

PROMOTION RECOMMENDATION  
UNIVERSITY OF MICHIGAN  
MEDICAL SCHOOL  
DEPARTMENT OF OPHTHALMOLOGY AND VISUAL SCIENCES

Roni M. Shtein, M.D., assistant professor of ophthalmology and visual sciences, Department of Ophthalmology and Visual Sciences, Medical School, is recommended for promotion to associate professor of ophthalmology and visual sciences, with tenure, Department of Ophthalmology and Visual Sciences, Medical School.

Academic Degrees:

M.P.H.	2009	University of Michigan
M.D.	2001	Brown University
B.S.	1997	Brown University

Professional Record:

2007-present	Assistant Professor of Ophthalmology and Visual Sciences, University of Michigan
2005-2007	Clinical Lecturer, Department of Ophthalmology and Visual Sciences, University of Michigan

Summary of Evaluation:

Teaching: In addition to substantial contributions to research, Dr. Shtein is an excellent teacher. She has taught many courses in corneal confocal microscopy, corneal imaging and corneal transplantation techniques at international, national, state and regional meetings. Senior colleagues have commented on her teaching by saying that “her skills, eloquence, and enthusiasm are exemplary.” In addition to formal teaching activities, she has generously provided time to serve as a valued and dedicated mentor for cornea fellows, ophthalmology residents, medical students, undergraduates and allied ophthalmology personnel. The positive teaching evaluations and teaching award that she has received provide confirmation of her distinction, quality and merit as an educator.

Research: Dr. Shtein has an active research program and is highly-regarded both nationally and internationally for her significant contributions to her field. One focus of Dr. Shtein’s scholarship involves confocal microscopy of the cornea *in vivo*. Her expertise in confocal imaging not only results in the referral of many patients for evaluation by this state-of-the-art clinical tool, but also has allowed Dr. Shtein to use the confocal microscope in creative studies to help identify key factors determining whether or not a corneal graft survives and provides good vision. Her research has revealed that corneal nerve re-growth may play a critical role in wound healing and potentially corneal graft survival. Through her imaging center at the Kellogg Eye Center, Dr. Shtein has established cross-disciplinary collaborations with various investigators at the University of Michigan and has expanded her studies to include searching for corneal biomarkers of important systemic diseases such as diabetes and chronic pain syndromes. She

has authored 37 published articles with 24 as the senior author. Dr. Shtein was invited to write five review articles concerning the cornea due to her expertise in this area. She has received a number of significant grants to fund her innovative scholarly studies. Support includes a K23 from the National Eye Institute, as well as funding from the Michigan Diabetes Research and Training Center, the Midwest Eye Bank and Transplantation Center, and the University of Michigan Office of Research. Recently, a grant application to the Midwest Eye Bank proposes to study clinical trends in endothelial and penetrating keratoplasty for the treatment of important corneal endothelial diseases.

#### Recent and Significant Publications:

Lee WB, Jacobs DS, Musch DC, Kaufman SC, Reinhart WJ, Shtein RM: Descemet's stripping endothelial keratoplasty: safety and outcomes: a report by the American Academy of Ophthalmology. *Ophthalmology* 116:1818-1830, 2009.

Mian SI, Li AY, Dutta S, Musch DC, Shtein RM: Dry eyes and corneal sensation after laser in situ keratomileusis with femtosecond laser flap creation: Effect of hinge position, hinge angle, and flap thickness. *J Cataract Refract Surg* 35:2092-2098, 2009.

Shtein RM, Kelley KH, Musch DC, Sugar A, Mian SI: In vivo confocal microscopic evaluation of corneal wound healing after femtosecond laser-assisted keratoplasty. *Ophthalmic Surg Laser Imag* 43:205-213, 2012.

Shtein RM, Raoof-Daneshvar D, Lin H-C, Sugar A, Mian SI, Nan B, Stein JD: Keratoplasty for corneal endothelial disease, 2001-2009. *Ophthalmology* 119:1303-1310, 2012.

Woodward MA, Ross KW, Requard JJ, Sugar A, Shtein RM: Impact of surgeon acceptance parameters on cost and availability of corneal donor tissue for transplantation. *Cornea* 32:737-740, 2013.

Service: Not only is Dr. Shtein a productive scholar and excellent educator, she is also a top-notch clinician who provides the latest treatments and compassionate patient care for patients who have sight-threatening disorders affecting the cornea. She is known for her keen clinical acumen and solid decision-making skills. The chief of the cornea service notes that she is one of the best surgeons in the department, is highly productive, and garners very solid clinical revenue. In addition to her clinical duties at the Kellogg Eye Center, Dr. Shtein also conducts clinics and operates at the Veterans' Administration Hospital, as well as at two Kellogg Eye Center satellite facilities. To advance her analysis of clinical techniques, Dr. Shtein established a unique collaboration with the Midwest eye banks and the Eye Bank Association of America (EBAA) to quantitatively assess how corneal donation procedures influence therapeutic options. Reflecting her special expertise, several national EBAA committees, including the Accreditation Board and the Medical Advisory Board, have asked Dr. Shtein to play a key role in establishing medical standards for U.S. eye banks. Thus, by working closely with Eye Bank administrators and corneal surgeons, Dr. Shtein is actively applying knowledge derived from her scholarly studies to the challenge of advancing the quality of eye banking and therefore, patient care throughout the United States. Dr. Shtein also generously provides service to the department, the university

and national organizations. For example, she serves on committees of the American Academy of Ophthalmology and the Eye Bank Association of America. She is on the editorial board of the *Journal of Clinical and Experimental Ophthalmology*, and is a reviewer for peer-reviewed ophthalmology journals. At the university level, she is a member of committees that help guide the Michigan Institute of Clinical Health Research and the University's transition to electronic medical records. In the Department of Ophthalmology and Visual Sciences, she is a member of committees that provide advice for Vision Research Training, Integrated Clinical Information and curriculum design.

#### External Reviewers:

Reviewer A: "Her work in assessing the impact of producing dry eye symptoms after LASIK using recent advances in Femtosecond Laser technology represents the most innovative and scientifically rigorous study to date. ...Dr. Shtein's scholarly activity exudes quality, innovation, leadership, and an ability to communicate and collaborate with colleagues producing a final product with symphonic synergy."

Reviewer B: "Dr. Shtein is also positioned as a leader in corneal imaging modalities, which are certain to have an increasingly important place in clinical practice and corneal research. It is evident that Dr. Shtein is a rising talent in translational cornea research, and the Department of Ophthalmology and Visual Sciences at UM--Kellogg Eye Center is fortunate to have her on the faculty....She is one of the more promising academic cornea specialists [of her cohort] in the nation, and unusual for our times, a legitimate triple threat with excellence in the clinic, classroom, and research environment."

Reviewer C: "She...has assumed an important role in developing the next generation of leaders in eye banking. This represents an extremely important service, both to the eye banking community and, perhaps more importantly, to the corneal transplant community and their patients.... Dr. Shtein has demonstrated clinical expertise, has a record of national service to the profession, and has, early in her career, created a corpus of clinical research that is very credible and of high quality."

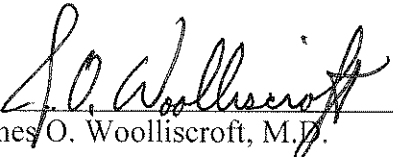
Reviewer D: "[Dr. Shtein] has served as a peer reviewer for numerous journals, and in an editorial position for the *Journal of Clinical and Experimental Ophthalmology*. She has made significant contributions to the American Academy of Ophthalmology, the American Board of Ophthalmology, and the Eye Bank Association of America....Dr. Shtein has made substantial scholarly contributions that have established a good balance between diversity and breadth, and thematic concentration consistent with rigor and depth. The work is of significance and interest to the field."

Reviewer E: "Dr. Shtein has created a niche in the cornea subspecialty and her studies will continue to advance this field and our understanding of the impact of technological advances on the outcome of corneal surgeries and diagnoses. I would rank her at least equal to, and in fact more advanced, than most of her peers at the proposed promotion rank...She is clearly a remarkable clinician-scientist who regularly publishes her results....Her lectures and presentations are well received and she has emerged an important lecturer and valued panel

member for many national organizations and universities in ophthalmology...Dr. Shtein has emerged as a national figure in the field of cornea and external diseases. She has achieved a national reputation as a clinician-scientist, as an educator, and as a physician and surgeon for cornea and external eye disease problems.”

Summary of Recommendation:

Dr. Shtein has shown consistent productivity, innovation and excellence in all areas – research, clinical work, teaching, and service and there is no doubt that she will continue on her present course. I believe that her enthusiasm and energy will not abate. I therefore, enthusiastically recommend Roni M. Shtein, M.D. for promotion to associate professor of ophthalmology and visual sciences, with tenure, Department of Ophthalmology and Visual Sciences, Medical School.

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

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