

PROMOTION RECOMMENDATION  
The University of Michigan  
School of Dentistry

Yu Lei, assistant professor of dentistry, School of Dentistry is recommended for promotion to associate professor of dentistry, with tenure, School of Dentistry.

Academic Degrees:

Fellowship	2014	Postdoctoral fellow, Head and Neck Oncology Research, University of Pittsburgh
Residency	2014	Oral and Maxillofacial Pathology, University of Pittsburgh Medical Center
Fellowship	2011	Post-doctoral Fellow, Immunology, University of North Carolina at Chapel Hill
PhD	2011	Immunology, University of North Carolina at Chapel Hill
DDS	2006	Sichuan University, Chengdu

Professional Record:

2016-Present	Adjunct Assistant Professor, Department of Otolaryngology – Head and Neck Surgery, University of Michigan, Medical School
2015-Present	Assistant Professor, without tenure, Periodontics and Oral Medicine, University of Michigan, School of Dentistry
2014-2015	Visiting Research Assistant Professor, University of Pittsburgh

Summary of Evaluation:

Teaching: Professor Lei is a highly talented oral pathologist scientist who is bridging knowledge base and clinical practice between dental and medical education. Professor Lei's teaching contributions in mentoring students have been highly impactful. He has mentored four undergraduate students, two DDS students, fifteen PhD students, two Master students, four post-doctoral fellows, and two visiting scholars. Professor Lei spends a great deal of time working with his mentees to develop the professional skills they need to succeed in an academic research career. Several of his mentees have received fellowships, grants or awards, including the Bernard Maas Fellowship, Rackham Merit Fellowship, and the Oral Health Sciences Block grant. In 2017, one of his PhD mentees received the American Academy of Oral and Maxillofacial Pathology Annual Conference Travel Award, and a DDS student mentee won the American Association of Oral and Maxillofacial Surgeons Annual Conference Poster Competition. In 2018, one of his mentees received the Autumn Immunology Conference John Wallace Scholarship, and then went on to receive a Ruth L. Kirschstein National Research Service Award (T32) Post-doctoral Fellowship Award. This transitioned to an F31 award in 2019. This mentee also received the Excellence in Research and Excellence in Promoting Diversity, Equity and Inclusion from the Office of Graduate and Post-doctoral Studies at the University of Michigan Medical School, and the Endowment for Basic Sciences Award from the University of Michigan Medical School.

Professor Lei is an advocate in promoting diversity in dental academia. He worked with the National Institute for Health and Human Resources to obtain a diversity supplement for one of his underrepresented minority students which provided a critical resource to support the student's research. The outcome to this collaboration was recognized with numerous awards and honors.

Additionally, Professor Lei encourages other underrepresented trainees to participate in the Rackham Ally Grant, and to attend conferences to advance their science and meet leading researchers in the cancer immunology field.

Professor Lei has participated in teaching as a classroom instructor and course director in both the School of Dentistry and Michigan Medicine where he has an adjunct faculty appointment in the department of Otolaryngology-Head and Neck Surgery. Professor Lei lectures on various topics from tumor biology to immune-mediated processes. In 2018, he became the course director for DH440 teaching internal medicine to dental hygiene students. Professor Lei demonstrates continuous improvement of his teaching skills, as reflected by his student evaluation scores. Student comments reflect his knowledge, clear instruction and clinical relevance. His peer evaluations describe Professor Lei as being organized, knowledgeable and showing respect for his students.

Research: Professor Lei's research interests focus on the mechanism regulating cancer immune escape, developing Nano-vaccines to sensitize cold cancer to immune checkpoint receptor blockage, and the development of immune-prevention strategies for high-risk oral epithelial dysplasia. He has 29 peer-reviewed publications in rank, and two book chapters. He is first author on two and senior author on seven of these publications. He has publications in prestigious journals such as *Cell*, *Nature*, *Journal of Clinical Investigation*, and *Clinical Cancer Research*. Professor Lei has established himself in the scientific community as evidenced by his numerous presentations nationally and abroad. He currently has ten active grants totaling \$13.1 million and he is the principal investigator or co-principal investigator on four of these grants totaling \$6.2 million. His research is funded primarily through the National Institutes of Health. Additionally, Professor Lei has had 13 past grants while in rank from federal, university and school sources. Professor Lei has received the Rising Stars Award from the National Institutes of Health, the Star Peer Reviewer of Springer – Head and Neck Pathology award, and first place for the Joseph Lister Award for New Investigators from the International Association for Dental Research.

Professor Lei is an emerging star in the scientific field of cancer biology as evidenced by his many awards and honors. He is a generous colleague and mentor, willing to offer his expertise in solving experimental challenges to other researchers and to the many students whom he mentors.

Recent and Significant Publications:

- Luo X, Donnelly CR, Gong W, Heath BR, Hao Y, Donnelly L, Moghbeli T, Tan YS, Lin X, Bellile E, Kansy BA, Carey TE, J. Brenner C, Cheng L, Polverini PJ, Morgan MA, Wen H, Prince ME, Ferris RL, Xie Y, Young S, Wolf GT, Chen Q, and Lei YL (2020). HPV16 drives cancer immune escape via NLRX1- mediated degradation of STING. *J Clin Invest*, 130:1635-52.
- Kitamoto S, Nagao-Kitamoto H, Jiao Y, Gilliland III MG, Hayashi A, Imai J, Sugihara K, Miyoshi M, Brazil JC, Kuffa P, Hill BD, Rizvi SM, Wen F, Bishu S, Inohara N, Eaton KA, Nusrat A, Lei YL, Giannobile WV, Kamada N (2020). The intermucosal connection between the mouth and gut in commensal pathobiont-driven colitis. *Cell*, 182: 447-462.
- Deng M, Tam JW, Wang L, Liang K, Li S, Zhang L, Guo H, Luo X, Zhang Y, Petrucelli A, Davis BK, Conti BJ, June Brickey W, Ko CC, Lei YL, Sun S, Ting JP (2020). TRAF3IP3 negatively regulates cytosolic RNA induced anti-viral signaling by promoting TBK1 K48 ubiquitination. *Nat Commun*, 11(1): 2193.
- Heath BR, Michmerhuizen NL, Donnelly CR, Sansanaphongpricha K, Sun D, Brenner JC, Lei YL (2019). Head and Neck Cancer Immunotherapy beyond the Checkpoint Blockade. *J Dent Res*, 98 (10): 1073-80.

Tan SY, Sansanaphongpricha K, Xie Y, Donnelly CR, Luo X, Heath BR, Zhao X, Bellile E, Hu H, Chen H, Polverini PJ, Chen Q, Young S, Carey TE, Nor JE, Ferris RL, Wolf GT, Sun D, and Lei YL (2018). Mitigating SOX2-potentiated Immune Escape of Head and Neck Squamous Cell Carcinoma with a STING-inducing Nanosatellite Vaccine. *Clin Cancer Res*, 24(17):4242-55.

Service: Professor Lei became certified by the American Board of Oral and Maxillofacial Pathology in 2014. He has served as a reviewer on several NIH study sections since 2018, serving as a permanent member of the National Cancer Institute Prevent Cancer Preclinical Drug Development Program (PREVENT) review panel. He has also served as an ad hoc reviewer for research groups in the United Kingdom and France and for the United States-Israel Binational Science Foundation. At the national level, he has served on the nomination committee of the American Academy of Oral and Maxillofacial Pathology, and is serving on the nominating committee for the American Academy of Dental Research, and the Steering Committee of the National Cancer Institute – Cancer Moonshot Immuno-Oncology Translational Network. Additionally, he is currently a reviewer for 26 medical and dental pathology journals and a member of four editorial boards. At the university level, Professor Lei has served as a member of the Distributed Health Technologies committee, University of Michigan Immunotherapy Working group, University of Michigan Office of Research Faculty Grants and Awards panel member and for the Michigan Drug Discovery Pilot Grant Program. At the school level, Professor Lei serves as an oral pathologist at the school’s biopsy service unit, Research Day judge, Donald Kerr Symposium Planning committee, and he has served on one oral medicine faculty search committee. He has also been a faculty interviewer at the Rackham Graduate School and participated as a faculty member of the first Asian/Pacific Islander Graduation Ceremony at the Office of Academic Multicultural Initiatives.

External Reviewers:

Reviewer A: “Dr. Lei has maintained an exceeding strong publication profile dating back to his graduate studies and encompassing his appointment period at the University of Michigan. Indeed, Dr. Lei has an almost unique skill set in that he has clinical interests as an attending oral pathologist, as well as being an accomplished research scientist.”

Reviewer B: “He has become a recognized leader in his fields of research and I would anticipate that his academic productivity will continue on its current impressive trajectory.”

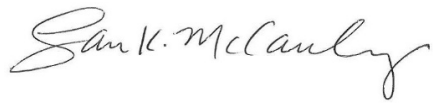
Reviewer C: “It is highly commendable that Dr. Lei has formed a network of scientific collaborations that are meaningful resulting in several co-author publications. His success in receiving NIH grants is impressive, especially in light of the ultra-competitive NIH funding environment. Moreover, he has developed a national reputation in the head and neck squamous cell carcinoma research space.”

Reviewer D: “Dr. Lei strikes me as an extremely thoughtful, collaborative, and rigorous scientist. He is passionate about mentoring and teaching. He has high standards and is a person of high integrity. He is curious and unwavering in his pursuit of the truth. I have no doubt that Dr. Lei will continue to make significant contributions to the field and will have a lasting impact on those he trains.”

Reviewer E: “Dr. Lei’s research output is considered extremely productive for a junior faculty by any standard, testifying to Dr. Lei’s ability to perform independent research and in collaborating with peers to make significant contributions to the field. Dr. Lei is clearly a rising star.”

Summary of Recommendation:

Professor Lei is an outstanding oral pathologist-scientist, who has accomplished a significant body of original work and has been recognized as an important player in the field of cancer biology. He has well positioned himself in the field by establishing a strong research team and cohesive collaborative environment by developing unique and innovative tools, and by combining basic, clinic, and translational research. Professor Lei is a knowledgeable and impactful teacher in various subjects pertaining to tumor biology and immune-mediated processes. He shows a great deal of commitment to his mentees with many of them receiving notable awards and honors. It is with the support of the Executive Committee, that I recommend Yu Lei for promotion to associate professor of dentistry, with tenure, School of Dentistry.



---

Laurie K. McCauley  
Dean, School of Dentistry

May 2021