

BIOGRAPHICAL SKETCH

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NAME: Jason Chia Tse Lee

eRA COMMONS USER NAME (credential, e.g., agency login): Jasonlee01

POSITION TITLE: Assistant Professor, Facial Plastics and Microvascular Reconstructive Surgery

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Georgia Gwinnett College	BS	06/2011	Cellular Biology
Medical College of Georgia	MD/PhD	06/2019	Medicine & Neuroscience
University of Kansas Medical Center, Department of Otolaryngology – Head and Neck Surgery		06/2024	Otolaryngology
Oregon Health and Science University, Department of Otolaryngology – Head and Neck Surgery		07/2025	Facial Plastics & Microvascular Reconstructive Surgery

A. Personal Statement

I am a double board-eligible otolaryngologist and facial plastic and microvascular reconstructive surgeon with a strong research focus on peripheral nerve regeneration. I completed a competitive dual MD/PhD program at the Medical College of Georgia, where my doctoral work investigated how dopaminergic neurons in the central nervous system regulate social and fear-related behaviors. As a facial plastic and reconstructive surgeon, I established the Facial Nerve and Facial Paralysis Clinic at JFK University, where I care for patients suffering from facial nerve palsy of diverse etiologies. Despite advances in surgical and rehabilitative techniques, treatment outcomes for facial nerve paralysis remain suboptimal, underscoring the urgent need for novel therapeutic strategies. My laboratory at JFK University is dedicated to advancing peripheral nerve regeneration research through both in vitro and in vivo models.

B. Positions and Honors**Positions**

2011-2019 Graduate Student Investigator, Medical College of Georgia, Augusta, GA
 2019-2024 Otolaryngology Resident, University of Kansas Medical Center, Kansas City, KS
 2024-2025 Facial Plastics and Reconstructive Fellow, Oregon Health and Science University, Portland, OR
 2025-Present Assistant Professor, Otolaryngology and Facial Plastics Reconstructive Surgery, Hackensack Meridian Health at JFK University

Honors and Professional Memberships

2025 Otolaryngology Triological Society Travel Award, The Triological Society
 2024 Resident Excellence in Teaching Award, KUMC

2022 Excellence in ENT Basic Science Research Award, KUMC
2021 Excellence in ENT In-service Book Award, KUMC
2019 Alpha Omega Alpha Honor, Medical College of Georgia
2019 Summa Cum laude, MD, PhD, Medical College of Georgia
2016 Excellence in Neuroscience Research, Medical College of Georgia
2015 Best Poster Presentation, Graduate Research Day, Medical College of Georgia
2015 Who's Who Award Among Graduate Students, American University and Colleges
2014 Best Oral Presentation, Neuroscience Retreat, Medical College of Georgia
2012 Dean's Summer Research Scholar, Medical College of Georgia

Editorial Board Member

2024- Reviewer, *Plastics and Aesthetic Research Journal*

C. Contributions to Science

Selected Peer-reviewed Publications

My doctoral research has focused on two critical and complementary areas: the neuromodulatory basis of PTSD-like behaviors and the fundamental principles of neural computation. A central contribution of my work has been the development of a new theoretical framework that helps to explain the altered pathophysiology of PTSD. This framework posits a novel mechanism for how dopamine signaling contributes to the persistence of traumatic memories, offering a rationale for new, viable therapeutic strategies. In parallel, I have contributed to the discovery of a potential organizational logic by which neural circuits encode and generalize knowledge. This work on how the brain computes information provides a foundational understanding of how experiences are represented at the cellular level.

Selected publications:

1. **Lee JC**, Wang P and Tsien JZ (2016). Dopamine Rebound-Excitation Theory: Putting Brakes on PTSD. *Front. Psychiatry* 7:163. doi: 10.3389/fpsy.2016.00163
2. Xie K*, Fox GE*, Liu J*, Lyu C*, **Lee JC***, Kuang H, Jacobs S, Li M, Liu T, Song S, Tsien JZ. Brain Computation Is Organized via Power-of-Two-Based Permutation Logic. *Front Syst Neurosci*. 2016 Nov 15;10:95. doi: 10.3389/fnsys.2016.00095. PMID: 27895562; PMCID: PMC5108790.
3. Li M, Zhao F, **Lee JC**, Wang D, Kuang H, Tsien JZ. Computational Classification Approach to Profile Neuron Subtypes from Brain Activity Mapping Data. *Sci Rep*. 2015 Jul 27;5:12474. doi: 10.1038/srep12474. PMID: 26212360; PMCID: PMC4515637.

Driven by my clinical interest in peripheral neurology, my research has yielded significant contributions to nerve repair and sensory dysfunction. I have led and published studies that define new approaches to peripheral nerve repair and outline the future trajectory of the field. Most notably, I was the first lead author to establish a causal link between peripheral nerve impairment and post-viral anosmia, a mechanism of particular importance during the COVID-19 pandemic. In response to this discovery, I have proposed a novel treatment paradigm designed to address this widespread sensory deficit.

Selected publications:

1. **Lee JC**, Skylar Trott, Mark Wax. Novel Approaches in Peripheral Nerve Repair: A Review of Current and Emerging Therapies. *Plastics and Aesthetic Research*. 2024
2. **Lee JC**, Nallani R, Cass L, Bhalla V, Chiu AG, Villwock JA. A Systematic Review of the Neuropathologic Findings of Post-Viral Olfactory Dysfunction: Implications and Novel Insight for the COVID-19 Pandemic. *Am J Rhinol Allergy*. 2021 May;35(3):323-333. doi: 10.1177/1945892420957853. Epub 2020 Sep 11. PMID: 32915650.

I have demonstrated a strong commitment to advancing surgical education and innovation by developing and leading a national workshop for otolaryngology trainees. This innovative program utilizes high-fidelity 3D models to provide hands-on training in complex facial trauma and maxillofacial reconstruction, directly addressing a critical need for improved surgical simulation for the next generation of surgeons.

1. **Lee JC**, Rio RE, Smith H, Baghshomali Y, Yang S, Bevans S, Trott S, Curry J, Wax MK. A Hands-On Workshop Training Model in Virtual Surgical Planning for Maxillofacial Reconstruction. 2025 (under review)
2. **Lee JC**, Rio RE, Smith H, Baghshomali Y, Eusterman V, Sweeny L, McCrary H, Frost A, Yang S, Wax MK. Outcomes from an Anatomical Training Model Workshop for Facial Trauma Education. 2025 (under review)

Other publications:

1. Oliver J, Alapati R, **Lee JC**, Bur A. Artificial Intelligence in Head and Neck Surgery. *Otolaryngol Clin North Am.* 2024 Oct;57(5):803-820. doi: 10.1016/j.otc.2024.05.001. Epub 2024 Jun 22. PMID: 38910064; PMCID: PMC11374486.
2. **Lee JC**, Hamill CS, Shnayder Y, Buczek E, Kakarala K, Bur AM. Exploring the Role of Artificial Intelligence Chatbots in Preoperative Counseling for Head and Neck Cancer Surgery. *Laryngoscope.* 2024 Jun;134(6):2757-2761. doi: 10.1002/lary.31243. Epub 2023 Dec 21. PMID: 38126511.
3. Arganbright JM, **Lee JC**, Weatherly RA. Pediatric drug-induced sleep endoscopy: An updated review of the literature. *World J Otorhinolaryngol Head Neck Sug.* 2021 Jun 29; 7(3):221-227. doi: 10.1016
4. Sharbel D, Li M, Unsal AA, Tadros SY, **Lee JC**, Biddinger P, Holmes T, Kountakis SE. Use of mucosal eosinophil count as a guide in the management of chronic rhinosinusitis. *Int Forum Allergy Rhinol.* 2020 Apr;10(4):474-480. doi: 10.1002/alr.22517. Epub 2020 Jan 12. PMID: 31930720.
5. Hussen N, **Lee JC**, Patel S, Keshavmurthy J. Lanthanum in the colon. Case in Point, American College of Radiology