**Approved by the Regents**
**May 16, 2024**

PROMOTION RECOMMENDATION
THE UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF INTERNAL MEDICINE

Steven Huang, M.D., associate professor of internal medicine, with tenure, Department of Internal Medicine, Medical School, is recommended for promotion to professor of internal medicine, with tenure, Department of Internal Medicine, Medical School.

Academic Degrees:

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| M.D. | 2001 | Northwestern University, Feinberg School of Medicine, Chicago, IL |
| B.S. | 1997 | Northwestern University, Evanston, IL |

Professional Record:

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| 2017 – Present | Associate Professor (with tenure), Division of Pulmonary and Critical Care Medicine, Department of Internal Medicine, University of Michigan, Ann Arbor, MI |
| 2011 – 2017 | Assistant Professor, Division of Pulmonary and Critical Care Medicine, Department of Internal Medicine, University of Michigan, Ann Arbor, MI |
| 2007 – 2010 | Clinical Lecturer, Division of Pulmonary and Critical Care Medicine, Department of Internal Medicine, University of Michigan, Ann Arbor, MI |

Summary of Evaluation:

Teaching: Dr. Huang has a robust teaching portfolio through both clinical and research mentorship and didactic teaching. He has taught and mentored trainees in the laboratory including current junior faculty at other universities, post-doctoral fellows, graduate students, undergraduate students, and high school students. In the clinical arena, he has taught medical students, residents, and fellows at the bedside in the hospital and the clinic. For more than ten years, Dr. Huang has served as a physician consultant to an undergraduate fall semester biomedical engineering course Biotechnology and Human Values (ENG 100), teaching a group of four to five students throughout the semester to design a molecular test that can be used to screen or diagnose a disease. Since 2022, Dr. Huang has served as a science lead for the Problem-Based Scientific Inquiry course (PBSI 8302 MEDADM) in the Medical School, in which he meets one-on-one with four to six medical students to guide them in identifying an interesting case that is appropriate for scientific inquiry. He also routinely participates as a small group leader in teaching sessions for M1 students in their Scientific Trunk pulmonary physiology/respiratory sequence. Teaching evaluations are very good to excellent. As the medical director for adult pulmonary rehabilitation, he has conducted several seminars and participated in educational conferences related to pulmonary rehabilitation within his division, the Division of Geriatrics, and the Department of Physical Medicine and Rehabilitation. Annually, he participates in the mentor-mentee program at the American Thoracic Society International Conference, an opportunity to mentor individuals from around the world on research and career development. He led a special "Meet the Experts" seminar focused on virtual/telehealth-driven pulmonary rehabilitation at the 2023 American Thoracic Society International Conference.

Research: Dr. Huang's research focus is on an improved understanding of how epigenetic changes contribute to fibrotic lung disease. His work has advanced the understanding of the pathophysiology and mechanisms of idiopathic pulmonary fibrosis (IPF), a devastating and progressive lung disease without a cure. A major focus of his laboratory has been to understand how DNA methylation and other epigenetic mechanisms more broadly contribute to IPF, as well as other lung diseases, including lung disease from air pollution, an important endeavor given climate change. Dr. Huang has demonstrated consistent productivity in his research contributions and has obtained significant funding to advance the field forward as evidenced by his publications and extramural grant support. His strong portfolio of current funding includes three NIH R01 grants including a subK through Boston University, and two industry grants, and is a co-investigator on one NIH R01 grant. He has been continuously funded by the NIH since 2009. Notably, Dr. Huang is the director of the Interstitial Lung Disease (ILD) Biorepository in his clinical division. In this role, he has worked collaboratively to collect lung tissue from more than 230 subjects, one of the world's largest collections of lung tissue from ILD patients. These specimens are shared with researchers at UM and numerous other institutions that have led to the development of novel protocols for tissue preservation and a study leading to the discovery of novel genes, pathways, and cell types that drive the pathogenesis of fibrosis. In just the past four years, the biorepository has led to more than 20 publications in high-impact journals, including *Nature Communications* and *JCI Insight*. Overall, Dr. Huang has authored 56 peer reviewed manuscripts in top tier journals such as *Nature Communications*, *American Journal of Pathology*, and *Gene*. He has been a visiting professor at three institutions including the University of California San Diego, University of Pittsburgh, and Creighton University. He has been invited to speak on 19 occasions nationally and internationally including in China.

Recent and Significant Publications:


Caporarello N, Lee J, Pham TX, Jones DL, Guan J, Link PA, Meridew JA, Marden G, Yamashita T, Osborne CA, Bhagwate AV, Huang SK, Nicosia RF, Tschumperlin DJ, Trojanowska M, Ligresti G, "Dysfunctional ERG signaling drives pulmonary vascular aging and persistent fibrosis," *Nat Commun*. 13(1): 4170, 07/2022. PM35879310

Huang SK, Tripathi P, Koneva LA, Cavalcante RG, Craig N, Scruggs AM, Sartor MA, Deng F, Chen Y, "Effect of concentration and duration of particulate matter exposure on the transcriptome and DNA methylome of bronchial epithelial cells," *Environ Epigenet*. 7(1): dvaa022, 01/2021. PM33692908

Scruggs AM, Grabauskas G, Huang SK, "The Role of KCNMB1 and BK Channels in Myofibroblast Differentiation and Pulmonary Fibrosis," *Am J Respir Cell Mol Biol*. 62(2): 191-203, 02/2020. PM31486669

Tripathi P, Deng F, Scruggs AM, Chen Y, Huang SK, "Variation in doses and duration of particulate matter exposure in bronchial epithelial cells results in upregulation of different genes associated with airway disorders," *Toxicol In Vitro*. 51: 95-105, 09/2018. PM29753051

Scruggs AM, Koh HB, Tripathi P, Leeper NJ, White ES, Huang SK, "Loss of CDKN2B Promotes Fibrosis via Increased Fibroblast Differentiation Rather Than Proliferation," *Am J Respir Cell Mol Biol*. 59(2):200-214, 08/2018. PM29420051


Service: Dr. Huang has an outstanding record of service at the national and international levels. Internationally, he served as a study section reviewer for the UK Medical Research Council Developmental Pathway Funding Scheme. He is a mentor for the American Thoracic Society

Annual Meeting Program and served on the Planning Committee of the American Thoracic Society Assembly on Respiratory Cell and Molecular Biology. Nationally, he is on the advisory board of the Data Safety Monitoring Board for Temple University. He has served as an ad hoc reviewer for nine study sections at the NIH, VA, and Department of Defense, and as an ad hoc reviewer for numerous journals. He was previously the associate editor for the *American Journal of Physiology, Lung Cell Molecular Physiology*, and is currently an associate editor for *Frontiers in Medicine, Pulmonary Medicine*. Institutionally, he is the medical director of pulmonary rehabilitation and the director of the ILD Biorepository. He serves on his division's Research Task Force and is a member of the Fibrosis Interest Group. He previously served as a member of the Michigan Lifestage Environmental Exposures and Adult Disease Center based at the School of Public Health, has been an ad hoc grant reviewer for several institutional study sections, and has served on a few dissertation committees.

External Reviewers:

Reviewer A: "Dr. Huang is a well-regarded, respected and trusted member of our field and among his peers. He has performed peer review for many high impact journals and is an editor for the Pulmonary section f Frontiers in Medicine. In the past few years, he served ad hoc on several of the most important study sections within respiratory basic science research."

Reviewer B: "His more recent publications reflect joint research with investigators conducting research on lung fibrosis. These publications also reflect the collaborative nature of Dr. Huang. Since his promotion to Associate Professor, Dr. Huang has had several publications as corresponding author. His publications reflect the outstanding quality of his research and his thoughtful approach to it."

Reviewer C: "In a period of highly restricted NIH budgets and fiercely competitive research funding, he has received multiple R01 grants (2 currently active), and is Co-I or consultant on others. His work is internationally recognized, as evidenced by multiple invited presentations at international conferences and institutional seminars. He has also been asked to review grants by NIH as well as several international funding agencies…"

Reviewer D: "Beyond his research program and collaborative nature, Dr. Huang has mentored several faculty members through the ATS mentor-mentee program. In addition, he has served as a mentor of several postdoctoral fellows and graduate students, who have obtained independent positions at the FDA or pharmaceutical companies. He also has served as a mentor to several undergraduate students."

Reviewer E: "...Dr. Huang is highly collaborative and some of this work has been driven by the development, and Dr. Huang's leadership, of the University of Michigan Interstitial Lung Disease Biorepository, for which he serves as Director. In addition to the University of Michigan, the biobank provides samples to investigators across the US and around the globe and has resulted in multiple R01 applications and publications."

Reviewer F: "Dr. Huang is also a generous citizen of the scientific community. He is an active member of the ATS Respiratory, Cell and Molecular Biology (RCMB) Assembly, including his previous role in the RCMB Planning Committee (2012-2018), which is responsible for developing

and reviewing all assembly projects. As a member of the ATS Mentoring program since 2016, he plays an active role in helping mentor the next generation of physician-scientists and ensuring a welcoming and supporting environment for junior faculty."

Summary of Recommendation:
Dr. Huang is an exceptional physician-scientist, mentor, outstanding leader, and scholar, dedicated to excelling in academic medicine. His passion for mentorship and dedication to research is unmatched. He has established himself as a strong contributor to our research, mentorship, and service missions. I am pleased to recommend Steven Huang, M.D. for promotion to professor of internal medicine, with tenure, Department of Internal Medicine, Medical School.

Marschall S. Runge, M.D., Ph.D.
Executive Vice President for Medical Affairs
Dean, Medical School

May 2024