# Gabriel Riegner

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## EDUCATION

2015 - 2019
3.83 GPA

**University of Souther 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 -

**Senior Research Technician: University of California San Diego**, Brain Mechanisms of Pain and Health Lab
**Advisor:** Fadel Zeidan PhD
**Projects** ( ordered by 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 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
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, sklearn, 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 - Society for Neuroscience | Cognitive Science Society | US Association for the Study of Pain

## SERVICE

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