

PROMOTION RECOMMENDATION  
UNIVERSITY OF MICHIGAN  
MEDICAL SCHOOL  
DEPARTMENT OF INTERNAL MEDICINE

Approved by the Regents  
May 14, 2009

Matthias Kretzler, M.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 [also being promoted to research professor, Center for Computational Medicine and Biology].

Academic Degrees:

M.D.                                      1992    Undergraduate/Graduate, University of Heidelberg

Professional Record:

2005-present                              Associate Professor of Internal Medicine, University of Michigan  
2002-2005                                    Assistant Professor of Internal Medicine, University of Munich

Summary of Evaluation:

Teaching: Dr. Kretzler is an exceptional teacher and outstanding role model. He teaches medical students, internal medicine residents and nephrology fellows in the outpatient clinics and the nephrology consult service. He presents at nephrology clinical conferences, and journal club meetings. As part of the Introduction to Bioinformatics and Computational Biology of the Ph.D. Program in Bioinformatics, he teaches applied systems biology in a structured lecture and also during journal clubs and tools and technology conferences. He also is the module director for the Bioinformatics and System Biology Sciences program. In a response to the need for structured training in bioinformatics and systems biology, he has been asked by the Center for Computation in Medicine and Biology (CCMB) at the University of Michigan to organize the third and final Module on Bioinformatics and Systems Biology, a four week course consisting of a weekly schedule of two-hour lectures, a three-hour laboratory, followed by a homework assignment. Dr. Kretzler currently provides mentoring to five fellows who are spending their research year in the molecular nephrology laboratory.

Research: The key aims of Dr. Kretzler's research are to define the molecular disease mechanisms of human renal disease to identify molecular disease predictors and novel therapeutic targets. His research currently focuses on mechanisms of chronic kidney disease in general, and more specifically on mechanisms of diabetic nephropathy, nephrotic syndrome, lupus nephritis and IgA nephritis. He receives extramural funding for each of these areas. Since his arrival at the University of Michigan in 2005, he has established the Personalized Molecular Nephrology Laboratory as a core instrument to advance personalized medicine research around the world. During his tenure at Michigan, he has established the Michigan Renal Biobank as a prospective and comprehensive biorepository linked to structured clinical data of each patient. This effort is currently supported as part of the NIH O'Brien Kidney Center at the University of

Michigan. In addition, with support from the Nephcure Foundation, Dr. Kretzler has initiated the Nephcure Biobank as a national network to establish prospective cohorts of patients with nephrotic syndrome for molecular phenotyping. On the international level, he continues to integrate regional and national resources with the European Renal cDNA Bank, which he founded. Dr. Kretzler has been instrumental in training faculty and staff of the Australian/New Zealand Renal Biobank and of the Toronto Glomerular Registry in renal biobanking and molecular profiling. These efforts have resulted in a unique set of clinical and histological data and microdissected kidney tissues from more than 2,500 patients obtained from 25 academic centers around the world. Given his many successful research ventures, Dr. Kretzler has been able to obtain significant extramural funding, currently supporting a total of 13 separate projects. He is the principal investigator on seven of these, which have annual total direct costs of \$1.358 million. This support has been acquired in less than three years, as he was recruited to the University of Michigan directly from Germany and had no funded projects upon his arrival.

#### Recent and Significant Publications:

Luan F, Trillsch F, Henger A, Eichinger F, Norman S, Appelman H, Kretzler M: A pilot study of gene expression based categorization of pancreas transplant biopsies. *Transplantation* in press.

Wiggin TD, Kretzler M, Pennathur S, Sullivan KA, Brosius FC, Feldman EL: Rosiglitazone treatment reduces diabetic neuropathy in STZ treated DBA/2J mice. *Endocrinology* epub ahead of print, PMID 18583417, 2008.

Lorz C, Benito-Marin A, Boucherot A, Ucerro AC, Rastaldi MP, Henger A, Armelloni S, Santamaria B, Berthier CC, Kretzler M\*, Egido J, Ortiz A\* (\*corresponding authors): The death ligand TRAIL in diabetic nephropathy. *J Am Soc Nephrol* 19:904-14, 2008.

Schmid H, Boucherot A, Yasuda Y, Henger A, Brunner B, Eichinger F, Nitsche A, Kiss E, Bleich M, Groene HJ, Nelson PJ, Schlondorff D, Cohen CD and Kretzler M: Modular activation of NF-kB transcriptional programs in human diabetic nephropathy. *Diabetes* 55:2993-3003, 2006.

Cohen CD, Klingenhoff A, Boucherot A, Nitsche A, Henger A, Brunner B, Schmid H, Merkle M, Saleem MA, Koller KP, Werner T, Gröne HJ, Nelson PJ, Kretzler M: Comparative promoter analysis allows de novo identification of specialized cell junction associated proteins. *Proc Natl Acad Sci USA* 103:5682-5687, 2006.

Service: Internationally, Dr. Kretzler serves on the Advisory Board of the European Kidney Research Association and is the scientific coordinator of the Chronic Progressive Renal Disease program for this group. He served on the Programs Committee of the American Society of Nephrology Annual meeting in 2007. He serves on the Advisory Board and is the founding member of the American Society of Nephrology's Glomerular Disease Advisory Committee. He is Councilor of the German Kidney Foundation. He serves on the editorial board of *Journal of the American Society of Nephrology*, *Journal of Nephrology*, *Clinical Nephrology*, and *Nephrology, Dialysis and Transplantation*. He is frequently asked to review manuscripts for

numerous journals including *Nature Medicine*, *Journal of Clinical Investigation*, *FASEB Journal*, *Diabetes*, *Journal of the American Society of Nephrology*, *Developmental Biology*, *Kidney International*, *American Journal of Transplantation*, *American Journal of Physiology*, *Experimental Nephrology*, *Diabetologica*, *Clinical Nephrology*, *Clinical and Experimental Immunology*, *Pediatric Nephrology*, *Biochimica et Biophysica Acta*, *Trends in Molecular Medicine*, and *Translational Oncogenomics*, *Biotechniques* and *Gene*.

External Review:

Reviewer A: “Matthias has worked diligently to create collaborations across the globe, and financial and physical structures to implement bench to bedside fast-tracking of the information and ideas. This has resulted in a large number of successful grant applications in a very short period of time from the NIH and from voluntary not-for-profit funding agencies.”

Reviewer B: “...I have been very impressed by Dr. Kretzler’s vision of a systems view of renal disease, integrating modern bioinformatic approaches into renal research. He is one of the few individuals, either nationally or internationally, with the broad view, the expertise and the drive to develop this vital area of research.”

Reviewer C: “...Dr. Matthias Kretzler is a scientist of the first rank with an impressive and highly positive national and international reputation...His work has important implications for furthering our understanding of the progression of all kidney disease, but in particular, of diabetic kidney disease and has the additional merit of potentially leading to new therapies.”

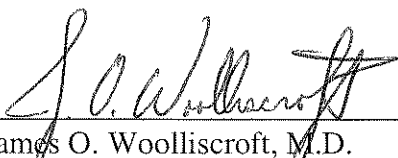
Reviewer D: “He has an excellent track record of independent funding from the National Institutes of Health, the European Union, and from private foundations...He would certainly be competitive for promotion to the rank of Professor at [my institution], as well as at other peer institutions.”

Reviewer E: “Matthias has made extremely important contributions to the areas of diabetic and non-diabetic kidney disease and his research will most likely identify important targets for the treatment and prevention of renal disease.”

Reviewer F: “He is an accomplished and successful investigator and a leader in his field. He has achieved national and international recognition as an independent investigator and is a highly respected member of the international scientific community. This recognition derives directly from his original scientific publications that have appeared in leading scientific journals, and has been recognized by extramural funding for his research from NIH and private foundations.”

## Summary of Recommendation

In summary, Dr. Kretzler is a uniquely talented, innovative and productive physician scientist who is internationally recognized as one of the top handful of leaders in nephrology research today, especially in the growing general area of systems biology. In recognition of his achievements and talents, he receives weekly solicitations for consideration of leadership positions around the world. It is with the highest enthusiasm that I recommend Dr. Kretzler for promotion to professor, with tenure.



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James O. Woolliscroft, M.D.

Dean

*Lyle C. Roll Professor of Medicine*

May 2009