

# TARANA NIGAM

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## EDUCATION

- 2019- now      **PhD in Neuroscience**  
International Max Planck Research School for Neurosciences, Georg-August University, Göttingen  
Thesis: Feedback as the way forward: Sensory predictions in primate face processing hierarchy  
*Functional magnetic resonance imaging, in-vivo electrophysiology in awake macaque monkeys, eye-tracking, invasive electrophysiology (iEEG) in human epilepsy patients*  
Dr. Caspar Schwiedrzik; German Primate Center and the European Neuroscience Institute - Göttingen, Germany
- 2017 – 2019      **MSc in Neuroscience**  
International Max Planck Research School for Neurosciences, Georg-August University, Göttingen  
Thesis: Studying gaze and dyadic interactions in a social-decision making context in monkeys and humans  
Dr. Igor Kagan, Dr. Alexander Gail; German Primate Center, Göttingen
- 2013- 2017      **B.Tech. in Biotechnology**  
VIT University, Vellore Institute of Technology, Vellore, India  
Thesis: Adult Hippocampal Neurogenesis in mice: Molecular regulation and implications on spatial memory  
*Immunohistochemistry in brain slices and mouse behavior*  
Dr. Hiya Ghosh; National Centre for Biological Sciences, Bengaluru, India

## RESEARCH EXPERIENCE

- July – Sep 2022      **Sensory predictions in the macaque face-processing network**  
*Functional magnetic resonance imaging in awake macaque monkeys*  
Dr. Winrich Freiwald, The Rockefeller University, New York, USA
- Oct '18 - Apr '19, Mar-May '18      **Studying gaze and dyadic interactions in a social decision making context in monkeys and humans**  
*Comparative investigation of social behavior in humans and monkeys, eye-tracking*  
Dr. Igor Kagan and Dr. Alexander Gail, German Primate Center, Göttingen
- May- July 2018      **Role of temperature and TRPV1 channel on sharp-wave ripples in hippocampus**  
*In-vitro electrophysiology in mice hippocampal slices*  
Dr. Camin Dean, European Neuroscience Institute, Göttingen
- Jan – March 2018      **Effect of transcranial alternating current stimulation (tACS) on conflict processing and conflict-based decision making models**  
*tACS in humans and behavioral modeling*  
Dr. Andrea Antal, University Medical Center, Göttingen
- June- Aug 2016      **Effect of stress and glucocorticoid receptor on prefrontal cortex behavior**  
*Behavioral experiments in mice and molecular neurobiology*  
Dr. Francois Tronche, University Pierre et Marie Curie, Paris, France
- June- July 2015      **Tissue-specific expression of a modified gene enhancer implied in muscular dystrophy in mice embryos**  
Dr. Françoise Helmbacher, Aix-Marseille University, Marseille, France

## PUBLICATIONS

1. Caruso, N., Zimmermann A., **Nigam T.**, Becker C., Lipson K., Helmbacher F., An intragenic FAT1 regulatory element deleted in muscular dystrophy patients drives muscle and mesenchyme expression during development (<https://doi.org/10.1101/2022.09.14.507898>) (*in revision*)
2. **Nigam, T.**, Schwiedrzik C.M. (2022), High-level prediction signals cascade through the macaque face-processing hierarchy, Peer-Reviewed Conference Proceedings of Computational and Systems Neuroscience (COSYNE) 2022
3. Lehr, A., Henneberg, N., **Nigam, T.**, Paulus, W., & Antal, A. (2019). Modulation of Conflict Processing by Theta-Range tACS over the Dorsolateral Prefrontal Cortex. *Neural plasticity*, 2019, 6747049. <https://doi.org/10.1155/2019/6747049>

## CONFERENCES ORGANIZED

May 2021-  
June 2022;

### **Neurizons 2022 – Conference, Max Planck Institute for Multidisciplinary Sciences, Göttingen**

*Main role: General coordinator, leading multiple teams, inviting speakers, organizing career fair, workshops and acquiring funds through Boehringer Ingelheim Foundation*

May 2019 –  
May 2022

### **Neurizons 2020 – Conference, Multidisciplinary virtual neuroscience conference, Max Planck Institute for Biophysical Chemistry, Göttingen**

*Main role: Leading the panel discussion team- Natural vs Artificial Intelligence, inviting speakers*

Oct 2018-  
Sep 2019

### **Horizons in Molecular Biology Symposium, Max Planck Institute for Biophysical Chemistry, Göttingen**

*Main role: Co-moderated the panel discussion with Prof. Mary Osborn on mental health awareness, work-life balance in academia and science communication*

## TALKS

Sep 2022

The Rockefeller University, New York, USA (Dr. Winrich Freiwald)

Aug 2022

Princeton Neuroscience Institute, Princeton University, USA (Dr. Timothy Buschman)

Aug 2022

Brain and Cognitive Sciences, Massachusetts Institute of Technology (MIT), USA (Dr. Mehrdad Jazayeri)

Aug 2022

Neuroscience Institute, NYU Langone Health, New York University, USA (Dr. Jayeeta Basu)

Apr 2020

Intracranial Electrophysiology Symposium, University Medical Center Goettingen, Germany

## GRANTS AND FELLOWSHIP AWARDS

May 2022

Outgoing Fellows Grant from The Leibniz ScienceCampus Primate Cognition for Exchange Program at The Rockefeller University, New York, USA

Dec 2021

Grant for organizing scientific conference awarded by **Boehringer Ingelheim Foundation** (Amount: 5700 €) Applied along with Delane Espinueva (as a part of Neurizons organizing team) for supporting junior scientists, speakers at the Neurizons 2022 conference with the aim to promote inclusivity and diversity in academia.

July 2019

Full financial support from Cold Spring Harbor Asia for Cognitive and Computational Neuroscience Summer School, Suzhou, China

June 2019

Full financial support from National Institute of Mental Health (USA) and Wellcome Burroughs Funds for Cellular, Computational and Cognitive Neuroscience Summer Program- Princeton Neuroscience Institute, USA

June 2018	Travel award from Abcam- Adult Neurogenesis Conference, TU Dresden, Germany
Sep 2017 – May 2019	<b>Scholarship from International Max Planck Research School (IMPRS)</b> , Germany for Masters in Neuroscience
June - Aug 2016, June - Aug 2015	Stipend from Centre National de la Recherche Scientifique (CNRS), France for summer research internships
June 2015	Accepted for Summer Research Fellowship of Indian Academy of Sciences (declined)
2009	Young environmentalist award, Regional Museum of Natural History, Government of Madhya Pradesh, India

## ADDITIONAL TRAINING & CONFERENCES

March 2022	Dorothea Schlözer Mentoring Program for young women scientists (1 year program)
March 2022	<b>Poster Presentation - Computational and Systems Neuroscience (COSYNE) 2022</b> , Lisbon and Cascais, Portugal High-level prediction signals cascade through the macaque face-processing hierarchy; <i>Tarana Nigam, Caspar M. Schwiedrzik</i>
August 2021	Introductory workshop to intercultural communication for graduate students
July 2021	Masters of Creativity: Online workshop series in design thinking, Stanford Design School
June 2021	Symposium “Statistical learning: How does the brain learn and predict the sensory world?”, Donders Institute for Brain, Cognition and Behaviour, Nijmegen, Netherlands Symposium- TEX2021 - Bringing together Predictive Processes and Statistical Learning, International School for Advanced Studies (SISSA)- Trieste, Italy
March 2021	<b>Poster Presentation - 14th Göttingen Meeting of the German Neuroscience Society</b> Precise predictions lead to increased efficiency of processing in stimulus-specific visual cortex; <i>Tarana Nigam, Caspar M. Schwiedrzik</i>
Nov 2019	Blackrock Microsystems European Hands-on Electrophysiology Workshop, Göttingen
July 2019	<b>Cognitive and Computational Neuroscience Summer School, Cold Spring Harbor Asia, Suzhou, China</b>
June 2019	<b>Cellular, Computational and Cognitive Neuroscience Summer Program- Princeton Neuroscience Institute, Princeton, USA</b>
May 2019	ELECTRAIN - Extended Methods Course in Electrophysiology, European Neuroscience Institute, Göttingen, Germany
Mar 2019	Primate Neurobiology Meeting and Graduate Training in Primate Neuroscience course, German Primate Center, Göttingen Adult Neurogenesis Conference - Center for Regenerative Therapies, TU Dresden;
May 2018	Neurizons- Multidisciplinary Neuroscience Conference: Max-Planck Institute for Biophysical Chemistry, Göttingen

## TEACHING EXPERIENCE

Dec 2021; Invasive electrophysiology in humans  
Dec 2020; Tutor for methods course for MSc IMPRS Neuroscience program  
Nov 2019

## SCIENCE COMMUNICATION/OUTREACH

July 2022;  
Jan 2019 Night of Science, Göttingen - Along with Cognitive Neuroscience Department at the German Primate Center, Göttingen

Dec 2019 Invited Talk: Cognitive Neuroscience and Career-based Interaction Session for Bachelor and Graduate-level students in Cognitive Science and Psychology at Dayalbagh Educational Institute, Agra, India

Oct 2019 Science goes City, Göttingen - Science Speed-Dating event organized by the Göttingen Campus Postdoc Network  
Role: Headed a team of fellow artists; Made minimalist sketches to explain research projects of ~20 scientists from various scientific and humanities fields

## LANGUAGES

English (Bilingual proficiency), Hindi (Bilingual proficiency), French (beginner), German (B1)

## HOBBIES AND INTERESTS

Painting, Calligraphy, Chess, Badminton, Astrophysics, Improv Theatre, Swing Dance