Young Joon Kim

CONTACT INFORMATION

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RESEARCH INTERESTS

Computational neuroscience, neural encoding/decoding, reinforcement learning, statistics for healthcare policy, history of medicine and healthcare

EDUCATION

Harvard Medical School, Boston, MA

M.D. Candidate (expected graduation date: May 2026)

University of Oxford, Oxford, UK

M.Sc. in Clinical Neurosciences, August 2022

University of Cambridge, Cambridge, UK

M.Phil. in Engineering, September 2021

Columbia University, New York, NY

B.A. in Biology, May, 2020 (GPA: 4.11/4.00)
Concentration in Statistics, May 2020

HONORS AND AWARDS

Marshall Scholarship (NY District), 2019
Rhodes Scholarship Finalist (NY District), 2019
Barry M. Goldwater Scholarship, 2019

Columbia University
Junior Phi Beta Kappa, 2020
Summa Cum Laude, 2020
I. I. Rabi Scholarship, 2016

Columbia Venture Competition (2nd Place), 2018
Empire State Opioid Innovation Challenge (Finalist), 2018
Columbia University Opioid Challenge (Winner), 2017

RESEARCH EXPERIENCE

Computational Neuroscience Group, Oxford, UK **Sep. 2021 - Aug. 2022**

- Creating a unified model of the hippocampal-entorhinal system that generalizes structure learning and captures both the map- and memory-like properties of the hippocampus (Timothy EJ Behrens, PhD)

Computational & Biological Learning Group, Cambridge, UK **Aug. 2020 - Sep. 2021**

- Developed a computational model capable of predicting dendritic Na+ spikes and discovered that they arise from unique computational motifs distinct from other aspects of dendritic integration (Mate Lengyel, PhD)
- *First author manuscript in preparation*

Center for Theoretical Neuroscience, New York, NY **Aug. 2019 - Aug. 2020**

- Built the first, state-of-the-art nonlinear retinal ganglion cell decoder for natural scene images via neural networks (Liam Paninski, PhD)
- *First author manuscript published in* Neural Computation

Dana Farber Cancer Institute, Boston, MA **May 2018 - Aug. 2019**

- Elucidated the synthetic lethal targeting of *IKZF1*/IKAROS with lenalidomide in combination with either Menin or DOT1L inhibition in human *MLL*-transformed leukemias (Scott Armstrong, MD, PhD)
- *Co-author manuscript in preparation*

Memorial Sloan Kettering Cancer Center, New York, NY **May 2014 - Apr. 2018**

- Helped identify convergent downstream effects of spliceosomal gene mutations that caused synthetic lethality
- Characterized *SRSF2* point mutations in both murine and human hematopoiesis and demonstrated E7107 to be a potential inhibitor for splicing-mutant leukemias (Omar Abdel-Wahab, MD)

Publications in preparation

Kim, Y. J. et al. Parallel functional architectures within a single dendritic tree

Lee, J. et al. YASS: Yet Another Spike Sorter applied to large-scale multi-electrode array recordings in primate retina. bioRxiv 2020.03.18.997924 **[Co-author]** (*In Review*)

Publications

Kim, Y. J. et al. Nonlinear Decoding of Natural Images From Large-Scale Primate Retinal Ganglion Recordings. Neural Computation 33, 17191750 (2021).

Lee, S. C.-W. et al. Synthetic Lethal and Convergent Biological Effects of Cancer-Associated Spliceosomal Gene Mutations. Cancer Cell 34, 225-241.e8 (2018). **[Co-author]**

Kim, Y. J. & Abdel-Wahab, O. Therapeutic targeting of RNA splicing in myelodysplasia. Seminars in Hematology 54, 167173 (2017).

Kim, Y. J., Kim, K. & Lee, S. The rise of technological unemployment and its implications on the future macroeconomic landscape. Futures 87, 19 (2017).

Lee, S. C.-W. et al. Modulation of splicing catalysis for therapeutic targeting of leukemia with mutations in genes encoding spliceosomal proteins. Nat Med 22, 672678 (2016). **[Co-author]**

Oh, D. S., **Kim, Y. J.**, Hong, M.-H., Han, M.-H. & Kim, K. Effect of capillary action on bone regeneration in micro-channeled ceramic scaffolds. Ceramics International 40, 95839589 (2014). **[Joint 1st author]**

Leadership Experience

Kenzo Labs, Inc., Co-Founder, CEO

Columbia University Organizations
Columbia Science Review, *Editor-in-Chief*
Department of Biological Sciences, *Teaching Assistant*
Community Impact Student Executive Board
Table Tennis Club, *Vice President*
Road Runners, *Race Coordinator*
Habitat for Humanity, *Special Builds Coordinator*

Skills

Languages: Fluent in English and Korean, Proficiency in Latin
Technical Skills: Fluent in Python, MATLAB, R, PyTorch, Tensorflow, and molecular biology techniques
Other Activities and Interests: Cross-country, classical violin, electronic music production