Giulia Rocco

PERSONAL DATA



Arpino (FR), Italy | 20th September 1993 PLACE AND DATE OF BIRTH: Via Valle Martire 8, 03100, Frosinone, Italy ADDRESS: PHONE: +39 334 3249575 giuliarocco209@gmail.com EMAIL: WORK EXPERIENCE MAR 2025 - ONGOING Postdoctoral researcher at INSTITUTE FOR ADVANCED BIOMEDICAL TECHNOLOGIES (Chieti, Italy) - Multimodal data collection and analysis (fMRI, fNIRS) with healthy controls and multiple sclerosis patients Graduate Research Assistant at 13S LAB AND CENTRE HOSPITALIER UNIVERSITAIRE DE NICE (France) IAN 2020 - NOV 2023 - Conducted multimodal data collection and analysis (fMRI, fNIRS, EEG) with adults and high-potential children - Focused on cerebellar functional and structural analysis, contributing to several publications - Managed subjects, budget, and data across the different institutions and partners PhD Intern at NIRx MEDICAL TECHNOLOGIES, Berlin (Germany) JUN 2022 - JUL 2022 - Took part in daily activities at the Customer Success Department - Documented technical aspects on simultaneous fNIRS/fMRI acquisitions MAR 2022 - DIC 2022 Visiting Researcher at the MultifunkIM Lab, CONCORDIA UNIVERSITY, Montreal (Canada) - Led multimodal data collection projects - Analyzed data using advanced neuroimaging software (SPM, Freesurfer) and custom code SEPT 2020 - DEC 2020 Teaching Assistant at UNIVERSITÉ CÔTE D' AZUR, Nice (France) - Taught Algorithms & Programming with R, guiding students through practical sessions and projects Research Intern at B3Lab and PHEEL Laboratories, POLITECNICO DI MILANO, Milan (Italy) JAN 2019 - NOV 2019 - Specialized in biomedical signal acquisition and processing (EEG, ECG, PPG, EDA, eye tracking) - Conducted novel VR therapeutic approaches with adolescents with neurodevelopmental disorders - Analyzed biomedical signals for biomarketing applications OCT 2015 - DEC 2015 Support Engineer at LUTECH, Milan (Italy) - Support to staff in operating rooms within the development of an EHR framework MAR 2015 - JUL 2015 Visiting Student at LAFAS Lab, UNIVERSITÀ DI MILANO, Milan (Italy) - Modification and test of machine learning algorithms for CT image segmentation - Statistical analysis of automatic vs user-operated methods **EDUCATION** JAN 2020 - SEP 2023 PhD Marie Curie fellow - BoostUrCAreer program Thesis: "Multimodal Functional Exploration of the Cerebellum", defended on 24th Nov 2023 Université Côte D'Azur, Nice, France OCT 2017 - MAR 2018 Master thesis in Engineering Technology - ESAT department Title: "Design, implementation, and pilot testing of a language-independent speech intelligibility test" Katholieke Universiteit Leuven, Leuven, Belgium AUG 2016 - MAR 2017 Exchange (Erasmus+) in BIOMEDICAL ENGINEERING - Technology and Health Kungliga Tekniska Högskolan, Stockholm, Sweden Master's Degree in BIOMEDICAL ENGINEERING - Electronic Technologies SEPT 2015 - APR 2018 Politecnico di Milano, Milan, Italy | Final Grade: 110/110 Bachelor's Degree in BIOMEDICAL ENGINEERING SEPT 2012 - JUL 2015 Thesis: "Validation and optimisation of an automatic hard tissue segmentation algorithm for CBCT data" Politecnico di Milano, Milan, Italy | Final Grade: 102/110

SKILLS

Programming	Matlab, R, C, Python
DATA ANALYSIS	SPM, FreeSurfer, Brainstorm, Fieldtrip, Homer3, EEGLAB
LANGUAGES	Italian, English, French

PUBLICATIONS

IN PREPARATION

Rocco, G., Delaire, E., Ramanoël, S., Meste, O., Magnié-Mauro, M. N., Grova, C., and Lebrun, J. (in preparation). Simultaneous fNIRS-fMRI in Cerebellum and Motor Cortex Reveals High Temporal Correlation with Pipeline-Dependent Spatial Variability.

Rocco, G., Delaire, E., Cai, Z., Ramanoël, S., Meste, O., Magnié-Mauro, M. N., Grova, C., and Lebrun, J. (in preparation). Surface-based Analysis of Cerebellar Personalized High-Density fNIRS and fMRI During a Motor and an Auditory Task.

PEER-REVIEWED

Rocco, G., Delaire, E., Ramanoël, S., Meste, O., Magnié-Mauro, M. N., Grova, C., and Lebrun, J. (2024, September). Enhancing Cerebellar fNIRS/fMRI via Tailored Pipelines. In 2024 Biennial meeting of the Society of Functional Near-Infrared Spectroscopy (SfNIRS 2024).

Rocco, G., Bernardi, G., Ali, R., van Waterschoot, T., Polo, E. M., Barbieri, R., and Paglialonga, A. (2023). Characterization of the Intelligibility of Vowel–Consonant–Vowel (VCV) Recordings in Five Languages for Application in Speech-in-Noise Screening in Multilingual Settings. Applied Sciences, 13(9), 5344.

Rocco, G., Delaire, E., Ramanoël, S., Meste, O., Magnié-Mauro, M. N., Grova, C., and Lebrun, J. (2022, October). Densifying Optodes Montage to Enhance Cerebellar fNIRS. In 2022 Biennial meeting of the Society of Functional Near-Infrared Spectroscopy (SfNIRS 2022).

Rocco, G., Ramanoël, S., Habas, C. N., Arleo, A., Meste, O., Magnié-Mauro, M. N., and Lebrun, J. (2022, March). When fNIRS meets fMRI to complement cerebellar exploration. In IEEE International Symposium on Biomedical Imaging (ISBI 2022).

Rocco, G., Lebrun, J., Meste, O., and Magnié-Mauro, M. N. (2021, November). A chiral fNIRS spotlight on cerebellar activation in a finger tapping task. In 2021 43rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC) (pp. 1018-1021). IEEE.

Rocco, G., Rix, H., Lebrun, J., Guetat, S., Chanquoy, L., Meste, O., and Magnié-Mauro, M. N. (2021, November). Single-Trial Detection of Event-Related Potentials with Integral Shape Averaging: An Application to the Elusive N400. In 2021 43rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC) (pp. 1022-1025). IEEE.

Rocco, G., Lebrun, J., Meste, O., and Magnie-Mauro, M. N. (2021, September). Asymmetries in Cerebellar Activation during Finger Movements: A Functional Near-Infrared Spectroscopy Study. In Acta Physiologica: 4th Congress of Physiology and Integrative Biology, 88th Congress of French Physiological Society, Faculté de Médecine, Nice, France, 2-4 September, 2021 (Vol. 233, No. S723, pp. 9-10). Wiley.

Rocco, G., Lebrun, J., Meste, O., and Magnié-Mauro, M. N. (2021, April). Exploring the cerebellum with functional near-infrared imaging: a preliminary study. In IEEE 18th International Symposium on Biomedical Imaging (ISBI 2021). IEEE.

Rocco, G., Lebrun, J., Magnié-Mauro, M. N., and Meste, O. (2020, November). P300 event-related potentials classification from EEG data through interval feature extraction and recurrent neural networks. In SophIA Summit 2020.

Paglialonga, A., Polo, E. M., Zanet, M., **Rocco, G.**, van Waterschoot, T., and Barbieri, R. (2020). An automated speechin-noise test for remote testing: Development and preliminary evaluation. American journal of audiology, 29(3S), 564-576.

Rocco, G., Reali, P., Lolatto, R., Tacchino, G., Mandolfo, M., Mazzola, A., and Bianchi, A. M. (2020, July). Exploration of the physiological response to an online gambling task by frequency domain analysis of the electrodermal activity. In 2020 42nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC) (pp. 91-94). IEEE.

Lolatto, R., **Rocco, G.**, Mustoni, R., Maninetti, C., Pastura, R., Pigazzini, A., and Barbieri, R. (2020). Characterization of eye gaze and pupil diameter measurements from remote and mobile eye-tracking devices. In XV Mediterranean Conference on Medical and Biological Engineering and Computing–MEDICON 2019: Proceedings of MEDICON 2019, September 26-28, 2019, Coimbra, Portugal (pp. 201-208). Springer International Publishing.

Zanet, M., Polo, E. M., **Rocco, G.**, Paglialonga, A., and Barbieri, R. (2019, July). Development and preliminary evaluation of a novel adaptive staircase procedure for automated speech-in-noise testing. In 2019 41st Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC) (pp. 6991-6994). IEEE.

Reali, P., Tacchino, G., **Rocco, G.**, Cerutti, S., and Bianchi, A. M. (2019). Heart rate variability from wearables: a comparative analysis among standard ECG, a smart shirt and a wristband. In pHealth 2019 (pp. 128-133). IOS Press.

Codari, M., Caffini, M., Rizzo, L., **Rocco, G.**, Tartaglia, G. M., Baselli, G., and Sforza, C. (2015). Validation of an automatic hard tissue segmentation algorithm for cone beam CT data. In 37th IEEE Annual conference on Engineering in Medicine and Biology.

FUNDING

2023	• Horizon 2020 Marie Sklodowska-Curie Actions COFUND doctoral scholarship extension - 3 months
2022	\circ Quebec Bio-Imaging Network grant for Pilot Projects (20 000\$)
2020	 Horizon 2020 Marie Sklodowska-Curie Actions COFUND doctoral scholarship - 42 months (15 selected students over 500 applicants) Temporary teaching contract, Computer Science Department, Université Côte D'Azur
2019	\circ Biomedical Engineering departmental funds for research interns, Politecnico di Milano
2017	\circ Merit scholarship for master thesis abroad, Politecnico di Milano
2017	\circ Erasmus+ mobility scholarship (2 spots for KTH for Biomedical Engineering), Politecnico di Milano
Awards	
2023	• Nomination for the best PhD thesis prize of the doctoral school
2021	 Public Award, 3-minutes Thesis contest in 18th IEEE International Symposium on Biomedical Imaging Best Poster Award, 4th Congress of the Physiology and Integrative Biology French Society Winner of the MSCA Falling Walls Lab 2021 - Breaking the wall of Cerebellar Neuroscience (listed among the 75 Emerging Talents worldwide at the Falling Walls Finale 2021) Université Côte D'Azur Excellence Prize
Teaching	
2024	• Co-instructor , "NIRSTORM: a Brainstorm plugin for fNIRS statistical analysis, 3D reconstructions and optimal probe design", Educational course at SfNIRS 2024
2022	• Co-instructor , "NIRSTORM: a Brainstorm plugin for fNIRS statistical analysis, 3D reconstructions and optimal probe design", Educational course at SfNIRS 2022
2020	o Teaching Assistant, Algorithms & Programming with R, Université Côte D'Azur
Talks & Pr	ESENTATIONS
2024	 Oral talk, Biennial meeting of the Society of Functional Near-Infrared Spectroscopy (SfNIRS). Enhancing Cerebellar fNIRS/fMRI via Tailored Pipelines Invited talk, RWTH-NIRx fNIRS workshop: from best practices to high-end applications. Simultaneous fNIRS/fMRI exploration of the cerebellum
2022	 Poster presentation, Biennial meeting of the Society of Functional Near-Infrared Spectroscopy (SfNIRS). Densifying Optodes Montage to Enhance Cerebellar fNIRS Poster presentation, 19th IEEE International Symposium on Biomedical Imaging (ISBI) When fNIRS meets fMRI to complement cerebellar exploration
2021	 Poster presentation, 4th Congress of the Physiology and Integrative Biology French Society. Asymmetries in Cerebellar Activation during Finger Movements: A Functional Near-Infrared Spectroscopy Stude Paper presentation, 43rd IEEE Engineering in Medicine and Biology Society (EMBC) A chiral fNIRS spotlight on cerebellar activation in a finger tapping task. Poster presentation, 18th IEEE International Symposium on Biomedical Imaging (ISBI) Exploring the cerebellum with functional near-infrared imaging: a preliminary study.

- 2020 **Paper presentation**, 42nd IEEE Engineering in Medicine and Biology Society (EMBC) Exploration of the physiological response to an online gambling task by frequency domain analysis of the electrodermal activity
 - **Poster presentation**, SophIA Summit P300 event-related potentials classification from EEG data through interval feature extraction and recurrent neural netowrks