

PROMOTION RECOMMENDATION
UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF UROLOGY
COLLEGE OF ENGINEERING
DEPARTMENT OF BIOMEDICAL ENGINEERING

Approved by the Regents
May 14, 2009

William W. Roberts, M.D., assistant professor of urology, Department of Urology, Medical School, and assistant professor of biomedical engineering, Department of Biomedical Engineering, College of Engineering, is recommended for promotion to associate professor of urology, with tenure, Department of Urology, Medical School, and associate professor of biomedical engineering, without tenure, Department of Biomedical Engineering, College of Engineering.

Academic Degrees:

M.D.	1997	Johns Hopkins University
B.S.	1992	Massachusetts Institute of Technology

Professional Record:

2008-present	Assistant Professor of Biomedical Engineering, University of Michigan
2004-present	Assistant Professor of Urology, University of Michigan
2003	Instructor in Urology, Johns Hopkins University

Summary of Evaluation:

Teaching: The teaching of Dr. Roberts extends from high school students to the continuing medical education of peers. He does it all well and with enthusiasm. In the Medical School he is involved with a small group session at the M2 level teaching introduction to the male genitourinary physical exam and at the M4 level where he developed the urology surgical simulation curriculum with training modules used by the M4 students. The bulk of his teaching is focused on urology residents, not only during their clinical training but during their research year. Dr. Roberts' laboratory has been a popular and productive site for the urology residents who have published papers and won prizes based on their work. CME efforts of Dr. Roberts have also been strong, teaching a national course that has produced good evaluations and metrics. The course content is based on radiofrequency cryoablation of renal lesions. He also runs the monthly Morbidity and Mortality Conference which is both a teaching opportunity and a quality assurance tool.

Research: The scholarship of Dr. Roberts has been noteworthy. His work is strongly translational and collaborative. He and his group coined the term "histotripsy" and the technology was developed jointly with Dr. Roberts and the College of Engineering, Biomedical

Engineering Department and the Medical School Radiology Department. This has produced two patents and substantive funding. Dr. Roberts is principal investigator of an NIH SPORE grant and has another three grants totaling \$1.8 million. He has an additional two NIH grants that are pending. The Medical School, Health System, and College of Engineering are looking at this as a technology transfer opportunity and the clinical trials are anticipated. Dr. Roberts has recently moved to his own distinct laboratory with his own post-doctoral fellow and he anticipates further growth. His work has generated quality peer-reviewed and non-peer-reviewed papers with multiple abstracts. He lists 41 peer-reviewed publications, 19 of which have been produced since he has come to the University of Michigan. He separately lists other papers including four book chapters, an editorial comment and other widely read publications.

Recent and Significant Publications:

Lake AM, Hall TL, Kieran K, Fowlkes JB, Cain CA, Roberts WW: Histotripsy: A minimally invasive technology for prostate tissue ablation in an in-vivo canine model. *Urology* 72:682-6, 2008.

Hall TL, Kieran K, Ives K, Fowlkes JB, Cain CA, Roberts WW: Histotripsy of rabbit renal tissue in vivo: temporal histologic trends. *J Endourol* 21:1159-66, 2007.

Kieran K, Hall TL, Parsons JE, Wolf JS Jr, Fowlkes JB, Cain CA, Roberts WW: Refining histotripsy: Defining the parameter space for the creation of non-thermal lesions with high intensity pulsed ultrasound in the in vitro kidney. *J Urol* 178:672-6, 2007.

Roberts WW, Hall TL, Ives K, Wolf, Jr, JS, Fowlkes JB, Cain CA: Pulsed cavitation ultrasound: A noninvasive technology for controlled tissue ablation (histotripsy) in the rabbit kidney. *J Urol* 175:734-8, 2006.

Roberts WW, Bhayani SB, Allaf ME, Chan TY, Kavoussi LR, Jarrett TW: Pathological stage does not alter the prognosis for renal lesions determined to be stage T1 by computerized tomography. *J Urol* 173: 713-5, 2005.

Service: Dr. Roberts is the quality assurance officer for the Department of Urology which is a substantial contribution in terms of time and this also requires him to oversee the monthly Morbidity and Mortality Conference which is both a teaching and a peer-reviewed obligation of the clinical department. He has fulfilled both duties with enthusiasm and excellence. In terms of national organizational service, Dr. Roberts reviews for five journals and is on one board.

Professional Work: Dr. Roberts spends 50% of his time doing clinical work. He does this very well as a member of the minimally invasive urology unit where he handles stone disease, endourological procedures, and some degree of general urologic problems that come up when he is on call. His contributions as a clinician and surgeon are well respected within the University of Michigan and regionally.

External Review:

Reviewer A: “He has had a pivotal role in the development of histotripsy, a novel, minimally-invasive, non-thermal method of tissue ablation using ultrasound that will have many urological applications, including treatment of prostate and renal malignancies. This work, combined with his work on other laparoscopic procedures, has not only resulted in the development of Dr. Roberts’s [sic] well-funded career, but has also been important in raising the overall standards in these fields regionally, nationally, and internationally...Importantly, many of the individuals who were trained by Dr. Roberts are currently running their own research efforts at academic and surgical institutions throughout the world, and this is strong evidence that Dr. Roberts’s teaching ability is outstanding.”

Reviewer B: “In a relatively brief time, he has achieved a national reputation in urology and has pioneered an exciting new technique with potential clinical applicability for the treatment of both renal and prostatic tumors.”

Reviewer C: “He has established excellent collaboration with serious scientists looking at the problems of histotripsy. The group has achieved excellent [grant] support which is one of his strongest suits here. His efforts have been greatly enhanced by his appointment as Assistant Professor in Biomedical Engineering...”

Reviewer D: “The residents under his guidance have been extremely productive. Indeed, all three of these individuals have subsequently won awards for their research on a regional, national and even international basis...I do believe that you have in your midst one of the rising stars in American Urology; his creativity and focus will likely lead to major paradigm shifts in the treatment of both benign and malignant surgical disease.”

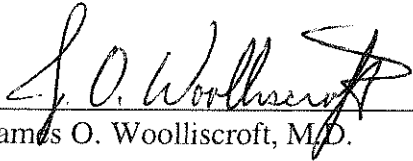
Reviewer E: “...Dr. Roberts has established himself as a clinical and academic urologist that left a lasting impact on the field he is working in. He has carved out a new niche that may have considerable implications on clinical practice...I consider him to be one of the coming leaders in our field.”

Reviewer F: “First his academic career has been truly impressive...he has impressive grant support with NIH spore, prostate career development award, a KO8 award, a two million dollar RO1 award, as well as an O’Brian Center sub-project in addition to other grant support...In terms of teaching, he has served on dissertation committees and has been a research mentor for medical students and has been involved in many courses. It is impressive that seven of those trainees have also won awards at different points in time...Dr. Roberts has demonstrated outstanding scholarship and excellent service and teaching.”

Reviewer G: “I expect that he would be favorably considered for promotion at [my institution] or any other top medical center...The quality of his publications is strong and reflects an effective combination of clinical and applied research...Although I have not directly observed his clinical work, I know by reputation that he is highly considered and that his level of clinical expertise is recognized regionally and perhaps nationally...”

Summary of Recommendation:

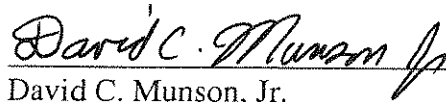
Dr. Roberts is a rising star in his pioneering work in the development of histotripsy. He is a great educator, clinician, researcher, and citizen of the University. We wholeheartedly recommend Dr. Roberts for promotion to associate professor, with tenure, in the Department of Urology, and associate professor, without tenure, in the Department of Biomedical Engineering.



James O. Woolliscroft, M.D.

Dean

Lyle C. Roll Professor of Medicine



David C. Munson, Jr.

Robert J. Vlasic Dean of Engineering

College of Engineering

May 2009