



# Meet the Researcher



## Manoj Kumar, Ph.D.

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Kumar received his doctorate in neuroscience and pharmacology from West Virginia University and completed his postdoctoral research in the department of otolaryngology at the University of Pittsburgh, where he is currently a research assistant professor. Kumar's 2022 Emerging Research Grant is generously funded by the General Grand Chapter Royal Arch Masons International.

**THE ASTONISHING POWER** Of the brain to produce perceptions in the absence of external stimuli, like hallucinations or tinnitus, has always intrigued me. My study of the cortical mechanisms underlying sensory information processing is the direct result of that fascination. Investigating this complex phenomenon requires an understanding of neurobiological events at many levels, like the comprehension of neurotransmitter signaling mechanisms, figuring out the biophysical workings of ion channels, and mapping the processing of sensory information.

**I AM EMPLOYING** this multidisciplinary approach to uncover the cortical mechanisms of sound processing in both health and disease. Throughout my career, from undergrad right through to postdoc, I've sought more opportunities to better understand these processes. I hope I can always turn out good science. Moving forward, in five years, I hope to be writing my R01 renewal. In 10 years, my goal is to become a tenured professor.

**I MYSELF FIND IT DIFFICULT** to concentrate on conversations, especially in noisy environments. It has only made me realize how common hearing loss is, and emphasizes the importance of much-needed treatment options to cure or prevent hearing loss.

**A HIGHLIGHT OF MY CAREER** so far is that I developed RL\_81, the most selective and potent KCNQ2/3 channel activator to prevent the development of tinnitus in mice. This is a huge leap forward in our understanding of

hyperexcitability disorders, and one step closer to a cure for tinnitus.

**I GREW UP PLAYING CRICKET** in India. Still a favorite pastime, I play in the Pittsburgh Cricket League every season. Another hobby is cooking, which I find very soothing. To me, cooking is like a lab experiment: If it is not thought through, it won't come out well. I like to have the final picture of the dish in my head first, and plan out each step from there. My specialties are chicken curry and kheer, an Indian dessert.

**THE FIRST FLIGHT** I ever took was when I left India for the United States to attend graduate school. Now one of my goals is to travel the world with my wife. —

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