

Su Min (Violet) Hong

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Nashville, TN

EDUCATION

Vanderbilt University, Nashville, TN

August 2025 –

Present

Interdisciplinary Graduate Program PhD Student

Dickinson College, Carlisle, PA

August 2017 – May 2021

Bachelor of Science, Major: Neuroscience, 2021

RESEARCH EXPERIENCE

Lab Manager/ Research Assistant II, Beth Israel Deaconess Medical Center, Boston MA

Dr. Subhash Kulkarni laboratory, Department of Gastroenterology

July 2023 – July 2025

- Led multiple projects investigating **adult enteric neurogenesis** in murine and human longitudinal muscle-myenteric plexus.
- Developed and standardized **ENS-specific immunohistochemistry panels** on human FFPE small-intestinal biopsies for diagnostic pathology.
- Studied **stress-induced gastrointestinal dysmotility**, focusing on **BDNF/TrkB signaling** and **mitochondrial metabolism** in enteric neurons.
- Examined **enteric neuron contributions to colorectal cancer progression** and **autoantibody-mediated dysmotility in scleroderma**.

Lab Manager/ Research Assistant II, Beth Israel Deaconess Medical Center, Boston, MA

Dr. Taru Muranen Laboratory, Department of Genetics, Cancer Research Institute

July 2021-June 2023

- Investigated the role of **N-myc Downstream Regulated Gene 1 (NDRG1)** in **DNA damage response in stroma-induced chemoresistance** in pancreatic cancer.

Research Assistant, University of Copenhagen, Copenhagen, Denmark

Dr. Kristine Freude Laboratory, Department of Veterinary and Animal Science

January 2020- May 2020

- Modeled Alzheimer's Disease using **induced pluripotent stem cell (iPSC) – derived neural system**.

PEER-REVIEWED PUBLICATIONS

Zsuzsanna H McMahan, Livia Casciola-Rosen, Timothy Kaniecki, Laura Gutierrez-Alamillo, **Su Min Hong**,

Philippa Seika, Subhash Kulkarni. Anti-mitochondrial antibodies in systemic sclerosis target enteric neurons and are associated with GI dysmotility. DOI: <https://doi.org/10.1016/j.ard.2025.06.2119>. Published in *Annals of the Rheumatic Diseases*, June 2025.

Anastazja M. Gorecki, Jared Slosberg, **Su Min Hong**, Blake Midgen,

Alpana Singh, Chengxiu Zhang, Rohin Gurumurthy, Subhash Kulkarni. Rate of neuronal turnover in the healthy adult murine myenteric ganglia varies with ganglia size. DOI: <https://doi.org/10.1523/ENEURO.0005-24.2025>. Published at *eNeuro*, February 2025.

Jonathan D. Lee, Bridget Menasche, Maria Mavrikaki, Madison M. Uyemura, **Su Min Hong**, Jin Wei, Mia M.

Alfajaro, Renata B. Filler, Arne Muller, Ryan R. Posey, Priscilla Cheung, Nina Kozlova, Taru Muranen, Joao A. Paulo, Craig B. Wilen, Frank J. Slack. Differences in syncytia formation by SARS-CoV-2 variants modify host chromatin accessibility and cellular senescence via TP53. DOI:

<https://doi.org/10.1016/j.celrep.2023.113478>. Published at *Cell Reports*, November 2023.

Scott B. Minchenberg, Marti Ortega Ribera, Aditi Datta, Viliam Brezani, **Su Min Hong**, Subhash Kulkarni,

Prashanth Thevkar Nagesh, Gyongyi Szabo. Unraveling the GI Tract's Response to Alcohol Binges: Neutrophil Recruitment, NETs, and Intestinal Injury. DOI: <https://doi.org/10.1111/acer.70196>. Published at *Alcohol: Clinical and Experimental Research*, December 2025.

MANUSCRIPTS SUBMITTED FOR PUBLICATION

Philippa Seika, Jocelyn Chang, Su Min Hong, Sarah Ballou, Vikram Rangan, Chethan Ramprasad, Johanna

Iturriño, Christian Denecke, Anthony Lembo, Judy Nee, Subhash Kulkarni, Trisha Pasricha. Glucagon-Like Peptide-1 Receptor Agonists and Peptic Ulcer Disease Risk in Patients with Type 2 Diabetes. In Review at *Clinical Gastroenterology and Hepatology*, March 2025.

PREPRINTS

Nina Kozlova, Kayla A. Cruz, Hanna M. Doh, Antoine A. Ruzette, Nicholas A. Willis, **Su Min Hong**, Raul S. Gonzalez, Monika Vyas, Laura M. Selfors, Stephan Dreyer, Rosie Upstill-Goddard, Kerrie L. Faia, Steve Wenglowsky, Josh Close, Alica K. Beutel, Zeljka Jutric, Michael U. J. Oliphant, Byanjana Thapa, Martin S. Taylor, Venla Mustonen, Pradeep Mangalath, Christopher J. Halbrook, Joseph E. Grossman, Rosa F. Hwang, John G. Clohessy, Salla Ruskamo, Petri Kursula, Boryana Petrova, Naama Kanarek, Philip A. Cole, David K. Chang, Simon F. Nørrelykke, Ralph Scully, Taru Muranen. A novel DNA repair protein, N-Myc downstream-regulated gene 1 (NDRG1), links the stromal tumor microenvironment to chemoresistance. DOI: <https://doi.org/10.1101/2025.01.22.634323>. Published at *Biorxiv*, January 2025.

Su Min Hong, Xia Qian, Vikram Deshpande, Subhash Kulkarni. Optimization of protocols for immunohistochemical assessment of enteric nervous system in formalin-fixed human tissue. DOI: <https://doi.org/10.1101/2024.12.15.628584>. Published at *Biorxiv*, December 2024.

Jared Slosberg, Srinivas N. Puttapaka, Philippa Seika, **Su Min Hong**, Alpana Singh, Subhash Kulkarni. Reduced enteric BDNF-TrkB signaling drives glucocorticoid-mediated GI dysmotility. DOI: <https://doi.org/10.1101/2024.12.13.628260>. Published at *Biorxiv*, December 2024. In Review at *Journal of Neuroscience*, February 2025.

SELECTED TECHNICAL EXPERTISE

Molecular & Cellular Biology

- Immunofluorescence and immunohistochemistry on mouse and human tissues (FFPE and fresh-frozen), Western blotting, immunoprecipitation, PCR/RT-PCR, DNA fiber assays, comet assays, flow cytometry

Advanced Cell & Tissue Models

- Primary cell culture, intestinal organoids/monolayers, pancreatic cancer cell lines, neurosphere culture, neural stem cell differentiation, cell viability and metabolic assays

Genetic & Viral Manipulation

- Molecular cloning, CRISPR gRNA design, lentiviral packaging and transduction, generation of stable and clonal cell lines

In Vivo Mouse Models

- Gastrointestinal physiology assays (whole-gut transit time), nodose ganglia and GI tract dissection, tumor measurement, injections, breeding and genotyping

Quantitative Data Analysis & Visualization

- Python (pandas, numpy, matplotlib/seaborn), statistical analysis, data wrangling, reproducible figure generation; Prism and SPSS

Imaging & Computational Analysis

- Confocal and live-cell microscopy; whole-slide imaging; quantitative image analysis using CellProfiler, Fiji/ImageJ macros, and Python-based pipeline

SCIENTIFIC PRESENTATIONS AND CONFERENCES

Philippa Seika, **Su Min Hong**, Srinivas Puttapaka, Vanessa Voltarelli, Mahalakshmi Rajkumar, Kathryn Faheem, Jocelyn Chang, Trisha Pasricha, Leo Otterbein, Subhash Kulkarni. A novel neuro-oncogenic mechanism is potentially involved in colorectal cancer progression. American Physiology Summit. Baltimore, MD. April 2025 (Poster).

Su Min Hong, Mahalakshmi Rajkumar, Srinivas Puttapaka, Philippa Seika, Kathryn Faheem, Jocelyn Chang, Trisha Pasricha, Subhash Kulkarni. Loss of MeCP2 results in gut dysmotility via dysregulated BDNF/NT4,5 – TrkB signaling. BIDMC Research Retreat 2024. Boston, MA. September 2024. (Poster)

Su Min Hong, Jared Slosberg, Anastaszja Gorecki, Blake Migden, Alpana Singh, Chenxiu Zhang, Rohin Gurumurthy, Subhash Kulkarni. Evidence of DNA replication and mitosis in Hu-immunolabeled adult myenteric neurons. 7th International Enteric Nervous System Development Meeting: Connection, Cross-talk and Collaboration. Philadelphia, PA. March 2024 (Poster)

Srinivas Puttapaka, Jared Slosberg, **Su Min Hong**, Alpana Singh, Chenxiu Zhang, Loyal Goff, Subhash Kulkarni. Alterations in intestinal BDNF levels underlie stress-associated intestinal dysmotility. 7th International Enteric Nervous System Development Meeting: Connection, Cross-talk and Collaboration. Philadelphia, PA. March 2024 (Poster)

Su Min Hong, Blake Migden, Kathryn Faheem, and Subhash Kulkarni. Adult enteric neurons show evidence of recent neurogenesis via DNA replication. Synaptogenesis Harvard Brain Institute RA Symposium. Boston, MA. September 2023. (Poster)