Approved by the Regents
May 18, 2017

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

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

Academic Degrees:

M.D.	2001	Northwestern University
B.S.	1997	Northwestern University

Professional Record:

2011-present	Assistant Professor of Internal Medicine, University of Michigan
2007-2010	Clinical Lecturer, Department of Internal Medicine, University of Michigan

Summary of Evaluation:

Teaching: Dr. Huang is dedicated to the education and training of the next generation of physician scientists. He has worked to improve his teaching and mentoring skills by attending a number of workshops provided by the Medical School's Faculty Development Office. These workshops have allowed him to better focus on the needs of the learner. He teaches undergraduate students, graduate students, medical students, residents, fellows, and junior faculty in the laboratory as well as the clinic. Since the greatest percentage of Dr. Huang's effort is spent in the laboratory, he uses this setting to not only teach, but serve as a mentor for the trainees participating in his research. He interacts with these trainees on a daily basis and schedules bi-weekly meetings to discuss their research from a broader scientific perspective and provide career-development advice. Also in the laboratory, Dr. Huang interacts with clinical fellows and post-doctoral research fellows who work with his former mentor, Dr. Marc Peters-Golden. He has frequent collaborations with this group and participates in the weekly laboratory meetings in addition to organizing and running the eicosanoid journal club that includes members from multiple laboratories across campus. For the past two years, Dr. Huang has served as a member of the Pulmonary and Critical Care Fellowship Program Evaluation Committee. This group uses internal and external surveys to evaluate the strengths and weaknesses of the fellowship program.

Research: Dr. Huang's current research focuses on understanding how epigenetic changes contribute to the development of various lung diseases and determining how these changes arise in disease and are modified by environmental factors. Research in Dr. Huang's laboratory has resulted in novel discoveries that have made a significant impact on this field. He has established himself as a federally-funded independent investigator with a unique research niche and serves the broader scientific community through leadership and service activities at the national level. He currently serves as the principal investigator on an R01 studying CDKN2B as a novel epigenetically regulated gene in idiopathic pulmonary fibrosis. He has published 31 peer-reviewed publications, 15 as first or senior author. This year, he received the American Thoracic Society Assembly on Respiratory Cell and Molecular Biology Carol Basbaum Award in recognition of his outstanding scientific

achievement and leadership potential in the field of respiratory cell and molecular biology. Dr. Huang also received the University of Michigan Department of Internal Medicine's Annual Research Symposium Plenary Poster Session Award this year. Since his appointment to assistant professor, Dr. Huang has been invited to speak at three American Thoracic Society International Meetings and, more recently, invited to speak at the University of Michigan-Peking University Health Sciences Joint Institute Symposium in Beijing, China.

Recent and Significant Publications:

Huang SK, Scruggs AM, Donaghy J, McEachin RC, Fisher AS, Richardson BC, Peters-Golden M: Prostaglandin E2 increases fibroblast gene-specific and global DNA methylation via increased DNA methyltransferase expression. *FASEB J* 26:3703-3714, 2012.

Huang SK, Scruggs AM, Donaghy J, Horowitz JC, Zaslona Z, Przybranowski S, White ES, Peters-Golden M: Histone modifications are responsible for decreased Fas expression and apoptosis resistance in fibrotic lung fibroblasts. *Cell Death Dis* 4:e621, 2013.

Huang SK, Scruggs AM, McEachin RC, White ES, Peters-Golden M: Lung fibroblasts from patients with idiopathic pulmonary fibrosis exhibit genome-wide differences in DNA methylation compared to fibroblasts from nonfibrotic lung. *PLoS ONE* 9:e107055, 2014.

Koh HB, Scruggs AM, Huang SK: Transforming growth factor-β1 increases DNA methyltransferase 1 and -3a expression through distinct post-transcriptional mechanisms in lung fibroblasts. *J Biol Chem* 291:19287-19298, 2016.

Wettlaufer SH, Scott JP, McEachin RC, Peters-Golden M, Huang SK: Reversal of the transcriptome by prostaglandin E2 during myofibroblast dedifferentiation. *Am J Respir Cell Mol Biol* 4:114-127, 2016.

Service: On the national level, Dr. Huang is an active member of the American Thoracic Society and has served on the Society's Respiratory Cell and Molecular Biology (RCMB) Planning Committee for the past three years. Institutionally, he serves on the Environmental Health Sciences Lifestage Environmental Exposures and Adult Disease (LEEaD) Core Center as a committee member and as a member of the Pulmonary and Critical Care Medicine Fellowship Program Evaluation Committee. Dr. Huang serves as an ad hoc reviewer for the French National Research Agency study section, the VA MERIT study section and the University of Michigan Bridge Funding Grants. He reviews for multiple journals including *PLoS One*, *Journal of Pathology*, *American Journal of Respiratory and Critical Care Medicine*, and *Cell Death & Disease*, among many others. Clinically, Dr. Huang devotes his efforts in the ICU, inpatient consult service, outpatient pulmonary clinic, and the bronchoscopy suite.

External Reviewers:

Reviewer A: "His work is at the forefront of epigenetic studies in pulmonary fibrosis, and has been pursued with energy and focus… In two decades doing basic and translational research, I have seen only a handful of junior faculty with his level of determination and drive… Dr. Huang has a well-focused research vision, a well-developed and well-funded investigative program, and the respect and admiration of his senior colleagues at an international level."

Reviewer B: "At [my institution], I believe that he would be successfully promoted to Associate Professor conferring tenure. He appears to be an outstanding individual, and I think the University of Michigan is fortunate to have him in their ranks."

Reviewer C: "Several of Dr. Huang's papers would be considered to be outstanding; however, his most recent paper, which is also his first senior-author paper, would be considered to be one of the best… Given Dr. Huang's accomplishments, he would certainly be a highly competitive candidate for Associate Professor at a number of eminent academic institutions, including [my institution]."

Reviewer D: "Steven has had outstanding productivity in the lab and has published over 30 high quality manuscripts in high impact journals… He has a consistent track record of extramural funding…which bodes extremely well for his continuing success as a physician-scientist. His work has shed important insights into mechanisms of pulmonary fibrosis, in particular understanding what regulates fibroblast to myofibroblast transition... I believe Dr. Huang is a rising star in pulmonary medicine and will continue to flourish and contribute significantly to the pulmonary scientific community."

Reviewer E: "Among other investigators at similar career levels in his specific field of epigenetic mechanisms in fibrotic diseases, I believe Dr. Huang is outstanding and certainly at or very near the top in terms of productivity, creativity and level of impact. Across similar career-stage investigators working in basic and translational aspects of pulmonary fibrosis, he is among a handful of investigators at the forefront of the field, and is well-positioned to continue his trajectory as an emerging leader."

Summary of Recommendation:

Dr. Huang is a thoughtful educator and mentor who is making significant contributions to the field of pulmonary fibrosis. He is a rising star in his field and an excellent colleague. It is for these reasons that I recommend Steven Huang, M.D. for promotion to associate 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

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