

VIVEK SAGAR

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Education

Northwestern University

Sep 2016 – present

Doctoral program, Interdepartmental Neuroscience (NUIN) | **Cumulative GPA:** 3.68/4.00

PhD Candidate, Kahnt Lab | Department of Neurology, Feinberg School of Medicine

Affiliate T32 trainee, Neurobiology of Information Storage Training Program

Oct 2018 - present

Indian Institute of Science Education and Research (IISER) Mohali

Aug 2011 – May 2016

BS-MS Integrated course | **Major:** Physics | **Cumulative Performance Index:** 9.1/10.0

Research Experience

PhD Researcher | Northwestern University

Sep 2016 – present

- Using neuroimaging and computational modeling to understand how the human brain encodes odors.
- Designed Siamese neural network on TensorFlow to quantify patient improvement in rehabilitation.
- Constructed a Bayesian model to decode time related information from mouse entorhinal cortex.

Master of Science Researcher | IISER Mohali, India

Sep 2015 – May 2016

- Modeled transient phenomena in biologically realistic coupled map lattices.

Non-degree Student | University of California, Los Angeles

May 2015 – Aug 2015

- Analyzed and developed a generalized linear model to decode rat behavior from hippocampal CA1 neurons.

Research Intern | Okinawa Institute of Science and Technology, Japan

May 2014 – Aug 2014

- Modeled coupling and synchronization of neural oscillators in central pattern generators in leeches.

Summer Research Fellow | Indian Academy of Sciences, Bangalore, India

May 2013 – Aug 2013

- Assisted in developing spectral methods to analytically solve linear partial differential equations.

Leadership and Service

1. Coordinator | Computational Neuroscience Club, Northwestern University

Feb 2019 – present

2. President | Alumni Association, IISER Mohali

Dec 2016 - Dec 2017

3. Executive Member | Youth's Attempt to Nurture, IISER Mohali

Jun 2012 – May 2016

4. Co-Coordinator | Annual Science Day, IISER Mohali

Sep 2014

5. Convener | Environment club, IISER Mohali

Sep 2013 – Sep 2014

Teaching

Teaching Assistant | Northwestern University

- Statistics and Data Analysis for Neuroscience (NUIN 408)

Apr 2018 – Jun 2018

- Fundamentals of Systems Neuroscience (NUIN 401-2)

Jan 2018 – Mar 2018

Volunteer | Northwestern University Brain Awareness Outreach

- Contributed to mentoring of 15+ school students on neuroscience projects involving EEG.

Jun 2019

- Facilitated a discussion on *Mind-reading* at Walter Payton College Prep, Chicago.

Apr 2019

- Facilitated a discussion on *Human Olfaction* at Walter Payton College Prep, Chicago.

May 2018

Official Tutor | IISER Mohali

- Tutored 5+ students on *Introduction to Probability and Statistics*. *Jan 2016 – Apr 2016*
- Tutored 5+ students on *Introduction to Classical Mechanics*. *Sep 2015 - Dec 2015*

Conference presentations and workshops

Society for Neuroscience (SfN) Annual Meeting, Chicago, IL *Oct 2019*

- *Tuning of Ensemble Responses in the Human Olfactory Cortex.*

Association for Chemoreceptive Sciences (AChemS), Bonita springs, FL *Apr 2019*

- *Tuning of Ensemble Responses in the Human Olfactory Cortex to Features of Odors.*

Computational Neuroscience Course (OCNC), Okinawa Institute of Science and Technology *Jul 2018*

- *Neural Encoding Models of Olfaction.*

Workshops attended

- 4th Bangalore Cognition workshop, International Brain Research Organization *Jun 2016*
- Complex Systems Winter School, Santa Fe – IISER, Mohali *Dec 2015*
- Monsoon School – Physics of Life, National Centre for Biological Sciences, Bangalore *Jun 2013*

Awards and Honors

The Graduate School | Northwestern University

- Student housing award, Association for Chemoreceptive Sciences conference *Apr 2019*
- NUIN travel award, spring quarter *Apr 2018*
- **Second prize, Enova Data Smackdown** at Northwestern University for implementing a random forest model to predict property prices given property attributes. *Nov 2017*

BS-MS Program | IISER Mohali

- Fellowship, Kishore Vaigyanik Protsahan Yojana (KVPY), SB stream *May 2012 – May 2016*
- Summer-research fellowship, Indian Academy of Sciences *May 2013 – Aug 2013*
- Participant, Asian Science Camp, Hebrew University of Jerusalem, Israel, sponsored by Department of Science and Technology, Govt. of India. *August 2012*

Publications

Sagar V, and Kahnt T. Neuronal Plasticity: Genetic signatures of memories. *eLife*018;7:e360640

Skills

Computer: Python, TensorFlow, MATLAB, C, MS Excel

Certified Open Courseware: Algorithmic Toolbox by University of California San Diego & National Research University Higher School of Economics on Coursera. *Oct, 2017*