

PROMOTION RECOMMENDATION
THE UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF SURGERY

Yongqing Li, M.D. Ph.D., assistant professor of surgery, Department of Surgery, Medical School, is recommended for promotion to associate professor of surgery, with tenure, Department of Surgery, Medical School.

Academic Record:

Ph.D.	1995	University of Miami
M.S.	1986	Xi'an Medical University, China
M.D.	1982	Xinxiang Medical University, China

Professional Record:

2013 - present	Assistant Professor of Surgery, University of Michigan
2011 - 2013	Assistant Professor of Surgery, Harvard University
2005 - 2011	Instructor of Surgery, Harvard University
2003 - 2004	Senior Research Scientist, ILEX Oncology, Boston, MA
1999 - 2003	Instructor of Medicine, Harvard University

Summary of Evaluation:

Teaching: Dr. Li has served as a mentor for 37 trainees at different levels, including two high school students, six undergraduates, six medical students, six post-doctoral fellows, three Ph.D. students, nine surgical fellows, and five visiting scholars. Eleven of his students/fellow mentees have published more than ten papers, and two fellow mentees have published more than 20 papers in the past three years. One of his medical students from the Global REACH program at the University of Michigan published four papers as the first or co-first authors in prestigious journals such as *Science* and *JCI Insight* in the past three years and was celebrated as a role model in her home medical school due to the academic excellence in 2021. Dr. Li has also participated in mentoring the surgical fellows for application of NIH F32, American College of Surgeons Committee on Trauma, and Surgical Infection Society grants. Four of these fellows have successfully received these grants. Because of his exceptional educator's accomplishments, medical students from the Global REACH program at this institution have always chosen Dr. Li as the mentor of their first choice to work in his laboratory. According to his trainees' evaluation, Dr. Li is "an outstanding teacher/educator."

Research: Dr. Li has published 123 publications in peer-reviewed journals, in top journals such as *Science*, *Small*, *JCI Insight*, and *Frontiers in Immunology*. His laboratory discovered a novel target for sepsis diagnosis, prognosis, and treatment. Dr. Li's group reveals that the sepsis protein biomarker citrullinated histone H3 he discovered, can differentiate patients between septic shock and non-septic shock, and correlate with disease severity. They developed a device with mechanical engineers that enables rapid, high-sensitivity, sample sparing detection of a sepsis biomarker. In collaboration with Dr. Hao Wu at Boston Children's Hospital at Harvard Medical School, Dr. Li recently provided a new understanding of the molecular mechanism underlying Nod-like receptor protein 3 (NLRP3) inflammasome activation, which offers an opportunity for the development of methods for the prevention and treatment of NLRP3 inflammasome-related diseases (*Science*). He holds five patents, two of which are for diagnosis, prognosis, and treatment of sepsis. For the patent of citrullinated histone H3 enzyme-linked immunosorbent assay (ELISA) kit for early diagnosis of sepsis, Dr. Li's team is now working on the translation for clinical application of the sepsis diagnosis/prognosis which

is a billion-dollar market. In addition, he was invited to contribute one book chapter in the field of trauma and sepsis. Dr. Li's research is currently funded by the National Institutes of Health, Department of Defense, and institutional grants. Dr. Li is advancing his leadership to make the Department of Surgery nationally and internationally recognized in sepsis research.

Recent and Significant Publications:

Wu Z, Tian Y, Alam HB, Li P, Duan X, Williams AM, Liu B, Ma J, Li Y.: PAD2 mediates Caspase-1 associated lethality in *Pseudomonas aeruginosa* pneumonia induced sepsis. *Journal of Infectious Diseases*. 223(6): 1093-1102, 2021. PMID: 32729925

Tian Y, Qu S, Alam HB, Williams AM, Wu Z, Deng Q, Pan B, Zhou J, Liu B, Duan X, Ma J, Mondal S, Thompson PR, Stringer KA, Standiford, TJ, Li Y: Peptidylarginine deiminase 2 has potential as both a biomarker and therapeutic target of sepsis. *JCI Insight*. 5(20): 138873, 2020. PMID: 33055424

Magupalli VG, Negro R, Tian Y, Hauenstein AV, Caprio GD, Deng Q, Orning P, Alam HB, Maliga Z, Sharif H, Hu JJ, Evavold CL, Kagan JC, Schmidt FI, Fitzgerald KA, Kirchhausen T, Li Y, Wu H: HDAC6 mediates an aggresome-like mechanism for NLRP3 and pyrin inflammasome activation. *Science*. 369(6510): eaas8995, 2020. PMID: 32943500

Deng Q, Pan B, Alam HB, Liang Y, Wu Z, Liu B, Mor-Vaknin N, Duan X, Williams AM, Tian Y, Zhang J, Li Y: Citrullinated histone H3 as a therapeutic target for endotoxic shock in mice. *Frontiers in Immunology*. 10:2957, 2020. PMID: 31998291

Park Y, Byu B, Deng Q, Pan B, Song Y, Tian Y, Alam HB, Li Y, Liang X, Kurabayashi K: An integrated plasmo-photoelectronic nanostructure biosensor detects an infection biomarker accompanying cell death in neutrophils. *Small*. 16 (1): e1905611, 2020. PMID: 31793755

Service: Dr. Li has been recognized as a national and international scholar in the field of trauma injury, and sepsis diagnosis and treatment. He has been invited to deliver over 30 talks at the national and international conferences and seminars. In the section of general surgery within the Department of Surgery, Dr. Li has been the director of Trauma Translational and Clinical Research. He has served and is serving on graduate dissertation committees for three Ph.D. students. Nationally, he organized and chaired the section of Trauma/Critical Care-Ischemia/Reperfusion, and the section of Trauma/Critical Care-Growth Factor/Receptors/Signal Transduction for the annual Academic Surgical Congress (2016 and 2017). He was a member of the Publications Committee in the Society of University Surgeons (SUS), (2016 and 2017). He served as a grant reviewer for Harvard Medical School, University of Michigan, and the Medical Research Council in United Kingdom. Dr. Li has been an ad hoc reviewer for scientific journals including for *Surgery*, *Critical Medicine*, *Oncotarget*, and *Biochimica et Biophysica Acta - Reviews on Cancer*. In 2021, he was invited as a guest editor for *Frontiers in Immunology*.

External Reviewers:

Reviewer A: "Dr. Li has been extraordinarily productive with his scholarly pursuits...well over 100 publications, many in high impact surgical journals...He has been more productive and successful as a surgical investigator than any assistant professor I have ever worked with in my career...He would, without a doubt, be promoted to associate professor at my institution."

Reviewer B: "Dr. Li's work is of excellent scientific quality. He has made significant contributions to the understanding of the pathophysiology of sepsis, shock, and traumatic brain injury. The critical role of histone deacetylases and, more recently, of peptidylarginine deiminases inhibition in the

diagnosis (biomarkers) and prevention of sepsis are significant advances in the field, which bring promising opportunities for drug development with specific therapeutic targets.”

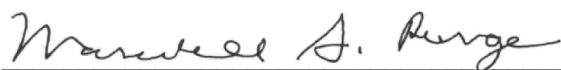
Reviewer C: " Dr. Li has made seminal contributions to the basic biology of acute lung injury as well as the translational interventions to treat acute lung injury. I can confidently say that Dr. Li is a leader in sepsis and acute lung injury." "In addition to his research interest in sepsis/acute lung injury, Dr. Li has published over 80 papers in the fields of cancer biology and traumatic hemorrhagic shock/brain injury in *Cancer Cell*, *PNAS*, *Journal of immunology*, *Shock*, *Surgery*, *Journal of Trauma*, etc. Due to his great achievements, many of us would love to have a colleague of his caliber to collaborate with.”

Reviewer D: “Here at [my institution], Dr. Li would meet and exceed the requirements for promotion to Associate Professor on both our tenure track as well as our clinical scholar track... Dr. Li has in particular impacted the areas of traumatic brain injury and neuroprotection as well as the resuscitation of critically injured patients. This large volume of highly focused research has been published in very high impact journals such as *Science* and are truly groundbreaking.”

Reviewer E: “...his outstanding contributions to the field of histone modifying enzymes as therapeutic targets and diagnostic biomarkers of sepsis, hemorrhagic shock and traumatic brain injury...Dr. Li has been recognized nationally and internationally by the field and has increased his service for the community in the recent years...Although I could continue to discuss the major contributions and achievements of Dr. Li, they all lead me to conclude that Dr. Li is an outstanding scientist with a strong track record in publication and grant support.”

Summary of Recommendation:

Dr. Li has made significant advances in the field of sepsis research and will continue to improve our ability to diagnose and treat this devastating disease. He is committed to mentoring and training the next generation of researchers in this important field. He has excellent service and is a strong team scientist. I am pleased to recommend Yongqing Li, M.D., Ph.D. for promotion to associate professor of surgery, with tenure, Department of Surgery, Medical School.



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

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