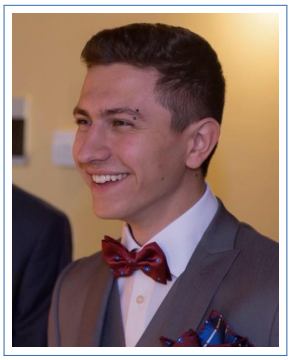

Giacomo Carollo

Education

2019–2021 **University of Padova, Department of General Psychology**, Master's degree in Psicologia Cognitiva Applicata, Thesis title: *The role of sleep and wakefulness on emotional image recognition: a study with portable polysomnography.*
Final grade: 110/110 with honors

2016–2019 **University of Padova, Department of General Psychology**, Bachelor's degree in Scienze Psicologiche Cognitive e Psicobiologiche, Thesis title: *Emotions in decision making: role of the somatic marker.*
Final grade: 101/110

2010–2015 **Liceo Scientifico Niccolò Tron (Schio)**, *High school diploma*
Final grade: 73/100

Working Experience

2021–2022 **Intern,** *San Raffaele Hospital, Milan* - During my post-degree internship at the Sleep Disorders Center of San Raffaele hospital, I directly participated in observational and research activity concerning normal and pathological sleep, further deepening my knowledge of general and sleep-specific psychophysiology as well as my experimental research methodology and data analysis skills. Specifically, I had the opportunity to collect and analyze data from hospitalized patients in the sleep disorders ward, learn more about chronic insomnia and Cognitive Behavioural Therapy for Insomnia (CBT-I) by directly taking part in the observation of CBT-I group sessions, acquire expertise regarding sleep objective measures (e.g., actigraphy, polysomnography) and subjective reports (e.g., sleep diaries, questionnaires such as PSQI, ISI, ESS, MCQ-I, MEQ, DBAS...). Regarding my research activities, aside from already published or presented works, I've been working on several projects which are still in preparation, such as the validation of a revised version of the Metacognition Questionnaire for Insomnia (MCQ-I), a meta-analysis investigating the efficacy of cognitive and behavioural interventions to improve CPAP adherence in patients suffering from obstructive sleep apnoea, a multicentric project investigating the changes in sleep microstructure (mainly K-complexes) following CBT-I. I also brought my personal contribution to improve the efficiency of the research process: specifically, I started learning Python programming in order to integrate pre-existing machine learning algorithms and ad-hoc scripts in a pipeline which offers complete polysomnography analysis on the macrostructural and microstructural level, including general sleep metrics, automated sleep feature extraction and artifact correction, spectral and topographical analyses.

2020–2021 **Intern,** *Department of General Psychology, University of Padova* - This training period, which was carried out remotely because of the COVID-19 pandemic outburst, was mostly centered on the preparation for my master's degree thesis. I had the opportunity to deepen my theoretical and practical knowledge of research techniques regarding the psychophysiology of sleep and emotions. More specifically, I acquired skills in the design and implementation of cognitive and psychophysiological experiments, learnt techniques for collecting behavioural, cognitive and physiological data with non-clinical populations, acquired data analysis skills (R, R studio and R-based software interfaces such as JAMOVI and JASP) as well as bibliographical research and scientific communication skills. After completing the planned research for my thesis, I drafted the manuscript which was later accepted for publication in Journal of Sleep Research.

2018–2019 **Intern,** *INSIDE Performance s.r.l., Padova* - During my internship at INSIDE Performance I deepened my knowledge and skills about psychophysiological self regulation techniques such as biofeedback and neurofeedback. More specifically, my assignments included designing and updating databases for collecting psychophysiological data, assisting with the placing of biosensors during assessment sessions, analysing traces and correcting recording artifacts, designing virtual scenarios for biofeedback sessions.

Scientific Publications

2022 **Carollo G., De Gasperi G. & Cellini N.** *The role of sleep and wakefulness in the recognition of emotional pictures,* Journal of Sleep Research, DOI: 10.1111/JSR.13695

Published and presented abstracts

2022 **Carollo G., Degasperi G. & Cellini N.** *The effect of sleep and wakefulness on emotional memory consolidation,* World Sleep Congress, Rome, Mar 11-16, 2022

2022 **Carollo, G., Degasperi, G., & Cellini, N.** *The effect of sleep and wakefulness on emotional memory consolidation,* Sleep Medicine, 100, S149.

2022 **Sforza M., Nese M., Carollo G., D'Este G., Casoni F., Zucconi M., Levendowski D.J., Ferini-Strambi L. & Galbiati A.** *Sleep reactivity to anticipatory anxiety: preliminary results from a home-EEG sleep monitoring and virtual reality study,* World Sleep Congress, Rome, Mar 11-16, 2022

2022 **Sforza, M., Carollo, G., Marelli, S., Castelnuovo, A., Castronovo, V., Zucconi, M., Casoni, F., Oldani, A., Galbiati, A., & Ferini-Strambi, L.** *K-complex density in Narcolepsy: a marker of homeostatic impairment?,* A.I.M.S. XXXII National Congress, Rimini, Set 15-17, 2022

Research Interests

My research interests cover a broad range of topics proper of psychophysiology, cognitive and affective neuroscience, with a particular interest towards sleep. So far, my research activities have been focused on the psychophysiology of sleep, and in particular on the interplay between sleep, emotional regulation and memory consolidation. I also became interested in sleep stimulation techniques such as Targeted Memory Reactivation (TMR) and closed-loop stimulation. In more recent times I had the opportunity to study different sleep pathological conditions, mostly focusing on chronic insomnia, and I developed a major interest towards the clinical implementation of cognitive and behavioural interventions (CBT-I) and the research of objective markers to better conceptualize this disorder, in order to improve the reliability of diagnostic criteria and keep track of treatment-induced changes in sleep parameters. I'm also interested in the study of the neuropsychological and psychophysiological correlates of decision-making processes, neuroimaging and neurostimulation techniques, wearable technology for psychophysiological research, virtual reality applications for clinical and research purposes.

I.T. Skills

- Good knowledge of the Microsoft Office package, including Word, Power Point and Excel, the latter of which i have extensively used during my studies and research activities.
- Good knowledge of PsychoPy, a Python-based software used to build experimental tasks for Psychology research.
- Good knowledge of R and R-based software (R studio, JAMOVI, JASP) for statistical analyses.
- Good knowledge of EDF browser, an opensource viewer, annotator and toolbox for timeseries storage files such as EEG, EMG, ECG.
- Intermediate knowledge of Python and its main libraries for statistics, EEG analysis and data visualization (e.g. statistics, numpy, pandas, mne, yasa, matplotlib).
- Intermediate knowledge of LaTex, a markup language designed for the production of scientific documentation.
- Intermediate knowledge of BioTrace+, a software intended for biofeedback/neurofeedback training and physiological research.