommi, A.N.A. Singh, N.N. Singh).
- Chief organizer of the International Conference on Space and Situated Cognition (ICSC) Rome, September 7-11, 2015 (with M. Olivetti Belardinelli, T. Huenefeldt).
- Chief organizer of the Second International Conference on Mindfulness (ICM-2), Rome, May 11-15, 2016 (with F. Giommi, A.N.A. Singh, N.N. Singh).
- Chief organizer (with S.M. Aglioti) of the Summer School on “Empathy and Compassion”, sponsored by Sapienza University of Rome, June 2017.