

Curriculum Vitae

Romain QUENTIN, Ph.D

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Education

- 2010-2014** **PhD in Cognitive Neurosciences** – Brain and Spinal Institute (ICM) – Pitié-Salpêtrière Hospital – University Paris 6, France
- 2008-2010** **Master Neurosciences and Neuroimaging** – Center of Biomedical Neuroimaging Cyceron – Caen University, France
- 2004-2008** **BS in Fundamental Physics** – Caen University, France

Research Experiences

- 2020-now** **Postdoctoral Fellow** – Lyon Neuroscience Research Center (CRNL) – Principal Investigator: Drs. Mathilde Bonnefond and Jérémie Mattout
- 2015-2020** **Postdoctoral Fellow** – National Institute of Health (NIH) – National Institute of Neurological Disorders and Stroke (NINDS). Principal Investigator: Dr. Leonardo Cohen
- 2010-2014** **Ph.D Candidate** – Brain and Spine Institute (ICM) – Pitié-Salpêtrière Hospital – University Paris 6, France. Principal Investigator: Dr. Antoni Valero-Cabre
- Summer 2012** **Student Internship** – School of Psychology, Bangor University – Bangor, Wales. Principal Investigator: Pr. Robert Rafal
- Summer 2011** **Student Internship** – Department of Anatomy and Neurobiology, Boston University School of Medicine – Boston, USA. Principal Investigator: Dr. Jarret Rushmore
- 2009-2010** **Undergraduate Student** – Center of Biomedical Neuroimaging – Cyceron – Caen, France. Principal Investigator: Dr. Laurent Petit

Peer-Reviewed Publications (* indicates co-authorship)

Vernet M, **Quentin R**, Japee S, Ungerleider LG. **From visual awareness to consciousness without sensory input: The role of spontaneous brain activity.** Cognitive Neuropsychology, **37**(3-4):216-219 (2020).

Appelhoff S, Sanderson M, Brooks L. T, Van Vliet M, **Quentin R**, Holdgraf C, Chaumon M, Mikulan E, Tavabi K, Höchenberger R, Welke D, Brunner C, Rockhill P. A, Larson E, Gramfort A, Mainak J. **MNE-BIDS: Organizing electrophysiological data into the BIDS format and facilitating their analysis.** Journal of Open Source Software, **4** (44) 1896 (2019)

- Vernet M*, Stengel C*, **Quentin R***, Amengual J.L, Valero-Cabre A. **Entrainment of local synchrony reveals a causal role for high-beta right frontal oscillations in human visual consciousness.** *Scientific Report* **9**, 14510 (2019)
- Quentin R**, Cohen L.G. **Reversing working memory decline in the elderly.** News & Views. *Nature Neuroscience* **22**, 686-688 (2019)
- Quentin R**, King J.R, Sallard E, Fishman N, Thompson R, Buch E, Cohen L.G. **Differential brain mechanisms of selection and maintenance of information during working memory.** *The Journal of Neuroscience* **39** (19) 3728-3740 (2019)
- Bourlon C, Urbanski M, **Quentin R**, Duret C, Bardinet E, Bartolomeo P, Bourgeois A. **Cortico-thalamic disconnection in a patient with supernumerary phantom limb.** *Experimental Brain Research* **235** (10) 3163-3174 (2017).
- Quentin R**, Elkin-Frankston S, Vernet M, Toba M, Bartolomeo P, Chanes L, Valero-Cabre A. **Visual contrast sensitivity improvement by right frontal high-beta activity is mediated by contrast gain mechanisms and influenced by fronto-parietal white matter microstructure.** *Cerebral Cortex* **26** (6) 2381-2390 (2016).
- Quentin R**, Chanes L, Vernet M, Valero-Cabre A. **Fronto-Parietal Anatomical Connections Influence the Modulation of Conscious Visual Perception by High-Beta Frontal Oscillatory Activity.** *Cerebral Cortex* **25** (8), 2095-2101 (2015).
- Chanes L, **Quentin R**, Vernet M, Valero-Cabre A. **Arrhythmic activity in the left frontal eye field facilitates conscious visual perception in humans.** *Cortex* **71** 240-247 (2015).
- Vernet M, **Quentin R**, Chanes L, Mitsumatsu MA, Valero-Cabre A. **Frontal Eye Field, Where Art Thou? Anatomy, Function and Non-Invasive Manipulation of Frontal Regions Involved in Eye Movements and Associated Cognitive Operations.** *Frontiers in Integrative Neuroscience* **8** (66) (2014).
- Quentin R**, Chanes L, Migliaccio R, Valabregue R, Valero-Cabre A. **Fronto-Tectal White Matter Connectivity Mediates Facilitatory Effects of Non-invasive Neurostimulation on Visual Detection.** *Neuroimage* **82** 344-354 (2013).
- Chanes L, **Quentin R**, Tallon-Baudry C, Valero-Cabre A. **Causal Frequency-Specific Contributions of Frontal Spatiotemporal Patterns Induced by Noninvasive Neurostimulation to Human Visual Performance.** *The Journal of Neuroscience* **33** (11) 5000-5005 (2013).
- Valero-Cabre A, **Quentin R**, Vernet M, Chanes L. **Author response. Oscillation and synchrony entrainment: a new breadth for focal non-invasive neurostimulation in the cognitive neurosciences.** *The Journal of Neuroscience* **33** (28) (2013).
- Chanes L, Chica AB, **Quentin R**, Valero-Cabre A. **Manipulation of Pre-Target Activity on the Right Frontal Eye Field Enhances Conscious Visual Perception in Humans.** *PlosOne* **7** (5) (2012).

Preprints

- Quentin R**, Fanuel L, Kiss M, Vernet M, Vekony T, Janacek K, Cohen L, Nemeth D. **Statistical learning occurs during practice while high-order rule learning during rest periods.** bioRxiv. <https://doi.org/10.1101/2020.10.25.353375>. (2020)

Fanuel L, Pleche C, Vekony T, **Quentin R**, Janacek K, Nemeth D. **The longer the better? General skill but not probabilistic learning improves with the duration of short rest periods.** bioRxiv. <https://doi.org/10.1101/2020.05.12.090886>. (2020)

Hussain SJ, Vollmer MK, **Quentin R**, Iturrate I, Cohen LG. **Voluntary movement initiation is not coupled to optimal sensorimotor oscillatory phases.** bioRxiv. <https://doi.org/10.1101/776393>. (2019)

Book Chapter

Quentin R, Awosika O, Cohen L.G. **Plasticity and recovery of function.** *Handbook of Clinical Neurology, vol. 163* (2019)

Teaching

- 2014** Psychophysiology for first year of Psychology (Paris Descartes University – Paris 5 - 48 hours)
- 2013-2014** “A connectivist approach by diffusion imaging” for the Master “Physiology and integrative biology” (UPMC – Paris 6 - 6 hours)
- 2008-2010** Specialist teacher in education center, ACSEA, Caen, France. Work with young people (14 to 18 years old) in social difficulties.

Talk and poster presentations

- Invited Talk – Biowulf 20th Anniversary Seminar Series, NIH, Bethesda, 2019. **Decoding time-resolved neural representation of working memory and motor learning.**
- Talk – Society for Neuroscience (SFN), Washington DC, 2017. **Maintenance mechanisms of the content and the rule during visuomotor working memory**
- Invited Talk – Donders Discussion, Nijmegen, 2013. **How can diffusion imaging contribute to non-invasive neurostimulation in the attentional network?**
- Poster presentation – Cognitive Computational Neurosciences, New York, 2017. **Tracking working memory content processing with MEG**
- Poster presentation – Society For Neuroscience (SFN), San Diego, 2016. **Dissociating the content of a stimulus from the rule that allow us to remember this content.**
- Poster presentation – Organization for Human Brain Mapping (OHBM), Honolulu, 2015. **Is the improvement of visual detection by high-beta frontal activity exquisitely frequency-specific?**
- Poster presentation – Cognitive Neuroscience Society (CNS), Boston, 2014. **Visual detection improvements with frontal beta patterns of rhythmic non-invasive neurostimulation demonstrated by shifts of the psychometric function.**
- Poster presentation – Cognitive Neuroscience Society (CNS), San Francisco, 2013. **Anatomical white matter connectivity influences visual performance improvements induced by right frontal oscillatory activity in humans.**
- Poster presentation – EraNet meeting, Jerusalem, 2012. **White matter fronto-parietal pathway predicts the visual sensitivity improvements induced by rhythmic TMS patterns on the human right FEF.**

Poster presentation – Organization for Human Brain Mapping (OHBM), Beijing, 2012. **White matter regions correlated with visual sensitivity improvements induced by rhythmic TMS patterns.**

Poster presentation - Organization for Human Brain Mapping (OHBM), Quebec City 2011. **Cortico-tectal connectivity mediates TMS effects on visuo-attentional networks : a DTI study.**

Grant and Awards

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| 2021-2024 | ATIP-AVENIR laureate |
| 2020-2022 | Grant from “Fondation pour la Recherche Médicale” (FRM) for a 2 years post-doctorat. 134400 € |
| 2018-2021 | NINDS Intramural Competitive Fellowship (similar to NRSA F32). 3 years post-doctoral salary + \$25000 |
| 2015-2017 | Grant from Fyssen foundation. 2 years post-doctoral salary |
| 2015 | Grant from Phillipe foundation. \$10000 |
| 2015 | Prize for young researchers of the Bettencourt-Schueller foundation. 25000 €. |
| 2015 | Travel Grant from Naturalia & Biologia for attendance of OHBM, Hawaii, 2015. 2000 € |
| 2014 | Grant from “Fondation pour la Recherche Médicale” (FRM) for a 4th year Ph.D. 35000 € |
| 2013 | Travel Grant from Naturalia&Biologia for attendance at CNS, San Francisco, 2013. 1800 € |

Workshops

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| Feb 2017 | Python programming: Data analysis (NIH, Bethesda, US) |
| Sept 2014 | Connectomics: The wiring diagram of the human brain (1-week, Bordeaux University, Bordeaux, France) |
| Sept 2012 | The Visceral Mind Summer School: A hands-on course in the neuroanatomy of cognition (1-week, Bangor University, Wales, United Kingdom) |
| Oct 2009 | The White Brain: Anatomical and Functional Imagery of White Matter and Its Pathologies (1-week, Cyceron, Caen, France) |

Scientific, Technical and Computer skills

Multidisciplinary scientific culture (Cognitive Neurosciences, Physics, Biology)

Specialized skills: Electrophysiological analysis (EEG/MEG), Machine-learning, MRI-guided Transcranial Magnetic Stimulation, Anatomical, Functional and Diffusion MRI, Tractography, eye movement analysis, Psychophysics experiments programming (Psychtoolbox in Matlab, Psychopy in Python)

Computer skills: Data analysis and programming with Python and Matlab.