







# Dr. Quentin Moreau, PhD

#### **Current Position**

Post-doc researcher in Social Neuroscience at Precision Psychiatry and Social Physiology (PPSP) lab led by Dr. Guillaume Dumas, Hôpital Ste-Justine & Université de Montréal, Canada

# **Previous Positions**

January 2019 - August 2021: Post-doc researcher in Cognitive and Social Neuroscience at IRCCS Fondazione Santa Lucia & 'La Sapienza' University of Rome, Italy.

November 2015 - November 2018: PhD student in Cognitive and Social Neuroscience under the supervision of Prof. Matteo Candidi and Prof. Salvatore Maria Aglioti, 'La Sapienza' University of Rome, Italy.

September 2018 - January 2019: Visiting PhD student, Laboratoire de Génétique Humaine et de Fonctions Cognitives, under the supervision of Dr Guillaume Dumas, Institut Pasteur, Paris, France.

January-June 2015: Research internship at Laboratoire sur le Langage, le Cerveau et la Cognition (L2C2, CNRS) under the supervision of Dr. Yves Paulignan, Lyon, France.

April-May 2014: Research internship at Laboratoire sur le Langage, le Cerveau et la Cognition (L2C2, CNRS) under the supervision of Dr. Tatjana Nazir and Dr. Yves Paulignan, Lyon, France.

## Scientific Publications

**Moreau, Q.,** Parrotta, E., Pesci, U.G., Era, V., Candidi, M. (2022) Early categorization of social affordances during the visual encoding of bodily stimuli. *bioRxiv*.

**Moreau Q.,** Adel L., Douglas C., Ranjbaran G., Dumas G. (2022) A Neurodynamic Model of Inter-Brain Coupling in the Gamma Band. *Journal of Neurophysiology.* 

**Moreau Q.,** Tieri G., Era V., Aglioti SM., Candidi M. (2022) The monitoring system is attuned to others' actions during dyadic interactions. *Cerebral Cortex*.

Boukarras S., Ozkan D.G., Era V., **Moreau Q**., Tieri G., Candidi M. (2022) Midfrontal theta tACS facilitates motor coordination in dyadic human-avatar motor interactions. *Journal of Cognitive Neuroscience*.

**Moreau Q.** & Dumas G. (2021) Beyond Correlation versus Causation: Multi-brain Neuroscience Needs Explanation. *Trends in Cognitive Neuroscience*.

**Moreau Q.,** Candidi M., Era V., Tieri G., Aglioti SM. (2020) Frontal and occipito-temporal activity as marker of error monitoring in Human-Avatar joint performance. *Cortex*.

Dumas, G., **Moreau, Q.,** Tognoli, E., Kelso J.A.S (2019) The Human Dynamic Clamp reveals the fronto-parietal network linking real-time social coordination and cognition. *Cerebral Cortex*.

**Moreau, Q.,** Parrotta, E., Era, V., Martelli, M.L., Candidi, M. (2019) Role of the occipito-temporal Theta rhythm in hand visual identification. *Journal of Neurophysiology.* 

Özkan D.G., Pezzetta, R., **Moreau, Q.,** Abreu, A.M, Aglioti, S.M. (2019) Predicting the fate of basketball throws: an EEG study on expert action prediction in wheelchair basketball players. *Experimental Brain Research.* 

**Moreau Q.,** Pavone EF, Aglioti SM, Candidi M. (2018) Theta synchronization over occipitotemporal cortices during visual perception of body parts. *European Journal of Neuroscience*.

**Moreau Q.,** Galvan L., Nazir TA., Paulignan Y. (2016) Dynamics of Social Interaction: Kinematic Analysis of a Joint Action. *Frontiers in Psychology*.

**Moreau Q.** & Candidi M. (2016). Commentary: Hand and Grasp Selection in a Preferential Reaching Task: The Effects of Object Location, Orientation, and Task Intention. *Frontiers in Psychology*.

Nazir TA., Hrycyk L., **Moreau Q.,** et al. (2015) A Simple Technique to Study Language Processes: A Grip Force Sensor. *Behavioral Research Methods*.

# Metrics

Google Scholar (10-2022): Citations: 192, h-index: 8

#### **Grants and Rewards**

UNIQUE Postdoctoral Excellence Scholarship - **CLONE**: **CLO**sed-loop **NE**uromodulation: EEGtES combination in human-machine social interactions. *UNIQUE* (*Unifying Neuroscience and Artificial Intelligence in Québec*) - *CAD* \$20.000 - **sole recipient** 

'A new ultrasonic method based on Bessel Beam diffraction for non-invasive, focal, ultraselective, deep and superficial brain stimulation' (2020) - Bando di Ricerca Finalizzata, Italian Ministry of Health - €445.000 - research collaborator

'Beyond your own body: extending the bodily self to the neuroaesthetics of interactions' (2021) - *BIAL Foundation* - €49.500 - **team member** 

InEurope Short Stay grants (2019) - IBRO PERC - €3000 - sole recipient

'Neural correlates of a joint action in human-avatar and human-human paradigms' (2017) - 'Avvio alla Ricerca', Sapienza University of Rome - €1000 - sole recipient

# Invited talks

**Moreau Q.** Multiple approaches to social coordination - University of Aalto, Lauri Parkkonen's group - June 29<sup>th</sup>, 2022.

**Moreau Q.** From body perception to social coordination - University of Aberdeen, School of Psychology talks - November 18<sup>th</sup>, 2021.

**Moreau Q.** Prediction errors during interpersonal motor interactions. - MeeTo InTo Brain – Turin, 24-27<sup>th</sup> June 2018.

**Moreau Q.** EEG correlates of error-prediction during joint actions. Talk - Workshop on Joint actions and Interpersonal coordination - Sapienza University of Rome – 17<sup>th</sup> of July 2017.

#### Poster Presentations

Pesci U., **Moreau Q.,** Parrotta E., Era V., Candidi M. Early categorization of social affordances during the visual encoding of bodily stimuli. *ESCAN 2022 (Vienna) - July 19th-22nd, 2022.* 

Pesci U., **Moreau Q.,** Parrotta E., Era V., Candidi M. Early categorization of social affordances during the visual encoding of bodily stimuli. *SAMBA 2022 (Salzburg) - July 14th-15th, 2022.* 

Ranjbaran G., **Moreau Q.**, Adel L., Douglas C., Dumas G. A Neurodynamic Model of Inter-Brain Coupling in the Gamma Band. *UNIQUE Student Symposium 2022 (Montreal) - June 9th*, 2022.

**Moreau Q.,** Era V, Tieri G., Candidi M. Frontal and occipito-temporal Theta activity as marker of error monitoring in Human-Avatar joint performance. *CuttingEEG (Paris) - July 1st, 2018*.

Parrotta E., **Moreau Q.,** Era V., Candidi M. Functional role of occipito-temporal Theta rhythm in Hand visual perception. *MeeTo InTo Brain (Turin)- June 24th-27th, 2018.* 

**Moreau Q.,** Era V, Tieri G., Candidi M. Prediction errors during interpersonal motor interactions reveal frontal and occipito-temporal theta. *MeeTo InTo Brain (Turin)- June 24th-27th, 2018.* 

**Moreau Q.,** Pavone EF., Boukarras S., Tieri G., Candidi M. Frontal Theta synchronization as a prediction marker during joint actions. *JAM meeting (London), July 22nd-26th, 2017.* 

**Moreau Q.,** Pavone EF., Candidi M. EEG correlates of body-parts visual perception in the occipito-temporal cortex. *SAMBA (Salzburg) July 11th-14th, 2017.* 

**Moreau Q.,** Pavone EF., Candidi M. Extrastriate Body Area Time-frequency EEG correlates of body-parts visual perception. *XXIV Congresso SIPF (Milan) - Octobre 27th-29th 2016.* 

**Moreau Q**. & Paulignan Y. Study of the dynamics of social interaction: kinematic analysis of a joint action. 12<sup>th</sup> meeting of the French Neuroscience Society (Montpellier) - May 19th- 22nd, 2015.

## Mentoring and Teaching Activities

Master Thesis supervision of Eleonora Parrotta (September 2017-August 2018) – 110/110 *cum laude*, accepted as a PhD student at the end of her master's at the University of Aberdeen, UK.

Master Thesis supervision of Ugo Pesci (September 2019-July 2020) - 110/110 cum laude, accepted as a PhD student at the end of her master's at "La Sapienza" University of Rome, Italy.

Social Neuroscience video-lectures (March 2020 & April 2021) 'Errors in Social Neuroscience' - Sapienza University. SlideShare link 1 and link 2

2-day workshop on EEG methods: 'EEG time-frequency approaches to social cognition experiments' ( $3^{rd}$  and  $4^{th}$  of October 2019) – *Sapienza University*. SlideShare <u>link</u>

Introduction to Time-Frequency Analysis (3H – May 2017) in Cognitive Neuroimaging Course. Chairs: Dr Galati and Dr Candidi – *Sapienza University* 

EEG recording and analysis methods (2H – May 2018) in Psychobiology of Typical and Atypical Development Course. Chair: Dr Orsini – *Sapienza University*.

# Scientific Activities

Grant writer/paid contributor to the writing of 'HYPER-SCOPE' (Spring 2022), submitted to *Canada Foundation for Innovation - Innovation Funds*.

Participant in the open-science project EEGManyPipelines project (2022) www.eegmanypipelines.org

Lab meeting organizer, weekly meetings with invited speakers *Precision Psychiatry and Social Physiology Lab* (September 2021 - today).

Peer-reviewer for Cerebral Cortex, Neuroscience and Biobehavioral Reviews, Social, Cognitive and Affective Neuroscience (SCAN), Scientific Reports, Cognitive Affective and Behavioral Neurosciences (CABN), Frontiers in Psychology, Plos One, Adaptive Behavior.

Member of the UNIQUE Student Symposium Organizing Committee - *Communications* (January-June 2022)

Organizer of the Workshop on Joint actions and Interpersonal coordination - Sapienza University of Rome – 17th of July 2017. Speakers (Dr. Giacomo Novembre, Dr. Lucia Sacheli, Dr. Vanessa Era, Dr. Matteo Candidi).

Lab meeting organizer, MC and organizer of monthly Aglioti Lab meetings from November 2015 to September 2017,

Guest presenter at the Psychoanalysis French Association for an introduction to Social Neuroscience.

#### **Education**

**2019**: PhD in Cognitive, Social and Affective Neuroscience (CoSAN), Sapienza University "Grasping the Social Brain: EEG correlates of Hand Perception and Motor Interactions".

**2015**: Master 2 Research in Neurosciences, Université de Lyon 1.

2014: Master 1 of Biology and Health with Major in Neurosciences, Université de Tours

2013: Bachelor of Biology, Université Catholique de l'Ouest d'Angers

2010: Scientific Baccalauréat (High School Diploma), Biology Specialty, with Honours.

#### **Training**

**2022:** Neuromatch Academy. 3-week Summer School on Computational techniques applied to Neuroscience - *Online*, *July* 2022.

**2018:** Fieldtrip Advanced MEG/EEG analysis toolkit course - 3-day workshop. Salzburg, July 8th-10th

### Volunteering and Extracurricular activities

President of the Sports Association 2013, Université Catholique de l'Ouest d'Angers.

Vice-president of the Sports Association 2010-2012, Université Catholique de l'Ouest d'Angers.

U14 Girls basketball coaching 2009-2014 - Basketball Club Saumur Loire Basket 49.