

PROMOTION RECOMMENDATION
THE UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF SURGERY

Timothy L. Frankel, M.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 Degrees:

M.D.	2004	George Washington University Medical School
B.A.	2000	Connecticut College

Professional Record:

2013-present	Assistant Professor of Surgery, University of Michigan
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Teaching: Dr. Frankel has trained and mentored numerous medical students and residents through his work as a clinical surgeon. He gives regular didactic lectures to medical students on abdominal pain and gastrointestinal bleeding, and provides daily instruction to students and residents in the clinic, operating room, and on rounds. He receives outstanding evaluations from residents as one of the most revered teachers in the department, with many comments about his excellent teaching ability and praise for granting an appropriate degree of independence and operative autonomy to residents, creating the optimal learning environment. Dr. Frankel has broadened his impact on the training program through his roles on the Program Evaluation Committee, Clinical Competency Committee and SECOND Trial Steering Committee. Many of his trainees have published highly impactful papers. He lectures to the graduate students through the Immunology 851 and IOE 436 courses, and serves on two dissertation committees, for students in the Departments of Cell and Developmental Biology and Cellular and Molecular Biology.

Research: Dr. Frankel is a team scientist and core member of the Pancreatic Cancer Research Initiative, a collaborative group of investigators dedicated to the study of pancreas-related diseases. His laboratory has collected the tissue samples and has been key in establishing a 3D micro-tumor organoid platform for testing therapeutic agents. The technology of novel methods and tools in his lab are considered the mini-core for use by the investigators. Dr. Frankel's research focuses on the pancreas cancer immune microenvironment, specifically the cytokine IL-22. His work has made a novel association between innate inflammation and tumor formation in the pancreas which may provide a novel link between environmental and lifestyle factors and development of this deadly disease. He has received numerous foundation awards and is the principal investigator on an NIH K08 looking at the role of immune promotion of pancreatic tumorigenesis. He is also currently collaborating with colleagues at the Wellcome Sanger Institute in the United Kingdom and Yale School of Medicine to create models of pancreatic cancer and study the impact of IL-22 manipulation on tumor progression. Dr. Frankel has published 48 peer-reviewed articles, many in prestigious journals such as *JCI Insight* and *Annals of Surgical Oncology*, and has been invited to present his work nationally at major academic institutions. In 2017, he was awarded the Americas Hepato-Pancreato-Biliary Association North/South America traveling fellowship to share his clinical and research expertise.

Recent and Significant Publications:

Perusina Lanfranca M, Zhang Y, Girgis A, Kasselmann S, Lazarus J, Kryczek I, Delrosario L, Rhim A, Koneva L, Sartor M, Sun L, Halbrook C, Nathan H, Shi J, Crawford HC, Pasca di Magliano M, Zou W, Frankel TL: Interleukin 22 Signaling Regulates Acinar Cell Plasticity to Promote Pancreatic Tumor Development in Mice. *Gastroenterology* 158(5): 1417-1432, 2020.

Lazarus J, Oneka MD, Barua S, Maj T, Lanfranca MP, Delrosario L, Sun L, Smith JJ, D'Angelica MI, Shia J, Fang JM, Shi J, Di Magliano MP, Zou W, Rao A, Frankel TL: Mathematical Modeling of the Metastatic Colorectal Cancer Microenvironment Defines the Importance of Cytotoxic Lymphocyte Infiltration and Presence of PD-L1 on Antigen Presenting Cells. *Ann Surg Oncol* 26: 2821-2830, 2019.

Lazarus J, Maj T, Smith JJ, Perusina Lanfranca M, Rao A, D'Angelica MI, Delrosario L, Girgis A, Schukow C, Shia J, Kryczek I, Shi J, Wasserman I, Crawford H, Nathan H, Pasca Di Magliano M, Zou W, Frankel TL: Spatial and phenotypic immune profiling of metastatic colon cancer. *JCI Insight* 3(22): 2018.

Lanfranca MP, Lazarus J, Shao X, Nathan H, Di Magliano MP, Zou W, Piert M, Frankel TL: Tracking Macrophage Infiltration in a Mouse Model of Pancreatic Cancer with the Positron Emission Tomography Tracer [11C]PBR28. *J Surg Res* 232: 570-577, 2018.

Frankel TL, Vakiani E, Nathan H, DeMatteo RP, Kingham TP, Allen PJ, Jarnagin WR, Kemeny NE, Solit DB, D'Angelica MI: Mutation location on the RAS oncogene affects pathologic features and survival after resection of colorectal liver metastases. *Cancer* 123(4): 568-575, 2017.

Service: Dr. Frankel is very involved with the professional organizations of which he is a member including the American College of Surgeons, Association of Academic Surgeons, Society of Surgical Oncology, and the Americas Hepato-Pancreato-Biliary Association (AHPBA). He was a founding member of the Basic and Translational Science Committee for the AAS and helped craft their mission and agenda. He has continued his service to AAS, serving a second year on the program committee for the annual Academic Surgical Congress. He has been a member of the AHPBA research committee for four years, and spent countless hours re-shaping their grant mechanism to allow more transparency and alignment with the society's mission. Dr. Frankel is a reviewer or ad hoc reviewer for six journals including *Annals of Surgery*, *HPB Journal* and *Annals of Surgical Oncology*. He serves on a Department of Defense pancreatic cancer study section and is an active member of the University of Michigan surgery program Clinical Competency Committee and Program Evaluation Committee. Dr. Frankel is a surgical oncologist at the Ann Arbor Veterans Affairs Healthcare System, focusing on the treatment of patients with liver cancer. He runs a high-volume liver practice, incorporating advanced perioperative management and minimally invasive techniques. He is an active member of both the Liver and Solid Tumor boards and serves the needs of acutely ill patients during his call activities. He is the chair of the AAVA Commission on Cancer Committee and served as the Cancer Liaison Physician for four years. As lead of the AAVA cancer program, he has established a novel Cancer Navigation Program to usher patients from diagnosis through treatment. He has also undertaken

the arduous task of creating disease-specific multidisciplinary clinics to centralize care, maximize use of resources and expedite treatment.

External Reviewers:

Reviewer A: “It is clear that Dr. Frankel has built upon his research training in tumor immunology as a surgical resident in Dr. Steve Rosenberg’s laboratory at the NIH to become a recognized independent investigator in the area of tumor immunology and microenvironmental biology in both metastatic colorectal and pancreatic cancers. His appointment as an ad hoc reviewer on the DoD study section for pancreatic cancer is an example of this. He has demonstrated a strong capacity to work in a team science environment as evidence of his role as co-investigator with effort on numerous NIH grants ranging from individual R01’s [sic] to multi-investigator P30 and U01 grants. Taken together he not only meets the criteria for promotion in the area of scholarship and research but has surpassed his peers in this area.”

Reviewer B: “He holds 2 patents and currently is part of 3 active research grants that have a combined total greater than \$4 million dollars. He has multiple other grants pending. He has given multiple national invited lectures. He has written 47 peer-reviewed publications, 5 book chapters and 22 abstracts. He also serves as an Ad Hoc review for 6 journals and is a member of multiple society committees. For all those accomplishments, he is extremely deserving of this promotion to the rank of Associate Professor with Tenure (Instructional Track).”

Reviewer C: “Dr. Frankel has a number of excellent publications that are addressing important topics in HPB malignancy. His publication in Gastroenterology (#47) stands out amongst these for obvious reasons (impact factor >20), but also for its content, and as a reflection of his laboratory’s development and promise.”

Reviewer D: “There is no question that Dr. Frankel’s work is of the highest quality. He is very curious and interested in finding the real scientific answer to important questions rather than putting out a high volume of lower quality work that is so common in our field. The work coming from Dr. Frankel is done with the highest rigor and focuses on important questions that need to be answered to take better care of patients and move the field forward.”

Reviewer E: “Dr. Frankel is a rising star in the field of Surgical Oncology...Dr. Frankel exemplifies the combined academic goals of research, clinical excellence, and teaching endeavors relating to Surgical Oncology with a focus on pancreatic cancer research. Indicative of his stature in the field, he currently serves Ad Hoc on the DOD Pancreatic cancer study section. He has my strongest endorsement for this promotion.”


Reviewer F: “He currently serves as the surgical lead for the liver tumor program at the Ann Arbor VA and is the Chair of the AAVA’s Commission on Cancer certified Cancer Program, a major organizational role that ensures institutional compliance with external accreditation requirements. He is clearly committed to building a clinical program and ensuring institutional success... Dr. Frankel has additionally maintained a strong and sustained record of involvement in education. He has mentored numerous undergraduate students...serves as a rotation lecturer for the third-year medical student class...and he lectures regularly in Special Topic in Immunology Course offered in the Department of Microbiology & Immunology. Finally, he is contributing to the educational

development of future scientists by serving on multiple dissertation committees in the Departments of Cell & Developmental Biology and Cell & Molecular Biology.”

Reviewer G: “Dr. Frankel should be commended for embarking on a challenging career path; as a translational researcher with a complex clinical practice. He currently has 46 publications listed on his CV, with about 10 of them from the past year demonstrating a significant increase in productivity.”

Summary of Recommendation:

Dr. Frankel is renowned for his translational science, as an excellent surgeon, academic leader in pancreas cancer and hepatopancreatobiliary surgery, and outstanding teacher and mentor. I am pleased to recommend Timothy L. Frankel, M.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 of Medical Affairs
Dean, Medical School

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