Gabriel Riegner

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EDUCATION

2015 - 2019
3.83 GPA

University of Southern California, Dornsife College of Letters, Arts, and Sciences
*Bachelor of Arts in **Neuroscience** (with **departmental honors**) and **Cognitive Science***
Advisors: Assal Habibi PhD, Sarah Bottjer PhD, Irving Biederman PhD
Thesis: Recognition Memory for Melody
Selected coursework: Neuroscience Seminar, Introduction to Cognitive Neuroscience, Systems Neuroscience, Neurobiology, Research Methods and Statistics, Programming in Python

2016

University of Otago, Dunedin, New Zealand | international study

RESEARCH

2019 - present

Senior Research Technician: University of California San Diego, Brain Mechanisms of Pain and Health Lab
Advisor: Fadel Zeidan PhD
Projects (ordered by descending level of involvement)
Clinical trial on the brain mechanisms supporting chronic pain relief by meditation (MRI scanner operation)
Prefrontal cortico-thalamic regulation of pain by mindfulness meditation (MRI data analysis)
Clinical trial on the role of endogenous opioids in mindfulness-based pain relief (pain testing, drug infusion)
Brain mechanisms supporting empathy and compassion for pain (MRI scanner operation)
The role of endogenous opioids in cannabis-induced analgesia (MRI scanner operation)
The effects of mindfulness on awake craniotomy surgery (IRB writing)

2015 - 2019

Research Assistant: University of Southern California, Brain and Creativity Institute, Brain and Music Lab
Advisor: Assal Habibi PhD
Projects (ordered by descending level of involvement)
Honors thesis research on modeling recognition memory for musical melodies using signal detection theory.
Longitudinal study of music training on brain (MRI, EEG), cognitive, and socioemotional development.

PUBLICATIONS

2021

Prefrontal cortico-thalamic regulation of pain by mindfulness meditation (abstract)
G Riegner, J Baumgartner, G Posey, A Jinich, Y Jung, F Zeidan, N Gonzalez, J Birenbaum.
The Journal of Pain

2020

Neurophysiological mechanisms supporting mindfulness meditation–based pain relief: an updated review
A Jinich, E Garland, J Baumgartner, N Gonzalez, G Riegner, J Birenbaum, L Case, F Zeidan.
Current Pain and Headache Reports

POSTERS

2021

Neurofunctional connections supporting mindfulness-based pain relief
G Riegner, G Posey, V Oliva, L Khatib, J Baumgartner, R Kraft, Y Jung, F Zeidan.
Society for Neuroscience

2020

Prefrontal cortico-thalamic regulation of pain by mindfulness meditation
G Riegner, J Baumgartner, G Posey , A Jinich, Y Jung , F Zeidan, N Gonzalez , J Birenbaum.
US Association for the Study of Pain

2020

Mindfulness meditation engages a novel neural pathway for pain relief
F Zeidan, G Posey, J Baumgartner, G Riegner, N Gonzales, J Birenbaum, B Vaughan, Y Jung, R Kraft
International Association for the Study of Pain

AWARDS

2015 - 2019 **USC Tuition Exchange Scholarship** | 80% tuition covered
2017 - 2018 **USC Student Opportunities for Research Scholarship** | summer research stipend
2015 - 2020 **USC Dean's List** | GPA ≥ 3.5 per semester

SKILLS

Programming: Python (numpy, pandas, scipy, scikit-learn, psychopy) | **Shell** (unix, scripting) | **Git-Github**
fMRI: scanner operation (GE and Siemens) | **FSL** (preprocessing, linear modelling, ICA, parametric and non-parametric inference) | **Nilearn** (connectivity, linear modelling, multivariate prediction) | **ANTs** (brain extraction, segmentation) | **MATLAB** (mediation analysis) | **BIDs** | **Docker** | **fMRIPrep** | **ASLPrep**
Data: Biopac (physiology) | **BrainVision** (EEG) | **RedCap**, **NIH Toolbox** (behavioral)

Design: Adobe, Affinity (journal cover) | **Web Design** (chakravarthylab.com, douleurtx.com, griegner.github.io)
Clinical: quantitative sensory testing, straight leg raise test of nerve pain

TRAINING

2021	3Blue1Brown linear algebra (self-study)
2020	Neurohackademy (online) | FSL course (self-study) | Pain Neuro journal club
2019	fMRI AFNI course (UCSD)

MEMBERSHIPS

2020 - present	Society for Neuroscience | Cognitive Science Society | US Association for the Study of Pain

SERVICE

2018 - 2019	**USC Outfitters Student Organization** | Wilderness Guide Organized and led surfing, climbing, and hiking trips for groups of ~10 students.