Srivatsun (Vatsun) Sadagopan, PhD

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POSITIONS

Jul 2017 – Present	**Assistant Professor of Neurobiology,** **University of Pittsburgh School of Medicine**
Jan 2015 – Jun 2017	Assistant Professor of Otolaryngology University of Pittsburgh School of Medicine

Secondary appointments and affiliations
Department of Bioengineering, Department of Communication Science and Disorders, Center for Neuroscience at the University of Pittsburgh (CNUP), Center for the Neural Basis of Cognition (CNBC).
Preceptor, T-32 Training in Auditory and Vestibular Neuroscience (link)

EDUCATION & TRAINING

2011 – 2014	Postdoctoral associate, The Rockefeller University, New York, NY. *Advisor:* Winrich Freiwald, PhD.
2008 – 2011	Postdoctoral associate, Northwestern University, Evanston, IL. *Advisor:* David Ferster, PhD.
2001 – 2008	PhD in Neuroscience, The Johns Hopkins University SOM, Baltimore, MD. *Advisor:* Xiaoqin Wang, PhD.
1997 – 2001	B. Tech. (Hons.) Biochemical Engineering and Biotechnology Indian Institute of Technology, Kharagpur, India.

HONORS & AWARDS

2021	Young Investigator Spotlight award *Advances and Perspectives in Auditory Neuroscience (APAN)*
2019	Geraldine Dietz Fox Young Investigator Award *Association for Research in Otolaryngology (ARO)*
2018	NARSAD Young Investigator grant *Brain and Behavior Research Foundation, awarding NARSAD grants*
2011 – 2013	Leon Levy Fellowship in Neuroscience *Leon Levy Foundation*
2001	Best undergraduate dissertation in Biochemical Engineering *Indian Institute of Technology, Kharagpur, India*

PUBLICATIONS

18. **Sadagopan S**, Kar M, Parida S (2023). Quantitative models of auditory cortical processing (*invited review article*). *Hearing Research* 429: 108697.

17. Pernia M, Kar M, Montes-Lourido P, **Sadagopan S** (2023). Pupillometry to assess auditory sensation in guinea pigs. *The Journal of Visualized Experiments* 191: e64581.

16. Kar M, Pernia M, Williams K, Parida S, Schneider NA, McAndrew M, Kumbam I, **Sadagopan S** (2022). Vocalization categorization behavior explained by a feature-based auditory categorization model. *eLife* 11: e78278.

15. Montes-Lourido P, Kar M, Pernia M, Parida S, **Sadagopan S** (2022). Updates to the guinea pig animal model for in-vivo auditory neuroscience in the low-frequency hearing range. *Hearing Research* 424: 108603.

14. Owoc MS, Rubio ME, Brockway B, **Sadagopan S**, Kandler K (2022). Embryonic medial ganglionic eminence cells survive and integrate into the inferior colliculus of adult mice. *Hearing Research* 420: 108520.

13. Teichert T, Gnanateja GN, **Sadagopan S**, Chandrasekaran B (2022). A linear superposition model of envelope and frequency following responses may help identify generators based on latency. *Neurobiology of Language* 3: 441 – 468.

12. Gnanateja, GN, Rupp K, Llanos F, Remick M, Pernia M, **Sadagopan S***, Teichert T*, Abel T*, Chandrasekaran B* (2021). Frequency-following responses to speech sounds are highly conserved across species and contain cortical contributions. e*Neuro* 8: 0451-21.2021. (**Joint corresponding authors*)

11. Montes-Lourido P*, Kar M*, David SV, **Sadagopan S** (2021b). Neuronal selectivity to complex vocalization features emerges in the superficial layers of primary auditory cortex. *PLoS Biology* 19: e3001299. *(*equal contribution)*

10. Montes-Lourido P, Kar M, Kumbam I, **Sadagopan S** (2021a). Pupillometry as a reliable metric of auditory detection and discrimination across diverse stimulus paradigms in animal models. *Scientific Reports* 11:3108.

9. Bruk LA, Dunkelberger KE, Khampang P, Hong W, **Sadagopan S**, Alper CM & Fedorchak MV (2020). Controlled release of ciprofloxacin and ceftriaxone from a single ototopical administration of antibiotic-loaded polymer microspheres and thermoresponsive gel. *PLoS ONE* 15: e0240535.

8. Liu ST, Montes-Lourido P, Wang X & **Sadagopan S** (2019) Optimal features for auditory categorization. *Nature Communications* 10: 1302.

7. **Sadagopan S**, Zarco W, & Freiwald WA (2017). A causal relationship between face-patch activity and face-detection behavior. *eLife* 6: e18558.

6. **Sadagopan S***, Temiz-Karayol NZ, Voss HU (2015). High-field functional magnetic resonance imaging of vocalization processing in marmosets. *Scientific Reports* 5: 10950 (*Corresponding Author)

5. **Sadagopan S** & Ferster D (2012). Feedforward origins of response variability underlying contrast invariant orientation tuning in cat visual cortex. *Neuron* 74: 911 – 23.

4. Bartlett EL*, **Sadagopan S*** & Wang X (2011). Fine frequency tuning in monkey auditory cortex and thalamus. *The Journal of Neurophysiology* 106: 849 – 59. *(*equal contribution)*

3. **Sadagopan S** & Wang X (2010). Contribution of inhibition to stimulus selectivity in the primary auditory cortex of awake primates. *The Journal of Neuroscience* 30: 7314 – 25.

2. **Sadagopan S** & Wang X (2009). Nonlinear spectrotemporal interactions underlying selectivity for complex sounds in primary auditory cortex. *The Journal of Neuroscience* 29: 11192 – 202.

1. **Sadagopan S** & Wang X (2008). Level invariant representation of sounds by populations of neurons in primary auditory cortex. *The Journal of Neuroscience* 28: 3415 – 26.

Articles in review/revision:

1. Parida S, Liu ST, **Sadagopan S** (2022). Adaptive mechanisms facilitate robust performance in noise and in reverberation in an auditory categorization model. *In revision, Communications Biology.*

2. Owoc MS*, Johnson A, Kandler K, **Sadagopan S*** (2022). Distinguishing neurons in the central nucleus and cortex of the inferior colliculus by multi-parametric classification of pure-tone responses. *In revision. (*Joint corresponding authors).*

FUNDING

Grant Number	Grant Title	Role %Effort	Years Inclusive
Current Support:			
NIH R01DC017141	Neural mechanisms underlying vocalization perception in realistic listening conditions	PI 50%	Jul 2018-Jun 2023
NIH R01DC013315	Cortical contributions to frequency-following response generation and modulation	MPI 15%	Apr 2021-Jan 2026
NIH R01DC019814	Development of intrinsic synaptic circuits of the inferior colliculus	Co-I 20%	2022–2027
Past Support:			
Commonwealth Universal Research Enhancement (CURE)	Using a cell-based approach to reverse pathological disinhibition in the auditory system	Co-I 10%	2018-2022
Brain & Behavior Research Fdn.	The role of inhibition and spine loss in complex auditory deficits in schizophrenia	PI	2019-2020
Penn. Lions Hearing Research Fdn.	Impact of hearing loss on the invariant coding of complex sounds	PI	2018-2019
CMRF, U. Pitt.	Mechanisms underlying communication sound perception in realistic conditions	PI	2017-2018
Penn. Lions Hearing Research Fdn.	Cortical processing of communication sounds in realistic listening conditions	PI 5%	2015-2016
Samuel and Emma Winters Fdn.	Developing optogenetic methods to probe the role of cortical inhibition in real-world sound perception	PI 5%	2015-2016
Leon Levy Fellowship in Neuroscience	Neuronal mechanisms underlying face recognition in the visual cortex	PI 100%	2011-2013

MENTORING

Postdoctoral

Jul 2021 – present	Satyabrata Parida, PhD
Sep 2019 – present	Marianny Pernia, PhD
Jun 2016 – Jun 2020	Pilar Montes-Lourido, PhD
Jul 2017 – Mar 2018	Flora Antunes, PhD

Graduate

Nov 2018 – present	Manaswini Kar, Neuroscience PhD candidate
Aug 2017 – Apr 2022	Maryanna Owoc, Neuroscience MD/PhD (co-mentor)
Aug 2015 – Jul 2021	Shi Tong Liu, PhD in Bioengineering

Undergraduate

Aug 2019 – Jun 2021	Madelyn McAndrew, Neuroscience/Linguistics. (*Currently PhD student at U. Oregon*).
May 2018 – Nov 2020	Isha Kumbam, Neuroscience/Chemistry. (*Currently at Robert Wood Johnson Medical School*).
Jun 2019 – Aug 2019	Julianna Nicolaus, Bioengineering (GWU, BrainCURES program).
May 2017 – May 2018	Samuel Li, Neuroscience/Computer Science.
Feb. 2016 – Mar. 2018	Vighnesh Viswanathan, Applied Math and statistics.
Feb. 2017 – May 2017	Vikram Mukherjee, Major not declared.
Jun. 2016 – Aug 2016	Samir Yellapragada (high school intern).
May 2015 – Aug. 2015	Patrick Haggerty, Bioengineering.

SERVICE

<u>External service</u>

2019 – 2022	Program Committee member, Advances and Perspectives in Auditory Neuroscience (APAN), Annual auditory conference accompanying SfN. *Organized themed mentoring session for APAN trainees.*
Feb 2018	Co-organizer, Symposium on "*Linking theoretical and experimental approaches to understand auditory cortical processing*", ARO Meeting, San Diego, CA

<u>University service</u>

2020 –	Faculty co-organizer, Distinguished Seminar Series, Department of Neurobiology
2019 – 2021	Admissions committee member, Center for Neuroscience, Univ. of Pittsburgh
2021	Internal grant reviewer, Department of Communication Science & Disorders
2019	Internal grant reviewer, Department of Psychiatry

REVIEWING

2022	Grant reviewer, Medical Research Council (UK).
2022	Grant reviewer, Institut Pasteur (France).
2021	Grant reviewer, Deutsche Forschungsgemeinschaft (German Science Foundation, equivalent of the US NIH).
2017 –	Editorial Board Member, *Scientific Reports*, a Nature portfolio open access journal.

<u>Reviewer (ad-hoc)</u>

Cerebral Cortex, Nature Communications, Nature Neuroscience, Neuron, PLoS Biology, eLife, The Journal of Neuroscience, The Journal of Neurophysiology, Genes, Brain and Behavior, Animal Cognition, eNeuro, PLoS One, Progress in Neurobiology, Hearing Research, Journal of the ARO.