

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

Jason S. Knight, M.D., Ph.D., associate professor of internal medicine, with tenure, Department of Internal Medicine, Medical School, is recommended for promotion to professor of internal medicine, with tenure, Department of Internal Medicine, Medical School.

Academic Degrees

M.D.	2007	University of Michigan, Ann Arbor, MI
Ph.D.	2005	University of Michigan, Ann Arbor, MI
B.S.	1999	Indiana University, Bloomington, IN

Professional Record

2019 - Present	Associate Professor (with tenure), Department of Internal Medicine, Division of Rheumatology, University of Michigan
2014 - 2019	Assistant Professor, Department of Internal Medicine, Division of Rheumatology, University of Michigan
2012 - 2013	Clinical Lecturer, Department of Internal Medicine, Division of Rheumatology, University of Michigan

Summary of Evaluation:

Teaching: Dr. Knight is a dedicated and highly sought after instructor. Learners include faculty members, clinical fellows, research fellows, residents, post-doctoral fellows, undergraduate students, and high school students. In terms of formal teaching, he has given numerous ad hoc lectures and seminars. Teaching evaluations are very good to excellent with comments pointing to his engagement of students and his ability to create a fun learning environment. He is the director of the division of rheumatology's T32 Program for Scientist Training and is the primary mentor on three grants: an NIH K08, an American College of Rheumatology grant, and a Rheumatology Research Foundation Scientific Development award.

Research: Dr. Knight's research is focused on the role of neutrophils, platelets, and endothelial cells in the vascular complications of human autoimmune and inflammatory diseases. He has an extraordinary record of success in obtaining funding support. His current research has been funded by the National Institutes of Health (NIH), the Department of Defense (DoD), the American College of Rheumatology, the American College of Rheumatology Research and Education Foundation, the Lupus Research Alliance (LRA), and the Hospital for Special Surgery. He has authored 120 peer reviewed manuscripts, with many in high impact journals such as *JCI Insight*, *Nature Communications*, and *Rheumatology*. He has been invited to give 44 international and national extramural talks including in the United Kingdom, Italy, and Argentina. Dr. Knight's work has been internationally recognized through the receipt of the Nature Reviews Rheumatology Best Translational Abstract Award. Nationally, he has received several research awards, including the Edmund L. Duboise Award for junior lupus researchers from the American College of Rheumatology in 2019, the Mary Betty Stevens Young Investigator Prize from the Lupus Foundation of America in 2021, and the Young Physicians Scientist Award from the American Society for Clinical Investigation in 2022.

#### Recent and Significant Publications:

- Ali RA, Estes SK, Gandhi AA, Yalavarthi S, Hoy CK, Shi H, Zuo Y, Erkan D, Knight JS, “Defibrotide Inhibits Antiphospholipid Antibody-Mediated Neutrophil Extracellular Trap Formation and Venous Thrombosis,” *Arthritis Rheumatol*. 2022 May;74(5):902-907. PMID: 34725956.
- Shi H, Gandhi AA, Smith SA, Wang Q, Chiang D, Yalavarthi S, Ali RA, Liu C, Sule G, Tsou PS, Zuo Y, Kanthi Y, Farkash EA, Lin JD, Morrissey JH, Knight JS, “Endothelium-protective, histone-neutralizing properties of the polyanionic agent defibrotide,” *JCI Insight*. 2021 Sep 8;6(17):e149149. PMID: 34264868.
- Sule G, Abuaita BH, Steffes PA, Fernandes AT, Estes SK, Dobry CJ, Pandian D, Gudjonsson JE, Kahlenberg JM, O’Riordan MX, Knight JS, “Endoplasmic reticulum stress sensor IRE1 $\alpha$  propels neutrophil hyperactivity in lupus,” *J Clin Invest*. 2021 Feb 9:137866. PMID: 33561013.
- Zuo Y, Estes SK, Ali RA, Gandhi AA, Yalavarthi S, Shi H, Sule G, Gockman K, Madison JA, Zuo M, Yadav V, Wang J, Woodard W, Lezak SP, Lugogo NL, Smith SA, Morrissey JH, Kanthi Y, Knight JS, “Prothrombotic autoantibodies in serum from patients hospitalized with COVID-19,” *Sci Transl Med*. 2020 Nov 18;12(570):eabd3876. PMID: 33139519.
- Zuo Y, Yalavarthi S, Shi H, Gockman K, Zuo M, Madison JA, Blair CN, Weber A, Barnes BJ, Egeblad M, Woods RJ, Kanthi Y, Knight JS, “Neutrophil extracellular traps in COVID-19,” *JCI Insight*. 2020 Apr 24. pii: 138999. PMID: 32329756.

Service: Dr. Knight has an outstanding service record at both the national and international levels. Internationally, he has served on many ad hoc study sections including the Medical Research Foundation (London), the Research Council KU Leuven (Belgium), the French National Research Agency, and the Swiss National Science Foundation. He was the chair of the International Scientific Committee for the Congress on Antiphospholipid Antibodies Conference. Nationally, Dr. Knight has served as a reviewer for NHLBI and the Lupus Research Alliance. He is on the editorial board for *Frontiers in Immunology*, is a consulting editor for *JCI Insight*, and an associate editor for *ACR Open*. He is an ad hoc reviewer for several journals and has reviewed abstracts for the American College of Rheumatology Annual Meeting. Institutionally, he is the associate chief of basic and translational research in his division, the associate director of the Lupus Program, and the director of the Antiphospholipid Syndrome Program. He serves on the Animal Care and Use Program Faculty Advisory Committee and chaired the Department of Internal Medicine’s internal review of the Division of Hematology’s clinical, educational, and research missions.

#### External Reviewers:

Reviewer A: “While Jason has been an active scientific researcher in the field of clotting and antiphospholipid antibody syndrome his ability to turn toward the evolving scientific questions posed by COVID-19 were extremely impressive. His group contributed meaningfully to helping us understand the immune viral - axis and how immune dysregulation can contribute to hypercoagulability and vascular sequelae. Using tools from lupus and antiphospholipid antibody syndrome he not only identified high risk antibodies but demonstrated their biologic relevance with preclinical models.”

Reviewer B: “Dr. Knight’s research has been funded by a substantial number of agencies and organizations, including as PI NIH R01, industry sponsored research awards, and as well various lupus foundation PI awards. He is also a prominent Co-Investigator on multiple NIH project awards.”

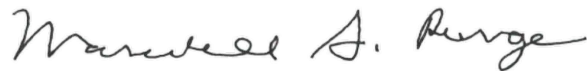
Reviewer C: “Aside from Dr. Knight’s impactful science, he is an excellent mentor. He has mentored 10 post-doctoral fellows, many of which have gone on to hold academic positions, and one junior faculty member, recently receiving his K08 award. It is notable that Dr. Knight is consistently rated as one of the most sought after and respected mentors at Michigan University Medical School.”

Reviewer D: “In addition to his tremendous success with grant applications, his publication track record to date has been excellent, with 111 original scientific publications through 2022. Notably, he has published more than 50 of these while in rank (since September of 2019) supporting a rapidly rising trajectory in terms of productivity. His publications have consistently appeared in top tier journals including Science Translational Medicine, JCI, JCI Insight, and Arthritis & Rheumatology among many others. In addition to appearing in high visibility journals, the publications highlighted in his application packet are important as these all are likely to change how antiphospholipid antibody syndrome is approached, both in terms of diagnosis and management.”

Reviewer E: “Jason is already established in the field of neutrophil aberrations in patients with systemic autoimmunity and anti-phospholipid syndrome. He is being invited to speak at schools and national meetings and to contribute reviews and chapters to books. More importantly, he serves federal and foundation study sections. His work has been recognized with the Mary Betty Stevens and other awards and he has been elected to the American Society for Clinical Investigation.”

Summary of Recommendation:

Dr. Knight is internationally recognized for his expertise in the areas of antiphospholipid syndrome pathogenesis, COVID-19 pathogenesis, and the biology of neutrophil extracellular traps (NETs), and COVID-19 pathogenesis. He is an outstanding scientist, physician, and educator. I am pleased to recommend Jason S. Knight, M.D., Ph.D. for promotion to professor of internal medicine, with tenure, Department of Internal Medicine, Medical School.



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

May 2024