

PROMOTION RECOMMENDATION  
THE UNIVERSITY OF MICHIGAN  
MEDICAL SCHOOL  
DEPARTMENT OF RADIOLOGY

Approved by the  
Regents  
May 21, 2015

Hero K. Hussain, M.D., associate professor of radiology, with tenure, Department of Radiology, Medical School, is recommended for promotion to professor of radiology, with tenure, Department of Radiology, Medical School.

Academic Degrees:

M.D.	1986	University of Baghdad, Iraq
------	------	-----------------------------

Professional Record:

2008-present	Associate Professor of Radiology, University of Michigan
2002-2008	Assistant Professor of Radiology, University of Michigan
1999-2002	Lecturer, Department of Radiology, University of Michigan
1998-1999	Lecturer, Department of Radiology, Washington University

Summary of Evaluation:

Teaching: Dr. Hussain participates in all aspects of the Department of Radiology teaching program. She teaches medical students and radiology residents on rotations in abdominal radiology, and teaches trainees and faculty from other departments at interdisciplinary conferences, including the Liver Tumor Board. The quality of Dr. Hussain's teaching is excellent. She is consistently ranked in the top quartile of radiology faculty for the quality of her teaching, both in formal noon conferences and while teaching on the clinical services. Comments from the residents are uniformly positive and include, "Great teacher, fun to work with and clearly has a passion for her subspecialty," "Outstanding educator, expert in her field and a true pleasure to work with on a daily basis regardless of the amount of work to be done," and "Dedicated to patients in making everyone around her a better clinician and radiologist." Dr. Hussain is an outstanding lecturer and frequently invited speaker at continuing medical education courses nationally and internationally. Dr. Hussain's knowledge of the field, passion for education and collegial nature has made her a popular mentor for radiology trainees. Not surprisingly, a large number of trainees have selected careers in academic medicine.

Research: Dr. Hussain is a member of the Division of Abdominal Radiology and is the modality lead for magnetic resonance. Her research is focused on optimizing and developing techniques for body MR imaging, particularly the liver. She is investigating methods of improving the diagnosis of hepatocellular carcinoma and increasing the utilization of MR for tissue characterization and identifying disease processes. Dr. Hussain is a critical member of the GI Tumor Board where collaborations with members of the Hepatology Team have led to the establishment of highly specific imaging criteria for the diagnosis of hepatocellular carcinoma which obviate the need for biopsy confirmation. These observations were confirmed in independent prospective studies done at major liver cancer institutions. She has also developed a novel technique for quantification of hepatic fat. The work was supported by an NIH R21 grant in which Dr. Hussain was the principal investigator. The innovative nature of this work led to further studies with colleagues in endocrinology and two NIH R01 grants in which Dr. Hussain was a co-investigator. Recognizing the potential of magnetic resonance imaging, Dr. Hussain has been a willing collaborator with a variety of faculty, including those in obstetrics and gynecology for pelvic floor imaging; GI medicine for inflammatory bowel disease; and radiation oncology. The quality of

Dr. Hussain's research is demonstrated by her many publications in high quality journals as well as her external funding.

Recent and Significant Publications:

Khan AS, Hussain HK, Johnson TO, Weadock WJ, Pelletier SJ, Marrero JA: The value of delayed hypointensity and delayed enhancing rim in the MR imaging diagnosis of small hepatocellular carcinoma in the cirrhotic liver. *J Magn Reson Imaging* 32:360-366, 2010.

Davenport MS, Viglianti BL, Al-Hawary MM, Caoili EM, Kaza RK, Liu PS, Maturen KE, Chenevert TL, Hussain HK: A comparison of acute transient dyspnea following the intravenous administration of gadoxetate disodium and gadobenate dimeglumine: Effect on arterial phase image quality. *Radiology* 266:452-461, 2013.

Davenport MS, Caoili EM, Kaza RK, Hussain HK: Matched within-patient cohort study of transient arterial-phase respiratory motion related artifact in MRI of the liver: Gd-EOB-DTPA vs. Gd-BOPTA. *Radiology* 2014 Mar 8:132269. [Epub ahead of print]

Davenport MS, Bashir MR, Pietryga JA, Weber JT, Khalatbari S, Hussain HK: Dose-toxicity relationship of gadoxetate disodium and transient post-injection dyspnea. *AJR* 2014, In press.

Willatt JM, Hussain HK, Chong S, Kappil M, Azar SF, Liu PS, Ruma JA, Elsayes KM: MR Imaging in the characterization of small renal masses. *Abdom Imaging* March 11, 2014 (Epub ahead of print)

Service: Dr. Hussain provides service on both local and national levels. At the University of Michigan, she directs the body MRI fellowship program and serves on multiple department committees including the Radiology Research Committee, the Sabbatical Review Committee, and the MR Operations Group. She is an especially valuable member for her knowledge and expertise in MR research and her collaborative nature. On a national level, Dr. Hussain has served multiple professional societies. She is an active member of the Radiological Society of North America (RSNA) where she has served on the Scientific Review Committee and on the subcommittee for the structured reporting of abdominal MR examinations. She is currently a member of the Scientific Program Subcommittee for Gastrointestinal Radiology where each member of the committee is expected to review over 100 abstracts to select those for presentation at the annual meeting. She has also served as a presiding officer during scientific presentations. Dr. Hussain's other major society for which she provides significant service is the American College of Radiology (ACR). She co-chairs the expert panel for continued professional improvement and has written self-assessment modules in gastrointestinal radiology. She is a member of the liver imaging and reporting data system (LI-RADS) that is attempting to quantify liver imaging reports analogous to those used for mammography. She has served on the steering committee, the management working group, the hepatobiliary contract agent group, the radiology pathology correlation group, and the technique optimization working group. The American College of Radiology Imaging Network (ACRIN) is an NIH funded scientific network that has recently merged with the Eastern Cooperative Oncology Group (ECOG). Dr. Hussain has served ACRIN as a member of the CT/MR committee. Dr. Hussain is assigned to the division of abdominal radiology where the majority of her time is devoted to magnetic resonance imaging and a minority to computed tomography.

External Reviewers:

Reviewer A: "Dr. Hussain has spent a significant part of her career studying liver disease, culminating most recently in her work on behalf of the Liver Imaging Reporting and Data System (LI-RADS). To say this work is ground breaking and far reaching would be an understatement--LI-RADS is used by radiologists in academic and community centers worldwide, paralleling the marked increase in cirrhosis."

Reviewer B: "One of the areas where she has had a central and active role is in the standardization of interpretation of hepatic lesions in cirrhosis. She is an internationally recognized leader in this field and has provided guidance and insight into the UNOS imaging classification of imaging findings related to HCC for liver transplant."

Reviewer C: "Her mentorship is apparent from the senior authored publications listed in her CV and her innate desire and ability as an excellent teacher is evident by the teaching awards bestowed on her."

Reviewer D: "...on several occasions she has published surprising and unexpected findings which were initially greeted with skepticism, but have since become accepted as common knowledge....Any department that is able to recruit and retain a faculty as gifted as Dr. H. Hussain is fortunate."

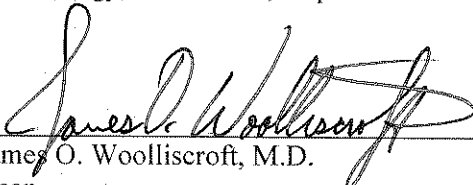
Reviewer E: "Dr. Hussain is a gifted educator, reflected in the many teaching awards earned at the University of Michigan....Her thorough understanding and brilliant communication skills make her a consistently sought after lecturer."

Reviewer F: "I consider Dr. Hussain among the top 10 experts in body MRI. This may be a more important distinction than it sounds, as I consider next to neuroradiology, some of the brightest radiologists are body MRI experts, like Dr. Hussain."

Reviewer G: "Because of her research and educational efforts, Dr. Hussain is internationally recognized as a leader in Body MRI. She has served as manuscript reviewer for many of radiology's most influential journals, and she has been invited to speak on a range of subjects around the world."

Summary of Recommendation:

Dr. Hussain has established an international reputation as a leader in MR imaging. She is focused on developing and optimizing techniques for body MR imaging of the liver and improving the diagnosis and staging of hepatocellular carcinoma. She is a central figure in the multidisciplinary liver tumor board and her work has led to the establishment of highly specific imaging criteria for the diagnosis of hepatocellular carcinoma. I am pleased to recommend Hero K. Hussain, M.D. for promotion to professor of radiology, with tenure, Department of Radiology, Medical School.

  
James O. Woolliscroft, M.D.  
Dean  
*Lyle C. Roll Professor of Medicine*

May 2015