

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

Yvonne J. 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	University of Alabama School of Medicine, Birmingham, AL
B.S.	1997	Biological Sciences, Stanford University, Stanford CA

Professional Record:

2014 - present	Assistant Professor of Internal Medicine, University of Michigan
2011 - 2014	Assistant Adjunct Professor of Internal Medicine University of California, San Francisco
2008 - 2011	Clinical Instructor of Internal Medicine, University of California
2004 - 2005	Staff physician, Yale University

Summary of Evaluation:

Teaching: Dr. Huang teaches medical students, residents and fellows in the inpatient and outpatient setting. She serves as a core preceptor for pulmonary and critical care fellows in the outpatient continuity clinic. Within the inpatient setting, Dr. Huang engages with advanced practice providers to educate practitioners on recent developments for standard of care and management guidelines for patients admitted with cystic fibrosis (CF) complications. She serves as the primary mentor for several pre-doctoral and post-doctoral fellows in pulmonary and allergy. Dr. Huang provides didactic lectures at the continuing medical education accredited programs, including the American Academy of Asthma Allergy and Immunology Conference, the American Thoracic Society International Conference, and the European Academy of Allergy and Clinical Immunology, on various topics, including asthma and chronic obstructive pulmonary disease (COPD).

Research: Dr. Huang's research focuses on the microbiome investigation in asthma, COPD and cystic fibrosis. Her primary investigative focus is on asthma, developing an understanding of how the microbiome influences asthma phenotypes, asthma control and the severity and response to therapy. Dr. Huang has significant involvement in the SPIROMICS project, an NIH consortium subcontract and serves as the co-investigator on the second phase of the project. Dr. Huang was heavily involved in the National Heart Lung and Blood Institute asthma research network, specifically AsthmaNet, and has continued her collaborations within this consortium. She served as a co-principal investigator of the proof-of-concept study, which aimed at dissecting the influence of aeroallergen sensitization and inhaled corticosteroid use on the airway microbiome. As a component of her network involvement, Dr. Huang has assumed a vital role in team science. Since her appointment as assistant professor, Dr. Huang has been successful in developing a well-characterized adult asthma research cohort with a long-term goal to perform transitional studies of

biological factors underlying diverse asthma phenotypes in the adult population. She has recently established collaborations with a scientist at the National Institute of Environmental Health Sciences, providing her with access to samples from additional cohorts, which compliments her efforts to build the University of Michigan adult asthma research cohort. Dr. Huang has strong research collaborations with investigators across the Medical School and School of Public Health and has produced several peer-reviewed publications in high impact journals such as the *Journal of Allergy and Clinical Immunology* and the *American Journal of Respiratory and Critical Care Medicine*. She has published more than 30 peer-reviewed articles and has been invited to present her research on 51 occasions regionally, nationally and internationally. Her research excellence is evidenced by obtention of the Early Career Achievement Award from the American Thoracic Society (ATS) Assembly for Allergy, Inflammation and Immunology and most recently the Jo Rae Wright Award for Outstanding Science also from the ATS.

Recent and Significant Publications:

Begley L, Madapoosi S, Opron K, Ndum O, Baptist A, Rysso K, Erb-Downward JR, Huang YJ: Gut microbiota relationships to lung function and adult asthma phenotype: a pilot study. *BMJ Open Respir Res* 5(1): e000324, 2018.

Durack J, Huang YJ, Nariya S, Christian LS, Ansel KM, Beigelman A, Castro M, Dyer AM, Israel E, Kraft M, Martin RJ, Mauger DT, Rosenberg S, Sharp-King T, White SR, Denlinger L, Holguin F, Lazarus SC, Lugogo N, Peters SP, Smith LJ, Wechsler ME, Lynch S, Boushey HA: Bacterial biogeography of adult airways in atopic asthma. *Microbiome* 6(1):1-4, 2018.

Committee on Advancing Understanding of the Implications of Environmental Chemical Interactions with the Human Microbiome (equal authors: Ronald Atlas, Kjersti Aagaard, Elaine Hsiao, Yvonne Huang, Curtis Huttenhower, Rosa Krajmalnik-Brown, Susan Lynch, William Nazaroff, Andrew Patterson, John Rawls, Joseph Rodricks, Pamela Shubat, Brian Thrall). Environmental Chemicals, the Human Microbiome and Health Risk: A Research Strategy. National Academies Press, Washington D.C. Consensus Report: 122, 2017.

Durack J, Lynch SV, Nariya S, Bhakta NR, Beigelman A, Castro M, Dyer AM, Israel E, Kraft M, Martin RJ, Mauger DT, Rosenberg SR, Sharp-King T, White SR, Woodruff PG, Avila PC, Denlinger LC, Holguin F, Lazarus SC, Lugogo N, Moore WC, Peters SP, Que L, Smith LJ, Sorkness CA, Wechsler ME, Wenzel SE, Boushey HA, and Huang YJ. (NHLBI AsthmaNet). Features of the bronchial bacterial microbiome associated with atopy, asthma, and responsiveness to inhaled corticosteroid treatment. *J Allergy Clin Immunol* 140(1): 63-75, 2017.

Huang YJ, Nariya S, Harris JM, Lynch SV, Choy DF, Arron JR, Boushey H. The airway microbiome in patients with severe asthma: Associations with disease features and severity. *J Allergy Clin Immunol* 136(4): 874-84, 2015.

Service: Dr. Huang's clinical interests are in cystic fibrosis, asthma and COPD. She is considered an expert on cystic fibrosis, specializing in the care of adults with CF. Institutionally, Dr. Huang serves on the Local Executive Committee of the Host-Microbiome Initiative and leads the Asthma Translational research group to foster collaborations among adult and pediatric physicians. Nationally, she has served on microbiome committees for international societies and led a

committee on recommendations for future research in these areas. She has participated, by invitation, in National Institutes of Health workshops on these subjects and published the outcomes of the workgroup. Dr. Huang served as a member of the National Academies of Science, Engineering and Medicine for the committee on advancing the understanding of the implications of environmental-chemical interactions on the human microbiomes and will soon publish the findings. Internationally, she is actively involved in the American Thoracic Society, participating in the Allergy, Immunology and Inflammation assembly, the Microbiome working group and the Microbes in Allergy and Asthma committee. Dr. Huang has served on several study sections as an ad hoc grant reviewer and currently serves as the associate editor for the *BMC Pulmonary Medicine*.

External Reviewers:

Reviewer A: “More recently, I served as a co-chair of a posterior discussion session at the American Thoracic Society in ... where she presented some of her most recent work looking at alterations in the gut microbiome in asthma, that have subsequently been published. Her selection to present in both of these avenues exemplifies the peer recognition of the high quality of her work. This body of work shows significant maturity, and I felt that she has become a true leader in a field that will ultimately have great importance in understanding the basis of airways disease...Her work has led to significant advancements in the field that is rapidly evolving and very important.”

Reviewer B: ”...I have seen her develop into a leader in the field of asthma and the microbiome over the past 10 years...Her body of work has helped build the new field of the lung microbiome, and her papers are consistently high quality and impactful...Her work with large clinical networks demonstrates her value as a collaborator and has allowed her to generate important data in larger cohorts than are generally studied in microbiome work...In addition, her review articles are well-respected, and I personally frequently cite them in papers and talks. ...her service on important, high-level committees such as the PRACTALL committee...resulted in high impact, critical publications and she was either first author or co-author on these. Dr. Huang is clearly one of the leading investigators in a rapidly expanding field.”

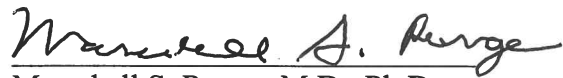
Reviewer C: “Most importantly she has consistently shown a strong interest in research and academic achievement...Thus, I feel she completely fulfills the University requirements for national recognition for scholarly accomplishment...She has also effectively participated in educational sessions at national meetings... I have personally attended some of the sessions in which she as [sic] participated and know that she is an extremely capable lecturer... I have no doubt she would be promoted to this rank at my institution. I am quite confident that she will continue to develop a strong and consistent research career...”

Reviewer D: “Two of Dr. Huang’s publications are particularly outstanding, both published in the prestigious *Journal of Allergy and Clinical Immunology*...This [first] publication provided key information into the pathogenesis of these asthma phenotypes that will have important therapeutic implications. The second publication of Dr. Huang’s that I would consider to be outstanding...also details the impact of asthma implications on the microbiome and this information will also have important ramifications as altering the microbiota may be a future therapeutic strategy.”

Reviewer E: “Dr. Huang has a very good record of research publications and remarkable success with NIH funding. She is an emerging leader in the field of pulmonary medicine with a very good national and growing international reputation...The microbiome is a hot topic in respiratory research and she is one of the few individuals who are considered expert in this area. While I was Deputy Editor for ..., I called on Dr. Huang for reviews and she did an excellent job each time, providing insightful reviews that were helpful to investigators.”

Summary of Recommendation:

Dr. Huang is a dedicated physician scientist with a passion for asthma research and microbiome investigation. She is an actively engaged team scientist with a wide range of cohorts to share in collaborative projects. She is recognized nationally as an expert on cystic fibrosis and emerging on the international level as evidenced by her nominations to prominent organizations. I am pleased, therefore, to recommend Yvonne J. 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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