

AJIT RANGANATH

In the pursuit of a particular synthesis of art and science



SCIENTIFIC EDUCATION:

PhD in Neuroscience

Technical University of Munich, Germany

September 2015 - Current

Master of Science in Neuroscience

Brandeis University, Boston, USA

February 2012

Bachelor of Engineering in Biotechnology

PES Institute of Technology, Bangalore, India

June 2009

ARTISTIC EDUCATION:

Sitar

SPK Academy of Music, Phoenix, USA

February 2011 - Current

RESEARCH INTERESTS:

- Exploration of neural mechanisms of categorical and emotional processing streams in the human brain in response to musical experience
- Profiling the sensorimotor aspects of Sitar playing to ensure correct kinematics
- Development of frameworks in Western harmony (chord structures/progressions) for applications in Indian classical music

CORE SCIENTIFIC SKILLS:

- Design and implementation of audio-visual behavioral experiments
- Data analysis in MATLAB
- In vivo extracellular neurophysiology
- Experience building laboratory hardware systems from the bottom up

CORE ARTISTIC SKILLS:

- Intermediate level Sitar and Guitar player
- Experience in composing harmonic progressions for Indian Raga music
- Proficiency in Logic Pro X

PUBLICATIONS:

- **Ranganath A**, Haehnke D & Jacob SN. Multimodal feedback enables flexible behaviors in the aid of instrumental learning. (*in preparation*)
- Haehnke D*, **Ranganath A***, Bernklau T & Jacob SN. Functional interactions of prefrontal cortex and the mediodorsal thalamus in cognitive flexibility. (*in preparation*)
- **Ranganath A** & Jacob SN. Doping the Mind: Dopaminergic Modulation of Prefrontal Cortical Cognition. *The Neuroscientist* 2015
- Gomez DM, Everett TH, Hamilton LR, **Ranganath A**, Cheer JF, Oleson EB. Chronic cannabinoid exposure produces tolerance to the dopamine releasing effects of WIN 55,212-2 and heroin in adult male rats. *Neuropharmacology* 2021

POSTER PRESENTATIONS:

- Hähnke D*, **Ranganath A***, Bernklau TW and Jacob SN. Neuronal repertoire for adaptive task-dependent decision making in mouse prefrontal cortex. *Society for Neuroscience 2019*
- Bernklau TW, Mehrke LS, Hähnke D, **Ranganath A** and Jacob SN. Strategies for optimized design and behavioral training of cognitive tasks in head-fixed mice. *Society for Neuroscience 2019*
- Oleson EB, Chioma VC, **Ranganath A**, Cheer JF. Endocannabinoids modulate dopamine release during negative reinforcement and conditioned fear
- Lenz JD, Oleson EB, **Ranganath A**, Chioma VC, Lobo MK, Cheer JF. Cannabinoid receptor modulation of epigenetic alterations in the nucleus accumbens following fear conditioning
- **Ranganath A***, Chandrasekhar N*, M Hemanth*, Prem N, Kutty BM. Effectiveness of Mystacial Vibrissae in Tactile-Cue Based Learning. *Indian Academy of Neurosciences 2010*

DISCOGRAPHY:

- Morellian (<https://open.spotify.com/track/2eTNUz84C6xftWhZX7rERS?si=bd2fbc3d4f69446c>) OR (<https://www.youtube.com/watch?v=qnRLzem3phM>)

SOCIAL MEDIA:

- Instagram: @ajit.ranganath

PROFESSIONAL REFERENCES:

- **Prof. Dr. med. Simon Jacob** - *Scientific mentor*
Technical University of Munich
simon.jacob@tum.de
- **Shahid Parvez Khan** - *Artistic mentor*
SPK Academy of Music
seema@spkacademy.org