DAVIDE MOMI

Post-Doctoral Research Fellow
Whole Brain Modelling Group
Krembil Centre for Neuroinformatics (CAMH)
https://davi1990.github.io

@Davide Momi @Davide Momi @DaveMomi @Davi1990

EDUCATION:

Ph.D., Business and Behavioural Sciences, December 2020
University "G. d'Annunzio" of Chieti, Chieti, Italy

Master of Science, Neurosciences and Neuro-Psychological Rehabilitation, November 2015
University of Bologna, Cesena, Italy

Bachelor of Science, Psychological Sciences and Techniques, March 2013
University of Perugia, Perugia, Italy

RESEARCH EXPERIENCE:

Whole Brain Modelling Group Mar 2021- underway
Krembil Centre for Neuroinformatics (CAMH)
Post-Doctoral Research Fellow of John David Griffiths, Ph.D
Laboratory: - Whole Brain Modelling Group- Toronto

Projects I'm currently involved in:

- Studying longitudinal effect of Theta Burst Stimulation (TBS) protocol using a TMS-EEG dataset where single pulses were delivered over the left dorsolateral prefrontal cortex (DLPFC)
- Developing physiological-based, connectome-based computational models of large-scale brain network dynamics following an external perturbation, mimicking brain stimulation
- Estimating of neurophysiological model parameters using a deep learning-based computational architecture
- Developping a model to simulate TMS-induced signal propagation dynamics and to investigate questions around the physiological basis of TEPs generation
- Demonstrating fast and robust recovery of individual subjects' empirical TEPs propagation patterns in model-generated activity time series both at channels and source level
- Demonstrating how a virtual "lesion" compromised the TMS-evoked brain dynamics only if nodes' connections were removed in a manner targeted attacks and not as random failure
- Developing a model to for predicting clinical outcomes in response to rTMS treatment in Major Depressive Disorder (MDD).
- Appling the TEPs model to a MDD clinical trial dataset (Dr. Keller – Stanford University) and a healthy dataset (Dr. Shafi – Harvard University) where single pulse TMS was applied to DLPFC before and after 30 days of rTMS treatment.

Department of Neuroscience, Imaging and Clinical Sciences
University "G. d'Annunzio" of Chieti Sept 2017- Dec 2020
Ph.D. Candidate of Mirco Fasolo, Ph.D
Laboratories: -Martinos Center for Biomedical Imaging - Boston
-Memory and Aging Laboratory - Chieti

*Focus of my projects***:**

- Developing a model to predict TMS signal propagation based on tractography and electrophysiological measures, mainly obtained via source analysis reconstruction.
- Working with both HCP and ADNI dataset to study the controllability of structural and functional brain network
- Analysis on the Human Connectome Project (HCP)_1200 subjects' database in the Amazon Cloud for the determination of signal propagation
- Integration of multimodal neuroimaging (e.g. Diffusion Tensor Imaging-DTI, functional magnetic Resonance Imaging-fMRI) and electrophysiological (e.g. Electroencephalography-EEG) techniques to create a machine learning model of brain functioning
- Creation of a pipeline in the MATLAB environment for the analysis of Arterial Spin Labelling (ASL) signals in both healthy and patients' populations (brain tumor).
- Creation of a pipeline in Unix Shell to analyse Diffusion Tensor Imaging (DTI) data for: Diffusion Weighted Imaging (DWI) denoising and distortion correction, response function estimation, constrained spherical deconvolution, structural connectome construction, etc.
- Simulations of the electric field induced by transcranial magnetic stimulation (TMS) and transcranial direct current stimulation (tDCS) to optimise stimulation protocols through Python's environment.
- Creation of a novel behavioural paradigm to study time perception across age in both healthy and pathological populations.
- Analysis of TMS-EEG data with an automated script in MATLAB for: time series denoising, spectral and rhythmicity analyses, working with complex numbers, filtering, convolution, wavelet analysis, resampling, interpolating, extrapolating, outlier detection, feature detection, variability.
- Conduction of a Meta-Analyses to figure out which is the most efficient intervention (e.g. cognitive training, drugs, non-invasive brain stimulation) to increase human fluid intelligence (g*f*).
- Creation of a pipeline in Pyhon for the preprocessing and analysis of resting state fMRI data. The script combines several tools coming from different software packages such as Statistical Parameters Mapping (SPM), FSL, AFNI, FreeSurfer.

Beth Israel Deaconess Medical Center Sept 2016- Sept 2017
Harvard Medical School, Boston (MA), USA
Researcher Assistant under the supervision of Alvaro Pascual Leone, MD, Ph.D
Laboratory: -Berenson-Allen Center for Noninvasive Brain Stimulation (BA-CNBS) - Boston

Focus of my Projects:

- Combining Transcranial Magnetic Stimulation (TMS) and EEG in order to study test-rest reliability of plasticity measures.
- Functional Magnetic Resonance Imaging (fMRI) data analysis for resting state functional connectivity and Granger Causality analysis.
- Voxel-based morphometry (VBM) and cortical thickness (CT) analysis to study structural changes induced by first-person action videogame training.

- Multiple regression analysis to establish the predictive power of seed-based connectivity maps I respect to TMS-induced effects.
- Managing and running the TMS clinical service for the treatment of neuropsychiatric patients.
- Perform neuroimaging and behavioural data analysis, quality control checks, compile and maintain research databases, patient files, regulatory binders and study databases.

Siena General Hospital Sept 2015- Sept 2016
University of Siena, Italy
Researcher Assistant under the supervision of Simone Rossi, MD, Ph.D
Laboratory: -Siena Brain Investigation and Neuromodulation Laboratory (SiBIN-Lab) - Siena

Focus of my Projects:
- Integration of Transcranial Magnetic Stimulation (TMS) and neuronavigation systems for cortico-spinal excitability by means of Motor-evoked Potential (MEPs) assessment.
- Implementation of a Dual-coil TMS protocol for the modulation of cortico-cortical connectivity accompanied by multiple evaluations both at behavioural and neuroimaging level.
- fMRI data preprocessing for TMS stimulation site identification based on resting-state connectivity maps.
- Development of cognitive tasks using the E-prime software.
- Development of an ad-hoc visuo-spatial task to assess the impact of adaptive cognitive training in healthy subjects.
- Managing and running repetitive TMS (rTMS) clinical service for the treatment of neuropsychiatric patient (Depression Disorder, Cocaine Addiction, Obsessive-Compulsive Disorder).
- Conduction of clinical and neuropsychological assessments at close with study subjects. Duties included the coordination, administration, scoring and evaluation of study questionnaires/surveys.

Department of Psychology Sept 2014- Sept 2015
Bologna University, Italy
Researcher Assistant under the supervision of Alessio Avenanti, Ph.D
Laboratory: -Centre for studies and research in Cognitive Neuroscience (CsrNC) – Cesena

Focus of my Projects:
- Application of Transcranical Magnetic Stimulation (TMS) to uncover the neural bases of emotion.
- Combining TMS with a priming paradigm (namely TMS-priming) over a right fronto-temporal circuit.
- Application of cortico-cortical Paired Associative Stimulation (cc-PAS) over the visual system, focused on the neural mechanisms underlying social cognition and social behaviour.

PUBLICATIONS:

First author:

1. **Momi, D.**, Wang Z., Griffiths J.D. 2022. TMS-Evoked Responses Are Driven by Recurrent Large-Scale Network Dynamics. bioRxiv. https://doi.org/10.1101/2022.06.09.494069.
2. **Momi, D.**, Ozdemir, R.A., Tadayon, E., Boucher, P., Di Domenico, A., Fasolo, M., Shafi, M.M., Pascual-Leone, A., Santarnecchi, E., 2021. Phase-dependent local brain states determine the impact of image-guided transcranial magnetic stimulation on motor network electroencephalographic synchronization. J Physiol. https://doi.org/10.1113/JP282393
3. **Momi, D.**, Ozdemir, R.A., Tadayon, E., Boucher, P., Di Domenico, A., Fasolo, M., Shafi, M.M., Pascual-Leone, A., Santarnecchi, E., 2021. Perturbation of resting-state network nodes preferentially propagates to structurally rather than functionally connected regions. Sci. Rep. 11, 12458. https://doi.org/10.1038/s41598-021-90663-z
4. **Momi, D.**, Ozdemir, R.A., Tadayon, E., Boucher, P., Shafi, M.M., Pascual-Leone, A., Santarnecchi, E., 2020a. Network-level Macroscale Structural Connectivity Predicts Propagation of Transcranial Magnetic Stimulation. NeuroImage 117698. https://doi.org/10.1016/j.neuroimage.2020.117698
5. **Momi, D.**, Neri, F., Coiro, G., Smeralda, C., Veniero, D., Sprugnoli, G., Rossi, A., Pascual-Leone, A., Rossi, S., Santarnecchi, E., 2020. Cognitive Enhancement via Network-Targeted Cortico-cortical Associative Brain Stimulation. Cereb. Cortex 30, 1516–1527. https://doi.org/10.1093/cercor/bhz182
6. **Momi, D.**, Smeralda, C., Sprugnoli, G., Ferrone, S., Rossi, S., Rossi, A., Di Lorenzo, G., Santarnecchi, E., 2018. Acute and long-lasting cortical thickness changes following intensive first-person action videogame practice. Behav. Brain Res. 353, 62–73. https://doi.org/10.1016/j.bbr.2018.06.013
7. **Momi, D.**, Smeralda, C., Sprugnoli, G., Neri, F., Rossi, S., Rossi, A., Di Lorenzo, G., Santarnecchi, E., 2019. Thalamic morphometric changes induced by first-person action videogame training. Eur. J. Neurosci. 49, 1180–1195. https://doi.org/10.1111/ejn.14272
8. **Momi, D.***, Smeralda, C.L.*, Di Lorenzo, G., Neri, F., Rossi, S., Rossi, A., Santarnecchi, E., 2020b. Long-lasting connectivity changes induced by intensive first-person shooter gaming. Brain Imaging Behav. https://doi.org/10.1007/s11682-020-00350-2
9. **Momi, D.***, Berti, B.*, Sprugnoli, G., Neri, F., Bonifazi, M., Rossi, A., Muscettola, M.M., Benocci, R., Santarnecchi, E., Rossi, S., 2019. Peculiarities of Functional Connectivity—including Cross-Modal Patterns—in Professional Karate Athletes: Correlations with Cognitive and Motor Performances. Neural Plast. https://doi.org/10.1155/2019/6807978

*Equal contribution

Co-authorships:

10. Griffiths J.D., Wang Z., Ather S.H., **Momi D.**, Rich S.D., Diaconescu A., McIntosh A.R., Shen K. 20220 Deep Learning-Based Parameter Estimation for Neurophysiological Models of Neuroimaging Data. . bioRxiv. https://doi.org/10.1101/2022.05.19.492664.
11. Harita S., **Momi D.**, Mazza F., Griffiths J.D. 2022. Mapping Inter-individual Functional Connectivity Variability in TMS Targets for Major Depressive Disorder. Frontiers in Psychiatry. https://doi.org/10.3389/fpsyt.2022.902089.
12. Ceccato I., La Malva P., Di Crosta A., Palumbo R., Gatti M., **Momi D.**, Logrieco M.G.M., Fasolo M., Mammarella N., Borella E., Di Domenico A. 2022. “When did you see it?” The effect of emotional valence on temporal source memory in aging. Cognition and Emotion. https://doi.org/10.1080/02699931.2022.2069683.

13. Santarnecchi, E., **Momi, D.**, Mencarelli, L., Plessow, F., Saxena, S., Rossi, S., Rossi, A., Pascual-Leone, A. 2021. Overlapping and dissociable brain activations for fluid intelligence and executive functions. Cognitive, Affective, & Behavioral Neuroscience. https://doi.org/10.3758/s13415-021-00870-4.
14. Boucher, P., Ozdemir, R.A., **Momi, D.**, Burke, M.J., Jannati, A., Fried, P.J., Pascual-Leone, A., Shafi, M.M., Santarnecchi, E., 2021. Sham-derived effects and the minimal reliability of theta burst stimulation. Sci. Rep. 11, 21170. https://doi.org/10.1038/s41598-021-98751-w.
15. Ozdemir, R.A., Boucher, P., Fried, P.J., **Momi, D.**, Jannati, A., Pascual-Leone, A., Santarnecchi, E., Shafi, M.M., 2021. Reproducibility of cortical response modulation induced by intermittent and continuous theta-burst stimulation of the human motor cortex. Brain Stimulat. https://doi.org/10.1016/j.brs.2021.05.013
16. Ozdemir, R.A., Tadayon, E., Boucher, P., Sun, H., **Momi, D.**, Ganglberger, W., Westover, BM., Pascual-Leone, A., Santarnecchi, E., Shafi, M.M. 2021. Cortical Responses to Noninvasive Perturbations Enable Individual Brain Fingerprinting. Brain Stimul. https://doi.org/10.1016/j.brs.2021.02.005.
17. Neri, F., Cappa, S.F., Mencarelli, L., **Momi, D.**, Santarnecchi, E., Rossi, S. 2021. Brain Functional Correlates of Episodic Memory Using an Ecological Free Recall Task. Brain Sci. https://doi.org/10.3390/brainsci11070911.
18. Neri, F., Smeralda, C.L., **Momi, D.**, Sprugnoli, G., Menardi, A., Ferrone, S., Rossi, S., Rossi, A., Di Lorenzo, G., Santarnecchi, E. 2021. Personalized Adaptive Training Improves Performance at a Professional First-Person Shooter Action Videogame. Front. Psychol. https://doi.org/10.3389/fpsyg.2021.598410
19. Gau., R., and The Brainhack Community. 2021. Brainhack: Developing a culture of open, inclusive, community-driven neuroscience. Neuron. https://doi.org/10.1016/j.neuron.2021.04.001.
20. Ekhtiari., H., and Concurrent tES-fMRI (CTF) community. A Checklist for Assessing the Methodological Quality of Concurrent tES-fMRI Studies (ContES Checklist): A Consensus Study and Statement. Nature Protocols. Accepted
21. Mantovani, A., Neri, F., D'Urso, G., Mencarelli, L., Tatti, E., **Momi, D.**, Menardi, A., Sprugnoli, G., Santarnecchi, E., Rossi, S., 2020. Functional connectivity changes and symptoms improvement after personalized, double-daily dosing, repetitive Transcranial Magnetic Stimulation in Obsessive-Compulsive Disorder: a pilot study. J. Psychiatr. Res. https://doi.org/10.1016/j.jpsychires.2020.10.030
22. Mencarelli, L., Menardi, A., Neri, F., Monti, L., Ruffini, G., Salvador, R., Pascual-Leone, A., **Momi, D.**, Sprugnoli, G., Rossi, A., Rossi, S., Santarnecchi, E., 2020. Impact of network-targeted multichannel transcranial direct current stimulation on intrinsic and network-to-network functional connectivity. J. Neurosci. Res. 98, 1843–1856. https://doi.org/10.1002/jnr.24690
23. Mencarelli, L., Neri, F., **Momi, D.**, Menardi, A., Rossi, S., Rossi, A., Santarnecchi, E., 2019. Stimuli, presentation modality, and load-specific brain activity patterns during n-back task. Hum. Brain Mapp. 40, 3810–3831. https://doi.org/10.1002/hbm.24633
24. Messa, L.V., Ginanneschi, F., **Momi, D.**, Monti, L., Battisti, C., Cioncoloni, D., Pucci, B., Santarnecchi, E., Rossi, A., 2019. Functional and Brain Activation Changes Following Specialized Upper-Limb Exercise in Parkinson's Disease. Front. Hum. Neurosci. 13. https://doi.org/10.3389/fnhum.2019.00350
25. Ozdemir, R.A., Tadayon, E., Boucher, P., **Momi, D.**, Karakhanyan, K.A., Fox, M.D., Halko, M.A., Pascual-Leone, A., Shafi, M.M., Santarnecchi, E., 2020. Individualized perturbation of the human connectome reveals reproducible biomarkers of network dynamics relevant to cognition. Proc. Natl. Acad. Sci. https://doi.org/10.1073/pnas.1911240117
26. Santarnecchi, E., Del Bianco, C., Sicilia, I., **Momi, D.**, Di Lorenzo, G., Ferrone, S., Sprugnoli, G., Rossi, S., Rossi, A., 2018a. Age of Insomnia Onset Correlates with a Reversal of Default Mode Network and Supplementary Motor Cortex Connectivity. Neural Plast. 2018, 3678534. https://doi.org/10.1155/2018/3678534
27. Santarnecchi, E., **Momi, D.,** Sprugnoli, G., Neri, F., Pascual-Leone, A., Rossi, A., Rossi, S., 2018b. Modulation of network-to-network connectivity via spike-timing-dependent

noninvasive brain stimulation. Hum. Brain Mapp. 39, 4870–4883. https://doi.org/10.1002/hbm.24329
28. Santarnecchi, E., Sprugnoli, G., Tatti, E., Mencarelli, L., Neri, F., **Momi, D.**, Di Lorenzo, G., Pascual-Leone, A., Rossi, S., Rossi, A., 2018c. Brain functional connectivity correlates of coping styles. Cogn. Affect. Behav. Neurosci. 18, 495–508. https://doi.org/10.3758/s13415-018-0583-7
29. Sprugnoli, G., Monti, L., Lippa, L., Neri, F., Mencarelli, L., Ruffini, G., Salvador, R., Oliveri, G., Batani, B., **Momi, D.**, Cerase, A., Pascual-Leone, A., Rossi, A., Rossi, S., Santarnecchi, E., 2019. Reduction of intratumoral brain perfusion by noninvasive transcranial electrical stimulation. Sci. Adv. 5, eaau9309. https://doi.org/10.1126/sciadv.aau9309

PROFESSIONAL PRESENTATIONS:

- 1st June 2022. The Neuromodulation and Neuroimaging Relevant to Affective Disorders Speaker Series. "**Dissecting the spatio-temporal propagation dynamics of the TMS-induced signal".**
- 7th June 2022. Canadian Computational Neuroscience Spotlight conference, Toronto, Canada. **"TMS-evoked responses are driven by recurrent large-scale network dynamics"**
- Dec 2021 Oral talk at 4th International Brain Stimulation Conference 2021, Charleston, South Carolina, USA **"Modelling large-scale brain network dynamics underlying the TMS-EEG evoked response"**
- Dec 2020 Oral talk at Brainhack Marburg "**Brain imaging predicts TMS-induced signal propagation"**
- May 2018 Poster Presentation at the 6th Science Factory: TMS–EEG Summer School and Workshop in Aalto **"Modulation of network-to-network connectivity via spike-timing-dependent noninvasive brain stimulation".**
- July 2017 Poster Presentation at the "International Society for Intelligence Research" 2017 in Montreal "**Fluid Intelligence Enhancement by means of fMRI-guided Paired-Associative Brain Stimulation".**

OTHER POSTERS:

- May 2022. Canadian Association for Neuroscience. Oveisi MP, Clappison AS, Momi D, Griffiths JD. **"Reliability and consistency of diffuse optical tomography resting-state functional connectivity measurements from the Kernel Flow fNIRS system".**
- May 2022. Canadian Association for Neuroscience. Clappison AS, Wang Z, Oveisi MP, Momi D, Lefebvre J, Fraser M, Griffiths JD. **"Whole-brain connectome-based computational modelling of concurrent resting state electrophysiological and hemodynamic activity".**
- May 2022. Canadian Association for Neuroscience. Harita S, Momi D, Mazza F, Griffiths JD. **Mapping inter-individual functional connectivity variability in TMS targets for major depressive disorder.**

HONORS AND AWARDS:

- Winner of a fellowship (750 EUR) for attending the "1st Summer School of Interdisciplinary Research on Brain Network Dynamic"
- Winner of FENS and IBRO-PERC travel grant (750 EUR) for attending the "International Interdisciplinary Computational Cognitive Science Spring School (IICCSSS)"
- Winner of "European Workshop on Cognitive Neuropsychology" Prize for 2019 [LINK]
- University of Bologna Merit Scholarship Recipient: November 2013 – November 2015

TEACHING EXPERIENCE

- dMRI analysis in Python - Neuroimaging Carpentry, Online [LINK]
- Working with EEG-BIDS in EEGLAB (Matlab) - Neuroimaging Carpentry, Online [LINK]
- Leading TA at Neuromatch Academy Academy 2022

SKILLS:

Technical: Proficient in Microsoft Word, Excel, SPSS, MATLAB, Unix Shell, Python, FreeSurfer, FSL, SPM, AFNI, EEGLAB, Brainstorm, MRtrix3.

- Neuroimaging Data: Analysis of task-based and resting state data by means of different software packages (AFNI, FSL, SPM, FreeSurfer), collection and analysis of data at 3T and 1.5T, event-related and block designs, Volume-based and Surface-based analysis, Non-linear registration in FSL and AFNI, Freesurfer anatomical structural analysis and ROI identification, ANTs N4 bias field correction, Blip-up blip-down distortion correction in AFNI and FSL, Automated fMRI analysis via C shell scripts, Scripting for analysing Diffusion Tensor Imaging in FSL, AFNI and MRtrix3, Constrained Spherical Deconvolution (CSD) to estimate the white matter fibers Orientation Distribution Function (fODF)
- Electrophysiological Data: Data collection, Analysis in the MATLAB toolbox EEGLAB, Automated analysis via scripting in EEGLAB, Skin-conductance collection and analysis, EMG collection and analysis, Time series denoising, Spectral and rhythmicity analyses, working with complex numbers, Filtering, Convolution, Wavelet analysis, Resampling, interpolating, extrapolating, Outlier detection, Feature detection, Variability
- Programming Languages: proficient in MATLAB, Unix Shell, Python, C++
- Brain Stimulation: Cortico-cortical paired associative stimulation application, TMS-EEG data collection, TMS-EEG data preprocessing in EEGLAB by means of a customize script, Source Analysis with Brainstorm, Scripting for the analysis of TMS Evoked Potentials (TEPs), Motor evoked Potentials (MEPs) data collection and analysis.
- Statistical Analysis: proficient in SPSS and R, Mixed linear modelling, Between-subjects, repeated measures and mixed ANOVA, Regression, Structural equation modelling, Correction for multiple comparison in FSL, SPM, AFNI, SPSS, R, Conducting Meta-Analyses using Comprehensive Meta-Analysis Software and Metafor.
- Machine Learning: Linear Regression, Cross Validation and Bias-Variance Trade-Off, Logistic Regression, K Nearest Neighbours, Decision Trees and Random Forests, Support Vector Machines, K Means Clustering, Principal Component Analysis, Natural Language Processing Big Data and Spark with Python Neural Nets and Deep Learning
- Manuscript preparation: compiling literature reviews and references, writing manuscripts and grant proposals, creation of effective, high-resolution data graphics using excel, GIMP, and adobe illustrator
- Data Management: C shell scripting for automated fMRI and EEG data backup

Languages: Native: Italian, Conversational: English and Spanish

General: Detail Oriented, Organized, Excellent Writing and Research Skills, Teamwork.

PROFESSIONAL CERTIFICATIONS:

- **"Disruptive Summer School in Data Science & Machine Learning"**
  Viterbo, Department of Engineering of the University of Viterbo - Italy
  16th-27th September 2019
- **"Summer School in Computational and Theoretical Models in Neuroscience"**
  Venice, Padova Neuroscience Center – Italy
  9th-14th September 2019
- **"Summer School of Interdisciplinary Research on Brain Network Dynamics"**
  Terzolas, Department of Physics of the University of Trento - Italy
  24th-28th June 2019
  Fellowship Winner
- **"International Interdisciplinary Computational Cognitive Science Spring School (IICCSSS)"**
  Bernstein Center Freiburg, Germany
  25th-31st March 2019
  Travel Grant Winner
- **"European Workshop on Cognitive Neuropsychology"**
  Forum Center, Bressanone, Italy
  20th -25th January 2019
  EWCN Prize Winner [LINK]
- **"Neurotechnology applications on aging-related disorders" Winter School**
  Cuban Neuroscience Center (CNEURO), Havana, Cuba
  26th November -7th December 2018
- **Afni + Suma Training Workshop**
  National Institute of Health (NIH), Bethesda (MD), USA
  22th-26rd October 2018
- **FreeSurfer Tutorial and Workshop**
  Martinos Center for Biomedical Imaging, Boston (MA), USA
  1st-4th October 2018
- **6th TMS-EEG Science Factory: TMS-EEG Summer School and Workshop**
  Aalto University, Espoo, Finland
  18th-23rd May 2018
- **Brainhack San Sebastien**
  BCBL – Basque Center on Cognition, Brain and Language, Spain
  2nd-4th May 2018
- **20th Natbrainlab Neuroanatomy and Tractography workshop**
  Natbrainlab - King's College in London, UK
  26th -28th February 2018
- **Intensive Course in Transcranial Magnetic Stimulation**
  Berenson-Allen Center for Noninvasive Brain Stimulation, Harvard Medical School, Boston (MA), USA
  24th-28th October 2016

- **Introduction to Transcranial Current Stimulation**
  Berenson-Allen Center for Noninvasive Brain Stimulation, Harvard Medical School, Boston (MA), USA
  31st October -1st November 2016

PROFESSIONAL TITLES

- **Member of the Psychologists Association of Umbria**
  Since November 2018
- **Member of "International Society for Intelligence Research"**
  Since July 2017
- **Member of "Italian Society of Psychophysiology"**
  Since November 2015

EXPERIENCE AND SEMINAIRS ATTENDANCE

- "Time representation in the brain" - Lecturer: Prof. ***Domenica Bueti***, University of Losanne
- "The Basic Emotional Systems and Affective Proto-consciousness" - Lecturer: Prof. ***Jaak Panksepp***, Washington State University
- "Performance monitoring and hot cognition" - Lecturer: Prof. ***Gilles Pourtois***, Ghent University"
- Attention waxes and wanes depending on mood" - Lecturer: Prof. ***Gilles Pourtois***, Ghent University
- "Neuralmechanisms of mutualunderstanding" - Lecturer: Dr. ***Arjen Stolk*** Donders Centre for Cognitive Neuroimaging Nijmegen, The Netherlands
- "Towards a Neuroscience of free will" - Lecturer: Prof. ***Patrick Haggard***, University College of London
- "Neuropsychology of emotions" - Lecturer: Dr. ***Marco Tamietto***, University of Turin
- "Visual perception of biological relevant stimuli in pathological and healthy population" - Lecturer: Prof. ***Marzia Del Zotto***, Unité de Neuropsychologie, HUG –Hôpitaux Universitaires de Genève
- "Age-related changes in episodic memory and decision-making" - Lecturer: Prof ***Julia Spaniol***, Ryerson University, Toronto
- "Functional and structural reorganization in ageing" - Lecturer: Dr. ***Hana Burianova***, Centre for Advanced Imaging, University of Queensland
- "From segregation to integration: The complexity of human brain functions" - XXIII Workshop and National Congress of the Italian Society of Psychophysiology (Società Italiana di Psicofisiologia SIPF)

OTHER ACTIVITIES:

Volunteer for "Plan my Gap Year" (https://gofund.me/0ec9a2b0) and Slums Dunk (https://www.slumsdunk.org/)
Volunteer for "Hospice Toronto" (https://hospicetoronto.ca/)
Basketball Player Professionals: August 2006 – June 2013
"Italian College Basketball Tour" Company Founder: August 2009– June 2013

European Workshop on Cognitive Neuropsychology

EWCN Prize 2019

awarded to

Davide Momi

in recognition of the scientific quality of the paper presented on Monday 21st January 2019

Cognitive enhancement by means of network-targeted cortico-cortical associative brain stimulation

Signed _____ *Date* *21st January 2019*

Franco Denes

FENS Federation of European Neuroscience Societies

IBRO INTERNATIONAL BRAIN RESEARCH ORGANIZATION

This is to certify that

Davide Momi

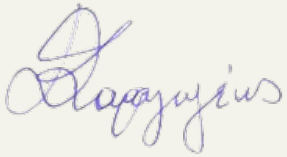
was awarded with a **FENS and IBRO-PERC stipend** to attend the

International Interdisciplinary Computational Cognitive Science Spring School

Freiburg, Germany, 25-31 March 2019

Date
1 April 2019

Domna Karagogeos



FENS Chair, Higher Education and Training Committee

Athinoula A.
Martinos
Center
For Biomedical Imaging

MGH
1811

VE RI TAS

Davide Momi

Attended the FreeSurfer Tutorial and Workshop

October 1 - 4, 2018

Bruce Fischl, PhD
Director, Computational Core

NIMH
National Institute of Mental Health

NIH

Certificate of Completion

Davide Momi

Successfully completed the

AFNI+SUMA Training Workshop

National Institutes of Health

22-26 October 2018

Certificate of Attendance

This certificate is presented to

Davide Momi

for attending the Disruptive Data Summer School,
held at the Università della Tuscia, Viterbo
from the 16th to the 27th of September 2019.

datrix
AI applications

3rdPlace
user & customer AI

ByTek
performance marketing A

Paolo Dello Vicario

Faculty
Alvaro Pascual-Leone, M.D., Ph.D.
Professor of Neurology
Director

Daniel Z. Press, M.D.
Associate Professor of Neurology
Medical Director

Lorella Battelli, Ph.D.
Assistant Professor in Psychiatry

Peter Fried, Ph.D.
Instructor in Neurology

Michael Fox, M.D., Ph.D.
Assistant Professor of Neurology

Mark Halko, Ph.D.
Instructor in Neurology

Simon Laganiere, MD
Instructor in Neurology

Franziska Plessow, Ph.D.
Instructor in Neurology

Alexander Rotenberg, M.D., Ph.D.
Associate Professor of Neurology

Emiliano Santernecchi, Ph.D.
Instructor in Neurology

Mouhsin Shafi, M.D., Ph.D.
Instructor in Neurology

Adam Stern, M.D.
Instructor in Psychiatry

Adjunct Faculty
Dylan Edwards, Ph.D.
Mark Eldaeif, M.D.
Shirley Fecteau, Ph.D.
Felipe Fregni, M.D., Ph.D.
Lindsay Oberman, PhD.

Research Fellows
Stephanie Buss, M.D.
Ryan Darby, M.D.
Ali Jannati, M.D., Ph.D.
Jaya Padmanabhan, M.D.
Todd Thompson, Ph.D.

Administrative Director
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Kamaria Hayden, B.S.

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BA CNBS
Berenson-Allen Center
For Noninvasive Brain Stimulation

Beth Israel Deaconess Medical Center
A teaching hospital of Harvard Medical School

October 28, 2016

To Whom It May Concern:

This letter is to confirm that **Davide Momi** participated as an auditor in the course, Intensive Course in Transcranial Magnetic Stimulation (734458), from October 24-28, 2016. The course, which operates three times per year, combines formal lectures with hands-on practical demonstrations and teaches participants a wide range of brain stimulation techniques and methodologies. **Davide Momi** participated in the following lectures:

- *Introduction to the TMS Course*
- *TMS Basics*
- *Clinical Applications and Depression Evidence*
- *An Introduction to Seizures for the TMS Clinician or Investigator*
- *Setting up a TMS Clinic*
- *TMS Physics: Quantitative Aspects of Targeting and Dosing*
- *Network Imaging*
- *Special Populations: Pediatrics*
- *TMS in Animal Models: Methods & Applications*
- *Neurological Applications*
- *TMS and Imaging*
- *TMS and Behavioral Interventions: Considerations*
- *State-Dependent Interactions of Transcranial Magnetic Stimulation*
- *Translational Value of TMS Studies in Healthy Subjects into Clinical Populations*
- *TMS and EEG: Methodological Issues and Clinical Application*

The course is offered in partnership with the Beth Israel Deaconess Medical Center and the Harvard Medical School Department of Continuing Education. If you have any questions or concerns regarding **Davide Momi's** participation in the course as an auditor, please contact me at the address below.

Sincerely,

ARWilkinson

Alisha Wilkinson
Program Administrator
Berenson-Allen Center for Noninvasive Brain Stimulation
Beth Israel Deaconess Medical Center
arwilkin@bidmc.harvard.edu

Faculty
Alvaro Pascual-Leone, M.D., Ph.D.
Professor of Neurology
Director

Daniel Z. Press, M.D.
Associate Professor of Neurology
Medical Director

Lorella Battelli, Ph.D.
Assistant Professor in Psychiatry

Peter Fried, Ph.D.
Instructor in Neurology

Michael Fox, M.D., Ph.D.
Assistant Professor of Neurology

Mark Halko, Ph.D.
Instructor in Neurology

Simon Laganiere, MD
Instructor in Neurology

Franziska Plessow, Ph.D.
Instructor in Neurology

Alexander Rotenberg, M.D., Ph.D.
Associate Professor of Neurology

Emiliano Santernecchi, Ph.D.
Instructor in Neurology

Mouhsin Shafi, M.D., Ph.D.
Instructor in Neurology

Adam Stern, M.D.
Instructor in Psychiatry

Adjunct Faculty
Dylan Edwards, Ph.D.
Mark Eldaeif, M.D.
Shirley Fecteau, Ph.D.
Felipe Fregni, M.D., Ph.D.
Lindsay Oberman, PhD.

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For Noninvasive Brain Stimulation

Beth Israel Deaconess Medical Center
A teaching hospital of Harvard Medical School

November 1, 2016

Whom It May Concern:

This letter is to confirm that **Davide Momi** participated as an auditor in the course, Introduction to Transcranial Direct Current Stimulation in Neuropsychiatric Research (734457), from October 31 – November 1, 2016. The course, which operates three times per year, combines formal lectures with hands-on practical demonstrations and teaches participants a wide range of brain stimulation techniques and methodologies. **Davide Momi** participated in the following formal lectures:

- *Introduction and Course Goals*
- *Basic Principles of tDCS*
- *Basic Principles of Transcranial Alternating Current Stimulation*
- *Mechanisms of Transcranial Current Stimulation*
- *Behavioral and Motor Intervention Research using tDCS*
- *tDCS and EEG*
- *Safety of tDCS*
- *Clinical Applications of tDCS*
- *Cognitive Enhancement using tDCS*

The course is offered in partnership with the Beth Israel Deaconess Medical Center and the Harvard Medical School Department of Continuing Education. If you have any questions or concerns regarding **Davide Momi's** participation in the course as an auditor, please contact me at the address below.

Sincerely,

ARWilkinson

Alisha Wilkinson
Program Administrator
Berenson-Allen Center for Noninvasive Brain Stimulation
Beth Israel Deaconess Medical Center
arwilkin@bidmc.harvard.edu

Certificate of attendance

20th Neuroanatomy and Tractography Workshop

King's College London, London, United Kingdom

Is Awarded To

Davide Momi

26-28th February 2018

NATBRAINLAB
Neuroanatomy And Tractography Laboratory
www.natbrainlab.com

Dr. Marco Catani, Head of the Natbrainlab

Aalto University
School of Science

DIPLOMA

Certificate of Participating in the 6th Science Factory: TMS–EEG Summer School and Workshop

This document certifies that ***Davide Momi*** participated in the 6th *Science Factory: TMS–EEG Summer School and Workshop* on May 18–23, 2018, in Espoo, Finland. We hereby recommend that the student is granted **3 ECTS** credits for the work done during the course and during preparation for the course and presentations there (1 ECTS credit = approx. 27 hours of work).

Yours sincerely,

Professor Risto Ilmoniemi

and

Dr. Jaakko Nieminen

Science Factory Coordinator

Department of Neuroscience and Biomedical Engineering
Aalto University School of Science
P.O. Box 12200, FI-00076 AALTO, Finland
jaakko.nieminen@aalto.fi
+358 50 344 3186

CNEURO

vliruos
SHARING MINDS, CHANGING LIVES

VLIR Flemish Universities and Cuban Center for Neurosciences extend the present

CERTIFICATE

To: **Davide Momi**

For participating in the First Winter School: "Neurotechnology applications on aging-related disorders", held in Havana, Cuba, from Nov 26th to Dec 7th, 2018.

Ph. D. Mitchell Valdés Sosa

Ph. D. Pedro Valdés Sosa

CNEURO
Dirección General

Ph. D. Hichem Sahli

Ph. D. Daniele Marinazzo

Book 02 Sheet 12 Number 324 Credit 4 Signature

VUB VRIJE UNIVERSITEIT BRUSSEL

UNIVERSITEIT GENT

neuromatch
academy

We are honored to present this

Certificate of Completion

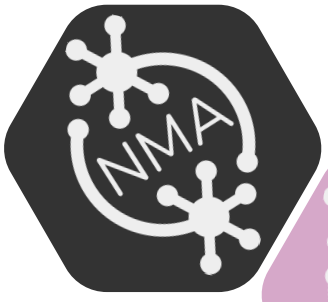
to

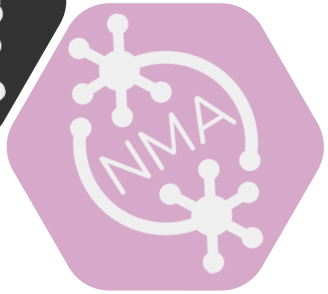
Davide Momi

On the 31st day of July 2020

for completion of the interactive track
and the course project at the inaugural
Neuromatch Academy

tutorials





project

Neuromatch Board of Directors

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Konrad Körding, PhD

Paul Schrater, PhD

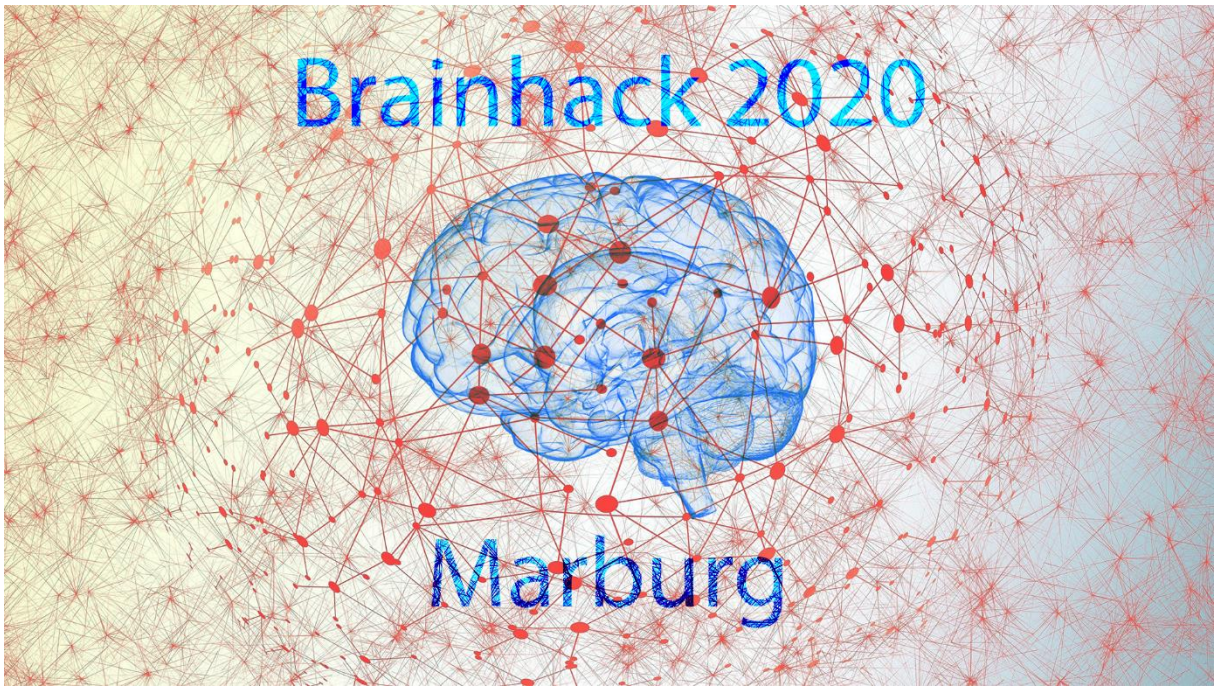
Certificate of Collaboration

Brainhack Marburg 2020

Institute for Neuroimaging

Philipps-University Marburg, Hessia, Germany

Nov. 30th – Dec. 11th, 2020



Davide Momi

Department of Neuroscience, Imaging and Clinical Sciences

University of Chieti, Abruzzo, Italy

presenting on the topic of

Brain imaging predicts TMS-induced signal propagation.

José C. Gargía Alanis, Ulrike Domahs, Thomas S. Hartmann
Nadine Müller, Lydia Riedl, Mathias Scharinger
Ina Thome, Christoph Vogelbacher
Katie Bottenhorn