Approved by the Regents
May 17, 2018

PROMOTION RECOMMENDATION
THE UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF INTERNAL MEDICINE
DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY

Andrew W. Tai, M.D., Ph.D., assistant professor of internal medicine, Department of Internal Medicine, and assistant professor of microbiology and immunology, Department of Microbiology and Immunology, Medical School, is recommended for promotion to associate professor of internal medicine, with tenure, Department of Internal Medicine, and associate professor of microbiology and immunology, without tenure, Department of Microbiology and Immunology, Medical School.

Academic Degrees:

M.D.	2002	Weill Cornell Medical College
Ph.D.	2001	Weill Cornell Graduate School of Medical Sciences
A.B.	1994	Harvard University

Professional Record:

2015-present	Assistant Professor of Microbiology and Immunology, University of Michigan
2011-present	Assistant Professor of Internal Medicine, University of Michigan
2009-2011	Clinical Lecturer, Department of Internal Medicine, University of Michigan

Summary of Evaluation:

Teaching: Dr. Tai has been extensively involved in educational activities for medical students, graduate students, residents, and fellows. He has played a significant role in medical student education, initially as the sequence director for the preclinical Gastrointestinal Sequence for M2 students, revamping lecture content and small group cases in 2014. When the GI Sequence was selected as a pilot "fused" sequence in 2015, Dr. Tai co-developed and organized the sequence through collaborations with faculty in several disciplines. In the current academic year, Dr. Tai has also been selected as one of the faculty leads to develop the core content for the Scientific Practice of Medicine course and teach small group sessions for M2 students. In addition to his medical student teaching, Dr. Tai provides lectures in the Microbiology 615 and 813 graduate-level courses, mentors graduate students in his laboratory, and serves on several dissertation committees. He has been recognized for his outstanding clinical training of gastroenterology fellows, having received a Faculty Teaching Award from the Division of Gastroenterology in five of the past seven years.

Research: Dr. Tai's research is focused on the interactions between viruses and their host cell. In particular, he has investigated the mechanisms by which hepatitis C virus (HCV) exploits host lipid signaling pathways to build their replication organelles, and his current work now includes dengue virus as well. He has a track record of sustained funding, including as the PI currently on an NIH R01 grant, and previously as the PI on a K08 grant and an American Gastroenterological Association Research Scholar Award. Dr. Tai has 23 peer-reviewed publications, with 14 as first or senior author, and many in high-impact journals. His work has been highly cited, and he is also the author of editorial commentaries, electronic review and UpToDate articles, and two first-author book chapters.

Recognition of his standing in his field is evidenced by his invited seminars at national and international meetings, his peer-review service for several funding agencies, and service as an associate editor for *Clinical and Translational Gastroenterology* and special issue guest editor for *Viruses*.

Recent and Significant Publications:

Tai AW* and Salloum S. The role of the phosphatidylinositol 4-kinase PI4KA in hepatitis C virus-induced host membrane rearrangement. *PLoS ONE* 6:e26300, 2011. *Corresponding author.

Salloum S, Wang H, Ferguson C, Parton RG, and **Tai AW**. Rab18 binds to hepatitis C virus NS5A and promotes interaction between sites of viral replication and lipid droplets. *PLoS Pathogens* 9:e1003513, 2013.

Wang H, Perry JW, Lauring AS, Neddermann P, De Francesco R, Tai AW: Oxysterol-binding protein is a phosphatidylinositol 4-kinase effector required for HCV replication membrane integrity and cholesterol trafficking. *Gastroenterology* 146:1373-1385, 2014.

Wang H and Tai AW: Continuous de novo generation of spatially segregated hepatitis C virus replication organelles revealed by pulse-chase imaging. *Journal of Hepatology* 66:55-66, 2017.

Lin DL, Cherepanova NA, Bozzacco L, MacDonald MR, Gilmore R, Tai AW: Dengue virus hijacks a noncanonical oxidoreductase function of a cellular oligosaccharyltransferase complex. *mBio* 2017; accepted for publication.

Service: Dr. Tai provides clinical care at both the University of Michigan and at the VA Ann Arbor Healthcare System. At the university, he staffs the fellows clinic, and at the VAAAHS, he has an outpatient liver clinic, performs endoscopic procedures, and serves on the inpatient gastroenterology/hepatology consult service. For the Division of Gastroenterology, he serves on the Fellowship Research Evaluation Committee, the Clinical Competence Committee, and the Education Curriculum Task Force. Institutionally, he is also a member of the Admissions Committee for the Graduate Program in Cellular and Molecular Biology, and serves on the Institutional Biosafety Committee. Externally, he has been a workshop convener for the American Society of Virology Annual Meeting, and a member of the organizing committee for the 24th International Symposium on Hepatitis C Virus and Related Viruses.

External Reviewers:

Reviewer A: "Andrew is an excellent scientist. He is very disciplined and focused in his approach and produces very high quality work....it is impressive that so much of his work is published in high impact journals....He is certainly nationally recognized for his contributions to HCV pathogenesis and has proven that he can produce high quality science independent of his previous mentors...He has also been actively involved in educational activities at the Medical School. Ultimately I believe that Andrew will prove to be an important asset to the Faculty of the University of Michigan Medical School."

Reviewer B: "...Andrew is considered a leader in the HCV field in replication compartment formation and viral RNA trafficking. He has found himself in highly competitive areas, which is not unusual in the HCV field at that time, but has managed to make important, unique contributions."

Reviewer C: "...I consider Dr. Tai to be a superb scientist, who has made important and creative contributions to our understanding of hepatitis C and flavivirus RNA replication... Dr. Tai is well funded in these challenging times, he is a talented speaker (and also, as expected, a lauded teacher), and he epitomizes all of the attributes one looks for in a clinician scientist who has a long and productive career ahead. He is a deep thinker, he has excellent biological intuition guiding him to investigate important questions, he identifies and seamlessly employs the right approaches and technologies, regardless of the challenges, and he doesn't settle for minimal publications. He is also a generous and inclusive collaborator with a growing international presence."

Reviewer D: "Dr. Tai continued in the direction of virus-host interactions after establishing his own lab at Michigan. In addition to providing further mechanistic details of PI4-K's function, Dr. Tai characterized two additional host factor/pathways that are hijacked by HCV for replication and published these works in top-tier journals of the infectious diseases and gastroenterology fields... These significant publications, along with the rest of his independent research, establish Dr. Tai as one of the leaders in studying host cofactors of HCV."

Reviewer E: "...I highly regard [Dr. Tai's] works on HCV NS5A-host interaction...for their originality and thoroughness. He is well recognized among HCV virologists as evidenced by his domestic and international invited seminars related to HCV... Importantly, his excellent scholarly activities are evident from his continuously successful funding from 2007 until now, highlighted with his currently active R01 grant as an independent researcher. Based on my knowledge of Dr. Tai's work and the HCV field in general, I consider Dr. Tai as one of the pioneers in the HCV field who contribute original, impactful research to the field."

Summary of Recommendation:

Dr. Tai is an outstanding scientist who is recognized for his expertise in the area of hepatitis C and flavivirus RNA replication. He has also made extensive contributions institutionally to teaching as well as clinical care and service. Therefore, I enthusiastically recommend Andrew Tai, M.D. for promotion to associate professor of internal medicine, with tenure, Department of Internal Medicine, and associate professor of microbiology and immunology, without tenure, Department of Microbiology and Immunology, Medical School.

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

May 2018