



Ketan Jaltare

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ABOUT ME

I recently completed my PhD in Psychology at the Health Psychology Research Group, KU Leuven, where my work focused on understanding how psychological and social factors influence the development of secondary hyperalgesia. I employ multimodal approaches combining EEG, skin conductance, heart rate, and pupillometry to investigate the neural and physiological mechanisms underlying pain modulation. My broader research interests center on how top-down processes shape sensory experience, using advanced analysis methods such as time-frequency and connectivity analyses, computational modeling, and Bayesian approaches to uncover their underlying brain dynamics. Building on this expertise, I am particularly interested in applying computational and machine learning methods to decode brain and physiological signals for real-world applications in neurotechnology and human-computer interaction.

WORK EXPERIENCE

 **KU LEUVEN – LEUVEN, BELGIUM**

RESEARCH ASSOCIATE – 31/01/2025 – CURRENT

- Designing and carrying out experiments examining the role of psychological and social factors on the development of pain and hyperalgesia.
- Advanced Data analysis of behavioural, EEG and physiological data (Skin conductance, Heart Rate, Pupillometry)
- Reporting the results of the analyses and publishing the findings in scientific journals

 **HEALTH PSYCHOLOGY RESEARCH GROUP, KU LEUVEN – LEUVEN, BELGIUM**

PHD FELLOW – 01/06/2020

PhD fellow at the Health Psychology research group, KU Leuven.

PhD thesis: A functional-evolutionary perspective on persistent pain: the role of the social context

 **DARA REHAB, THAILAND**

ADDICTIONS PSYCHOLOGIST AND PROGRAM MANAGER – 01/09/2014 – 01/09/2018

I worked as a clinical psychologist at an inpatient drug and alcohol rehabilitation centre. As the program manager, I was responsible for the clinical program that was implemented at the facility.

 **1TO 1 HELP .NET – BANGALORE, INDIA**

EMPLOYEE ASSISTANCE PSYCHOLOGIST – 01/11/2013 – 30/06/2014

EDUCATION AND TRAINING

01/09/2018 – 30/09/2019 London, United Kingdom

MSC CLINICAL, SOCIAL AND COGNITIVE NEUROSCIENCE (DISTINCTION) CITY, UNIVERSITY OF LONDON

City University of London

Website <https://www.city.ac.uk> | **Final grade** Distinction |

Thesis Is vEAR Synesthesia a matter of cortical hyperexcitability? A psychophysical test of inhibitory processes in the visual cortex.

Website <https://www.christuniversity.in> | **Field of study** Clinical psychology |

Thesis An Exploratory Study on the Effects of Hypnosis on The Subjective Well-being of Post Graduate Students in Bangalore.

01/06/2008 – 01/06/2010 Bangalore, India
BA, PSYCHOLOGY Bangalore University

● **LANGUAGE SKILLS**

Mother tongue(s): **ENGLISH** | **MARATHI**

Other language(s):

| | UNDERSTANDING | | SPEAKING | | WRITING |
|--------------|---------------|---------|-------------------|--------------------|---------|
| | Listening | Reading | Spoken production | Spoken interaction | |
| HINDI | C2 | B2 | C2 | C2 | |

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● **SKILLS**

Experience in MATLAB, python, and R

● **PUBLICATIONS**

2022
The impact of the social context on the development of secondary hyperalgesia: an experimental study

Jaltare, K. P., Vanderijst, L., Karos, K., & Torta, D. M. (2022). The impact of the social context on the development of secondary hyperalgesia: an experimental study. *Pain*, 10-1097.

2024
The Role of Pain Expectations in the Development of Secondary Pinprick Hypersensitivity: Behavioral-Neurophysiological Evidence and the Role of Pain-Related Fear

Jaltare, K. P., Meyers, E., & Torta, D. M. (2024). The Role of Pain Expectations in the Development of Secondary Pinprick Hypersensitivity: Behavioral-Neurophysiological Evidence and the Role of Pain-Related Fear. *The Journal of Pain*, 104567.

2024
Verbal support from a stranger reduces the development of mechanical hypersensitivity: behavioural, electrophysiological evidence and the moderating role of attachment styles

Jaltare, K. P., Manresa, J. B., Niwa, S., & Torta, D. M. (2024). Verbal support from a stranger reduces the development of mechanical hypersensitivity: Behavioral and neurophysiological evidence. *The Journal of Pain*, 25(10), 104599.

2023
Preprocessing choices do not affect the chances of observing increased scalp recorded gamma-band oscillations in the context of mechanical hypersensitivity

Jaltare, K., Torta, D., van den Broeke, E. (2023). Preprocessing choices do not affect the chances of observing increased scalp recorded gamma-band oscillations in the context of mechanical hypersensitivity. *OSF*. doi: 10.31219/osf.io/ujvcy

2024
Experimentally induced central sensitization is accompanied by alterations in electroencephalographical microstate parameters

Jaltare, K. P., & Torta, D. M. (2022). Experimentally induced central sensitization is accompanied by alterations in electroencephalographical microstate parameters. *Pain*, 10-1097.

2024

[Jaltare, K. P., Torta, D., D'Agostini, M., De Voeght, L., Kinnart, M., & van den Broeke, E. \(n.d.\). Do negative expectations increase high-frequency electrical stimulation-induced secondary mechanical hypersensitivity? A replication study. Retrieved from \[osf.io/5psq9\]\(https://osf.io/5psq9\)](#)

This paper is under review at the journal Royal Society Open Science. The url links to the pre-print on OSF.

● HONOURS AND AWARDS

15/02/2024

Travel Grant – University of Toronto

I was granted a travel award for the Human Pain Seminar Series (HPSS) Summit hosted by the University of Toronto (Canada), in March 2024, where I presented a poster on the results of my paper on the EEG microstate changes associated with the development of secondary hyperalgesia.

25/03/2024

IdeaLabs grant – KU Leuven, EuReCa center

I am part of the team that has recently won the IdeaLabs grant awarded by the KU Leuven EuReCa center. We are an interdisciplinary group of 5 researchers (PhDs and post-docs) from the Center for Developmental Psychiatry, Health Psychology and IMEC. Our goal is to organise a series of seminars and training sessions within KU Leuven over the next 2 – 3 years to build and share expertise in EEG spectral analysis techniques in the context of psychiatric disorders. The funding is for a maximum of three years.

● HOBBIES AND INTERESTS

Hobbies outside work

- Martial Arts: Jiu Jitsu, Thai Boxing
- Meditation
- Statistics, Machine Learning and AI

● RELEVANT SKILLS

Skills relevant to my research

- **Scientific Programming:** Proficient in MATLAB, Python, and R
- **Signal Processing and Analysis:** Extensive experience with EEG and psychophysiological signals (HRV, GSR, Pupillometry)
- **Machine Learning and AI:** Intermediate level familiarity with practical applications in data analysis
- **Experimental Design and Research Methods:** Skilled in developing and implementing experimental protocols
- **Communication Skills:** Strong academic writing and verbal communication abilities
- **Interpersonal Skills:** Excellent teamwork and collaboration abilities in multidisciplinary research environments