

CURRICULUM VITAE

Jeffrey Robert Schelling

Personal Data

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Education and Postdoctoral Training

College: B.A., Northwestern University, 1981
Medical School: M.D., Case Western Reserve University, 1985
Residency: Internal Medicine, Case Western Reserve
University Hospitals, 1985-88
Fellowship: Clinical Nephrology, Univ. Colorado, 1988-89
Research, University of Colorado, 1989-92
Management: GE Essentials in Leadership Excellence, 2008

Academic Appointments

1992-1994: Senior Instructor of Medicine,
Case Western Reserve University
1994-2001: Assistant Professor of Medicine,
Case Western Reserve University
2001-2008 Associate Professor of Medicine,
Case Western Reserve University
2003- Director, Division of Nephrology and Hypertension,
MetroHealth System, Case Western Reserve U.
2008- Professor of Medicine, Case Western Reserve Univ.

Professional Society Memberships

National Kidney Foundation
American Federation for Medical Research
American Society of Nephrology
International Society of Nephrology
Central Society for Clinical Research
American Society for Cell Biology

Awards and Certifications

1988	C.C.J. Carpenter Award, Outstanding Resident, Department of Medicine
1988	ABIM diplomate in Internal Medicine
1990	ABIM diplomate in Nephrology
1998-02	Established Investigator of the American Heart Association
2001	Award of Tenure, Case Western Reserve University
2003	Department of Medicine Teaching Excellence Award, Honorable Mention
2004	Department of Medicine Teaching Excellence Award, Honorable Mention
2005	Department of Medicine Teaching Excellence Award
2007	Department of Medicine Teaching Excellence Award
2009	United Way Spotlight Volunteer Award
2009	Crain's Cleveland Business Health Care Heroes finalist

Professional and Community Service

National and International Service

1996-02	Special Grant Review Committee, V.A. Merit Review Study Section
1997	Abstract Review Committee, "Apoptosis in Renal Disease", American Society of Nephrology annual meeting, San Antonio, TX
1997	Ad hoc reviewer, National Kidney Foundation of Northwest Washington
1997	Session Moderator, "Life and Death Pathways in Renal Injury", American Society of Nephrology annual meeting, San Antonio, TX
1999	Abstract Review Committee, "Chronic Renal Failure/Pathophysiology", American Society of Nephrology annual meeting, Miami, FL
1999	Session Moderator, "Progressive Renal Injury: Genetic Factors, Mechanisms and Therapy", American Society of Nephrology annual meeting, Miami, FL
1999-07	Steering Committee, NIH Consortium for the Genetic Regulation of Chronic Renal Disease (FIND Study), Bethesda, MD
1999-04	Protocol Committee, NIH Consortium for the Genetic Regulation of Chronic Renal Disease (FIND Study), Bethesda, MD
1999-07	Vice-Chairman, Publication Committee, NIH Consortium for the Genetic Regulation of Chronic Renal Disease (FIND Study), Bethesda, MD
2000-05	Chairman, Recruitment Committee, NIH Consortium for the Genetic Regulation of Chronic Renal Disease (FIND Study), Bethesda, MD
2000-01	Member, Southern and Ohio Valley Peer Review Committee, American Heart Assoc, Atlanta, GA; Tampa, FL
2000-03	Member, National Peer Review Committee, Cardio-Renal Section, American Heart Assoc, Dallas, TX
2000	Session Moderator, Basic Science Symposium, "Molecular Control of Inflammation and Fibrogenesis", American Society of Nephrology annual meeting, Toronto, ONT
2001	Ad hoc reviewer, NIH Study Section, "Mouse Models of Diabetic Complications Consortium" RFA, Bethesda, MD
2001-03	American Society of Nephrology Clinical Science Committee
2002	Abstract Review Committee, "Chronic Renal Failure/Basic", American Society of Nephrology annual meeting, Philadelphia, PA
2003	Abstract Review Committee, "Basic Experimental Immunology", American Society of Nephrology annual meeting, San Diego, CA
2003-07	Ad hoc reviewer, Juvenile Diabetes Research Foundation International, New York, NY

- 2004-05 Ad hoc reviewer, NIH Study Section ZRG1 HOP-Q, “Epidemiology of Diabetes and Kidney Diseases”
- 2004 Ad hoc reviewer, National Kidney Foundation of Western Pennsylvania
- 2004 Ad hoc reviewer, National Kidney Foundation of the Virginias
- 2004 Ad hoc reviewer, Austrian Science Fund (FWF)
- 2005-08 Member, National Kidney Foundation Fellowship and Young Investigator Grants Review Committee, Chicago, IL
- 2005 American Society of Nephrology Nominating Committee
- 2006 Ad hoc reviewer, NIH Renal & Urological Sciences-B Special Emphasis Panel, ZRG1 RUS-B (02)
- 2006-08 Ad hoc reviewer, National Science Foundation, Arlington, VA
- 2006 Session Moderator, Clinical Science Symposium, “Update on Diabetes and the Kidney”, American Society of Nephrology annual meeting, San Diego, CA
- 2006 Session Moderator, Basic Science Symposium, “Death by Design: Autophagy in Health and Disease”, American Society of Nephrology annual meeting, San Diego, CA
- 2006 Abstract Review Committee, “Pathophysiology of Renal Disease: Diabetes Mellitus: Basic”, American Society of Nephrology annual meeting, San Diego, CA
- 2006 Ad hoc reviewer, NIH Study Section, “Genetic Association Information Network” RFA, Bethesda, MD
- 2007- Editorial Board Member, *Am J Physiol Renal Physiol*
- 2007 Ad hoc reviewer, Australian National Health and Medical Research Council grant review committee, Sydney, AUS
- 2007 Ad hoc reviewer, North West Cancer Research Fund, Liverpool, UK
- 2007 Session Moderator, Basic and Clinical Science Symposium, “Genetic Epidemiology/Gene Mapping-Common Kidney Diseases (Complex Traits)”, American Society of Nephrology annual meeting, San Francisco, CA
- 2007 Session Moderator, Basic and Clinical Science Symposium, “Novel Mediator Systems and Their Regulatory Potential in Diabetic Nephropathy”, American Society of Nephrology annual meeting, San Francisco, CA
- 2009 Ad hoc reviewer, NIH Special Emphasis Panel ZDK1 GRB-S (M3), “Ancillary Studies to Major Ongoing NIDDK and NHLBI Clinical Research Studies (R01)”
- 2009 Program Subcommittee – Acute and Chronic Complications of Diabetes, Nephropathy, American Diabetes Association, 69th Annual Scientific Sessions, New Orleans, LA
- 2009 Abstract Review Committee, American Diabetes Association annual meeting, New Orleans, LA
- 2009 Session Moderator, “Clinical Update in Diabetic Nephropathy”, American Diabetes Association annual meeting, New Orleans, LA
- 2009 Ad hoc reviewer, Nephcure Foundation study section
- 2009 Ad hoc reviewer, NIH Special Emphasis Panel ZDK1 GRB-R (M3) 1, “Ancillary Studies to Major Ongoing NIDDK and NHLBI Clinical Research Studies (R01)”
- 2009 Ad hoc reviewer, ZRG1-DKUS-A 58, NIH Challenge grants
- 2009 Abstract Review Committee, “Diabetic Nephropathy: Clinical”, American Society of Nephrology annual meeting, San Diego, CA
- 2009 Ad hoc reviewer, ZDK1 GRB-W 02 1, "Seeding Collaborative Interdisciplinary Team Science in Diabetes, Endocrinology, and Metabolic Diseases (R24)"
- 2009 Session Moderator, Basic Science Symposium, “Beyond SNPs: Novel functional genetic polymorphisms and human disease”, American Society of Nephrology annual meeting, San Diego, CA

- 2009 Ad hoc reviewer, NIH Special Emphasis Panel ZDK1 GRB-9 (J2), "Ancillary Studies to Major Ongoing NIDDK and NHLBI Clinical Research Studies (R01)"
- 2009 Ad hoc reviewer, Alberta Heritage Foundation for Medical Research Clinician Investigator Advisory Committee
- 2010 Judge, National Kidney Foundation Young Investigators Forum research competition, Orlando, FL
- 2010 Ad hoc reviewer, NIH Special Emphasis Panel ZDK1 GRB-G M4 1, NIDDK Ancillary R01 Application Review
- 2011 Abstract Review Committee, American Diabetes Association annual meeting, San Diego, CA
- 2011 Program Committee, American Society of Nephrology annual meeting, Philadelphia, PA

Journal Reviews (10-20 per year): *Am J Epidemiol, Am J Kidney Dis, Am J Nephrol, Am J Pathol, Am J Physiol Cell Physiol, Am J Physiol Renal Physiol, Cell Death Differ, Circulation, Circ Res, Diabetes, Diabetologia, Exp Cell Res, Gene, J Am Soc Nephrol, J Biol Chem, J Clin Invest, J Hosp Med, Kidney Int, Lancet, Mol Biol Cell, Nephron Exp Nephrol, Oncogene, Physiol Genomics, PLoS One, Proc Natl Acad Sci USA*

Local Service

- 1995-97 Kidney Foundation of Ohio Grant Review Committee
- 1995 Community Dialysis Center Grant Review Committee
- 1995-07 Rammelkamp Center Research Seminar Organizer
- 1996-06 Kidney Foundation of Ohio Medical Advisory Board, Vice-Chairman (2003-04), Chairman (2005-06)
- 1997 MetroHealth Medical Center Lecture Series with Lincoln High School, "The Kidney"
- 1999 Navigator Lecture Series, "The Future of Medical Research"
- 1999-04 Chester Scholars Selection Committee
- 1999-03 Rammelkamp Center Executive Committee
- 2000-03 Police Athletic League Hypertension and Diabetes Screening Program
- 2001- Research Committee, Diabetes Association of Greater Cleveland
- 2001-07 Career/Promotion Advisory Committee, Katherine MacRae Dell, M.D., Division of Nephrology, Department of Pediatrics, Case Western Reserve University
- 2002 Dermatology Chair Search Committee, MetroHealth System
- 2004 Research Committee, Department of Medicine, MetroHealth System
- 2005 Chairman, General Internal Medicine Chair Search Committee, MetroHealth System
- 2005-08 Lecture Committee, Case Western Reserve University School of Medicine
- 2006 Hypertension screening, Central Bible Baptist Church Community Block Party
- 2006 Nutrition, Wellness and Kidney Disease, MOTTEP Mini-Teen Summit, Boys and Girls Club of Cleveland
- 2007-08 Teaching Up, Health First project leader, Kidney Foundation of Ohio
- 2007 Blood pressure screening, Martin Luther King Community Center
- 2007- Vice-Chair, Board of Directors, Kidney Foundation of Ohio
- 2007-10 Committee on Appointment, Promotion and Tenure, Case Western Reserve University School of Medicine, MetroHealth System subcommittee
- 2008 Men's Health Screening, Cleveland Heights Community Center
- 2008- Advisory Committee, Physician-Scientist program, The MetroHealth System
- 2009 City Mission Health Fair screening and education
- 2009 Blood pressure screening, Sherwin-Williams Health Fair
- 2009-12 Board of Directors and Research Committee Chairman, Diabetes Association of Greater Cleveland

- 2010- Board of Directors, Dietrich Diabetes Research Institute
- 2010- Executive Committee, Diabetes Association of Greater Cleveland
- 2010- Career/Promotion Advisory Committee, Suma Prakash, M.D., Division of Nephrology, Case Western Reserve University
- 2010 United Way Health Fair volunteer, Nationwide Insurance Enterprises, Highland Hills, OH

Peer-Reviewed Publications

1. **Schelling JR**, Howard RL, Winter SD, Linas SL. Increased osmolal gap in alcoholic ketoacidosis and lactic acidosis. *Ann Intern Med* 113:580-582, 1990.
2. Ullian ME, **Schelling JR**, Linas SL. Aldosterone enhances angiotensin II receptor binding and inositol phosphate responses. *Hypertension* 20:67-73, 1992.
3. **Schelling JR**, Hanson AS, Marzec R, Linas SL. Cytoskeleton-dependent endocytosis is required for apical type 1 angiotensin II receptor-mediated activation of phospholipase C in cultured rat proximal tubule cells. *J Clin Invest* 90:2472-2480, 1992.
4. **Schelling JR**, Baum KF, Teitelbaum I. Didanosine administration in an HIV-positive renal transplant patient. *Am J Kidney Dis* 22:60-63, 1993.
5. **Schelling JR**, Linas SL. Angiotensin II-dependent proximal tubule sodium transport requires receptor-mediated endocytosis. *Am J Physiol* 266:C669-C675, 1994.
6. **Schelling JR**, DeLuca DJ, Konieczkowski M, Marzec R, Sedor JR, Dubyak GR, Linas SL. Glucocorticoid uncoupling of angiotensin II-dependent phospholipase C activation in vascular smooth muscle cells. *Kidney Int* 46:675-682, 1994.
7. **Schelling JR**, Singh H, Marzec R, Linas SL. Angiotensin II-induced proximal tubule sodium transport is mediated by cyclic AMP modulation of phospholipase C. *Am J Physiol* 267:C1239-C1245, 1994.
8. **Schelling JR**, Gentry DJ, Dubyak GR. Annexin II inhibition of G protein-regulated inositol trisphosphate formation in rat aortic smooth muscle. *Am J Physiol* 270:F682-F690, 1996.
9. **Schelling JR**, Nkemere N, Konieczkowski M, Martin KA, Dubyak GR. Angiotensin II activates the $\beta 1$ isoform of phospholipase C in vascular smooth muscle cells. *Am J Physiol* 272:C1558-C1556, 1997.
10. **Schelling JR**, Ghandour F, Strickland TJ, Sedor J. Treatment of tumor lysis syndrome with standard continuous arteriovenous hemodialysis. *Ren Fail* 20:635-644, 1998.
11. **Schelling JR**, Nkemere N, Kopp JB, Cleveland RP. Fas-dependent fratricidal apoptosis is a mechanism of tubular epithelial cell deletion in chronic renal failure. *Lab Invest* 78:813-824, 1998.
12. Huang S, Konieczkowski M, **Schelling JR**, Sedor JR. Interleukin-1 stimulates Jun N-terminal/stress-activated protein kinase by an arachidonate-dependent mechanism in mesangial cells. *Kidney Int* 55:1740-1749, 1999.
13. **Schelling JR**, Cleveland RP. Involvement of Fas-dependent apoptosis in renal tubular epithelial cell deletion in chronic renal failure. *Kidney Int* 56:1313-1316, 1999.
14. Singh R, Shirvaikar A, Wang B, Khan S, Kamat S, **Schelling JR**, Konieczkowski M, Sedor JR. The IL-1 receptor and Rho directly associate to drive cell activation in inflammation. *J Clin Invest* 103:1561-1570, 1999.
15. Khan S, Cleveland RP, Koch C, **Schelling JR**. Hypoxia induces Fas-dependent renal tubular epithelial cell apoptosis in chronic renal failure. *Lab Invest* 79:1089-1099, 1999.
16. **Schelling JR**. Fatal hypermagnesemia. *Clin Nephrol* 53:61-65, 2000.
17. El-Meanawy MA, **Schelling JR**, Pozuelo F, Churpek MM, Ficker EK, Iyengar S, Sedor JR. Use of serial analysis of gene expression to generate kidney expression libraries. *Am J Physiol Renal Physiol* 279:F383-F392, 2000.

18. Covic A, **Schelling JR**, Iyengar S, Sedor JR. Plasma C-peptide concentration does not discriminate between type I and type II diabetes in the context of end stage renal disease. *Kidney Int* 58:1742-1750, 2000.
19. Zarif L, Covic A, Iyengar S, Sehgal AR, Sedor JR, **Schelling JR**. Inaccuracy of clinical phenotyping parameters for hypertensive nephrosclerosis. *Nephrol Dial Transplant* 15: 1801-1807, 2000.
20. Covic AMC, Iyengar SK, Olson JM, Sehgal AR, Constantiner M, Jedrey J, Kara M, Sabbagh E, Sedor JR, **Schelling JR**. A family-based strategy to identify genes for diabetic nephropathy. *Am J Kidney Dis* 37:638-647, 2001.
21. Khan S, Konieczkowski M, Koepke A, Jarad G, Schlessman K, Wang B, **Schelling JR**. Apoptosis and JNK activation are differentially regulated by Fas expression level in renal tubular epithelial cells. *Kidney Int* 60:65-76, 2001.
22. Miao H, Wei B-R, Peehl DM, Li Q, Alexandrou T, **Schelling JR**, Rhim JS, Sedor JR, Burnett E, Wang B. Activation of EphA receptor tyrosine kinase inhibits Ras/MAPK pathway. *Nat Cell Biol* 3:527-530, 2001.
23. Jarad G, Wang B, Miao H, Khan S, Wu K, DeVore J, Nishimura SL, Wible BA, Konieczkowski M, Sedor JR, **Schelling JR**. Fas activation induces renal tubular epithelial cell $\beta 8$ integrin expression and function in the absence of apoptosis. *J Biol Chem* 277:47826-47833, 2002.
24. Wu KL, Khan S, Lakhe-Reddy S, Wang L, Jarad G, Miller RT, Konieczkowski M, Brown AM, Sedor JR, **Schelling JR**. Renal tubular epithelial cell apoptosis is associated with caspase cleavage of the NHE1 Na^+/H^+ exchanger. *Am J Physiol Renal Physiol* 284: F829-F839, 2003.
25. Iyengar SK, Fox KA, Schachere M, Manzoor F, Slaughter ME, Covic AM, Orloff SM, Hayden PS, Olson JM, **Schelling JR**, Sedor JR. Linkage analysis of candidate loci for end stage renal disease due to diabetic nephropathy. *J Am Soc Nephrol* 14:S195-S201, 2003.
26. The Family Investigation of Nephropathy and Diabetes Research Group. Genetic determinants of diabetic nephropathy: The Family Investigation of Nephropathy and Diabetes (FIND). *J Am Soc Nephrol* 14:S202-S204, 2003.
27. Srichai MB, Konieczkowski M, Barathan S, Hayden PS, Khan S, Mundel P, Lee SB, Bruggeman LA, **Schelling JR**, Sedor JR. WT1-interacting protein (WTIP). Molecular cloning, expression and regulation of podocyte phenotype by shuttling between adhesion structures and nucleus. *J Biol Chem* 279:14398-14408, 2004.
28. Jarad G, Lakhe-Reddy S, Blatnick J, Koepke M, Khan S, El-Meanawy MA, O'Connor AS, Sedor JR, **Schelling JR**. Renal phenotype is exacerbated in *Os* and *lpr* double mutant mice. *Kidney Int* 66:1029-1035, 2004.
29. Wu KL, Khan S, Lakhe-Reddy S, Jarad G, Obejero-Paz CA, Mukherjee A, Konieczkowski M, Sedor JR, **Schelling JR**. The NHE1 Na^+/H^+ exchanger recruits ERM proteins to regulate Akt-dependent cell survival. *J Biol Chem* 279:26280-26286, 2004.
30. Knowler WC, Coresh J, Elston RC, Freedman BI, Iyengar SK, Kimmel PL, Olson JM, Plaetke R, Sedor JR, Seldin MF; Family Investigation of Nephropathy and Diabetes Research Group. The Family Investigation of Nephropathy and Diabetes (FIND): Design and methods. *J Diabetes Complications* 19:1-9, 2005.
31. Orloff MS, Iyengar SK, Briggs W, Dart R, Korbet S, Mokryzcki M, Kimmel P, Ahuja T, Berns J, Simon E, Trachtman H, Michel M, Vlahov D, Winkler C, Goddard K, **Schelling JR**, Sedor JR, Kopp JB. Variants in the Wilms tumor gene mediate focal and segmental glomerulosclerosis in an African American population. *Physiol Genomics* 21:212-221, 2005.
32. Constantiner M, Sehgal AR, Humbert L, Arce L, Constantiner D, Sedor JR, **Schelling JR**. A dipstick protein and specific gravity algorithm accurately predicts pathologic proteinuria. *Am J Kidney Dis* 45:833-841, 2005.

33. Rico M, Mukherjee A, Konieczkowski M, Khan S, **Schelling JR**, Sedor JR. WT1-interacting protein and ZO-1 translocate into podocyte nuclei after PAN treatment: Translating cell junction disassembly into altered gene expression. *Am J Physiol Renal Physiol* 289:F431-F441, 2005.
34. Ziembicki J, Tandon R, **Schelling JR**, Sedor JR, Miller RT, Huang C. Mechanical force-activated phospholipase D is mediated by G_{α12/13}-Rho and calmodulin-dependent kinase in renal epithelial cells. *Am J Physiol Renal Physiol* 289:F826-F834, 2005.
35. Lakhe-Reddy S, Khan S, Konieczkowski M, Jarad G, Wu KL, Reichardt LF, Takai Y, Bruggeman LA, Wang B, Sedor JR, **Schelling JR**. β8 integrin binds RhoGDI-1 and activates Rac1 to inhibit mesangial cell myofibroblast differentiation. *J Biol Chem* 281:19688-19699, 2006.
36. Khan S, Wu KL, Sedor JR, Abu Jawdeh BG, **Schelling JR**. The NHE1 Na⁺/H⁺ exchanger regulates cell survival by activating and targeting ezrin to specific plasma membrane domains. *Cell Mol Biol* 52:115-121, 2006.
37. Tandon R, Levental I, Huang C, Byfield F, Ziembicki J, **Schelling JR**, Bruggeman LA, Sedor JR, Janmey P, Miller RT. HIV infection changes glomerular podocyte cytoskeletal composition and results in distinct cellular mechanical properties. *Am J Physiol Renal Physiol* 292:F701-F710, 2007.
38. Iyengar SK, Abboud HE, Goddard KA, Saad MF, Adler SG, Arar NH, Bowden DW, Duggirala R, Elston RC, Hanson RL, Ipp E, Kao L, Kimmel PL, Klag MJ, Knowler WC, Nelson RG, Nicholas SB, Pahl MV, Parekh RS, Rasooly RS, Rich SS, Scavini M, **Schelling JR**, Sedor JR, Sehgal AR, Shah VO, Smith MW, Winkler CA, Zager PG, Freedman BI, on behalf of the Family Investigation of Nephropathy and Diabetes Research Group: Genome-wide scans for diabetic nephropathy and albuminuria in multi-ethnic populations: The FIND Study. *Diabetes* 56:1577-1585, 2007.
39. McKenzie LM, Hendrickson SL, Briggs WA, Dart RA, Korbet SM, Mokrzycki MH, Kimmel PL, Ahuja TS, Berns JS, Simon EE, Smith MC, Trachtman H, Michel DM, **Schelling JR**, Cho M, Zhou YC, Binns-Roemer E, Kirk GD, Kopp JB, Winkler CA. NPHS2 variation in sporadic focal segmental glomerulosclerosis. *J Am Soc Nephrol* 18:2987-2995, 2007.
40. Bleyer AJ, Sedor JR, Freedman BI, Iyengar SK, O'Brien A, Russell G, **Schelling JR**. Risk factors for development and progression of diabetic kidney disease and treatment patterns among diabetic siblings of diabetic patients with kidney failure treated by dialysis. *Am J Kidney Dis* 51:29-37, 2008.
41. **Schelling JR**, Abboud HE, Nicholas SB, Pahl MV, Sedor JR, Adler SG, Arar NH, Bowden DW, Duggirala R, Freedman BI, Goddard KAB, Hanson RL, Ipp E, Iyengar SK, Jun G, Kao WHL, Kimmel PL, Klag MJ, Knowler WC, Nelson RG, Parekh RS, Quade SR, Rich SS, Saad MF, Scavini M, Smith MW, Taylor K, Winkler CA, Wang D, Zager PG, Shah VO, on behalf of the Family Investigation of Nephropathy and Diabetes Research Group. Genome-wide scans for estimated GFR in multi-ethnic diabetic populations: The Family Investigation of Diabetes and Nephropathy. *Diabetes* 57:235-243, 2008.
42. Arar NH, Freedman BI, Adler SG, Iyengar SK, Chew EY, Davis MD, Satko SG, Bowden DW, Duggirala R, Elston RC, Guo X, Hanson RL, Igo RP, Ipp E, Kimmel PL, Knowler WC, Molineros J, Nelson RG, Pahl MV, Quade SRE, Rasooly RS, Rotter J, Saad MF, Scavini M, **Schelling JR**, Sedor JR, Shah VO, Zager PG, and Abboud HE, on behalf of the Family Investigation of Nephropathy and Diabetes Research Group. Heritability of the Severity of Diabetic Retinopathy: The FIND-Eye Study. *Invest Ophthalmol Vis Sci* 49:3839-3845, 2008.
43. Kopp JB, Smith MW, Johnson RC, Freedman BI, Bowden DW, Oleksyk T, McKenzie LM, Ahuja TS, Cho ME, Dart RA, Kimmel PL, Korbet SM, Michael DM, Mokrzycki MH, **Schelling JR**, Simon E, Trachtman H, Vlahou D, Kajiyama H, Nelson GW, Winkler CW. MYH9 is a major-effect risk gene for focal segmental glomerulosclerosis. *Nat Genet* 40:1175-1184, 2008.

44. Kao WHL, Klag MJ, Meoni LA, Reich D, Bertier-Schaad Y, Li M, Coresh J, Patterson N, Powe NR, Fink NE, Sadler J, Weir M, Adler S, Kamp K, Kohn OF, Leehey DJ, Nicholas S, Pahl M, **Schelling JR**, Sedor JR, Thornley-Brown D, Winkler C, Smith MW, Parekh RS. *MYH9* is associated with nondiabetic end-stage renal disease in African Americans. *Nat Genet* 40:1185-1192, 2008.
45. Malhotra A, Igo R, Thameem F, Kao WHL, Abboud HE, Adler SG, Arar N, Bowden D, Duggirala R, Freedman BI, Goddard KAB, Ipp E, Iyengar S, Kimmel P, Knowler WC, Kohn O, Leehey D, Meoni L, Nelson RG, Nicholas SB, Parekh RS, Rasooly R, Rich SS, Rotter JI, Saad MF, Scavini M, **Schelling JR**, Sedor JR, Shah V, Taylor KD, Thornley-Brown D, Zager PG, Zaletel E, Hanson RL, on behalf of the Family Investigation of Nephropathy and Diabetes Research Group. Genome-wide linkage scans for type 2 diabetes mellitus in four ethnically diverse populations; significant evidence for linkage on chromosome 4q in African Americans: the Family Investigation of Nephropathy and Diabetes (FIND) Research Group. *Diab Metab Res Rev* 25:740-747, 2009.
46. Kim JH, Konieczkowski M, Mukherjee M, Schectman S, Khan S, **Schelling JR**, Bruggeman LA, Ross MD, Sedor JR. Podocyte injury induces nuclear translocation of WT1-interacting protein via microtubule-dependent transport. *J Biol Chem* 285:9995-10004, 2010.
47. Houthouser K, Mandal A, Merchant ML, **Schelling JR**, Delamere NA, Valdes RR Jr., Tyagi SC, Lederer ED, Khundmiri SJ. Ouabain stimulates Na-K ATPase through sodium hydrogen exchanger-1 (NHE-1) dependent mechanism in human kidney proximal tubule cells. *Am J Physiol Renal Physiol* 299:F77-F90, 2010.
48. Khan S, Lakhe-Reddy S, McCarty JH, Sorenson CM, Sheibani N, Kim JH, Reichardt LF, Wang B, Sedor JR, **Schelling JR**. Mesangial cell $\alpha v \beta 8$ integrin provides glomerular endothelial cell cytoprotection by sequestering TGF- β and regulating PECAM-1. *Am J Pathol* 178:609-620, 2011.
49. El-Meanawy MA, **Schelling JR**, Iyengar SK, Drahotusky-Doding T, Hayden P, Barathan S, Goddard KA, Pozuelo F, Al-Ashi A, Sedor JR. Identification of nephropathy candidate genes by comparing the renal transcriptome between mouse strains. *Am J Physiol Renal Physiol*, in revision.
50. Lu L, Sedor JR, Gulani, V, **Schelling JR**, O'Brien A, Flask CA, Dell KM. Imaging diabetic kidneys with diffusion tensor MRI: An opportunity to non-invasively monitor disease progression. *Clin J Am Soc Nephrol*, submitted.
51. Igo RP Jr., Iyengar SK, Nicholas SB, Goddard KAB, Langefeld C, Hanson RL, Duggirala R, Divers J, Abboud H, Adler SG, Arar NH, Horvath A, Elston RC, Ipp E, Kao WHL, Kimmel PL, Knowler WC, Meoni LA, Molineros J, Nelson RG, Pahl MV, Parekh RS, Rasooly RS, **Schelling JR**, Sedor JR, Shah VO, Smith MW, Winkler CA, Zager PG, Freedman BI, on behalf of the Family Investigation of Nephropathy and Diabetes Research Group. Genomewide linkage scan for diabetic renal failure and albuminuria: The FIND Study. *Am J Nephrol*, submitted.
52. Abu Jawdeh BG, Khan S, Goel M, Babcock G, Lock JT, Lakhe-Reddy S, DeCaro G, Yadav SP, Schilling WP, Ficker E, **Schelling JR**. Phosphoinositide binding differentially regulates NHE1 Na⁺/H⁺ exchanger-dependent proximal tubule cell survival. *J Biol Chem*, in revision.
53. Rahman M, Rader DJ, **Schelling JR**, Alper AB, Akkina S, Anderson AH, Appel L, Appleby D, Balaram M, Glenn M, He J, Raj D, Yang WP, on behalf of the CRIC Study. Lipoproteins and progression of kidney disease. In preparation.
54. Kopp JB, Nelson G, Johnson R, Genovese G, An P, Briggs W, Dart R, Korbet S, Mokryzcki M, Kimmel P, Ahuja TS, Berns JS, Simon E, Smith MC, Trachtman H, Michel DM, **Schelling JR**, Vlahov D, Pollak M, Winkler C. *APOLI* genetic variation and the risk for focal segmental glomerulosclerosis and HIV-associated collapsing glomerulopathy. *Lancet*, submitted.

55. Mishra R, Chen J, Cuevas M, DeFilippi C, Go A, He J, Kallem K, Keane M, Raj D, Ricardo A, Rosen L, **Schelling JR**, Wright JT, Yang WP, on behalf of the CRIC Study. Association of NT-proBNP and BNP with left ventricular structure and function in CKD. In preparation.

Reviews, Book Chapters, Editorials

1. **Schelling JR**, Linas SL. Hepatorenal syndrome. *Semin Nephrol* 10:565-570, 1990.
2. **Schelling JR**, Linas SL. Osmolality – Response. *Ann Intern Med* 114:337-338, 1991.
3. **Schelling J**, Linas S. Hypertension. In Parsons PE, Wiener-Kronish JP (eds): *Critical Care Secrets*. Hanley and Belfus, Philadelphia, 1992, pp 194-196.
4. **Schelling J**, Berl T. Acute renal failure. In Schrier RW (ed): *The Internal Medicine Case Book*. Little, Brown, Boston, 1994, pp 349-355.
5. **Schelling JR**, Sedor JR. Evaluation of the patient with nephrotic syndrome. In Kelley WN (ed): *Textbook of Internal Medicine*. Lippincott, Philadelphia, 1996, pp 909-914.
6. **Schelling JR**, Sedor JR. Influence of cytokines on the renal circulation and nephron function. In Ronco and Bellomo (eds): *Critical Care in Nephrology*. Kluwer, Dordrecht/Boston/ London, 1998, pp. 503-515.
7. **Schelling JR**. Renal biopsy. In Hricik D, Sedor JR, Ganz MB (eds): *Nephrology Secrets*. Hanley and Belfus, Philadelphia, 1999, pp. 20-22.
8. **Schelling JR**. Asymptomatic proteinuria. In Hricik D, Sedor JR, Ganz MB (eds): *Nephrology Secrets*. Hanley and Belfus, Philadelphia, 1999, pp. 42-44.
9. **Schelling JR**. Asymptomatic hematuria. In Hricik D, Sedor JR, Ganz MB (eds): *Nephrology Secrets*. Hanley and Belfus, Philadelphia, 1999, pp. 45-47.
10. **Schelling JR**. Diabetic nephropathy. In Hricik D, Sedor JR, Ganz MB (eds): *Nephrology Secrets*. Hanley and Belfus, Philadelphia, 1999, pp. 87-90.
11. **Schelling JR**, Sedor JR. Approach to the patient with proteinuria and nephrotic syndrome. In Kelley WN (ed): *Textbook of Internal Medicine*. Lippincott, Philadelphia, 2000, pp. 1098-1105.
12. **Schelling JR**, Zarif L, Sehgal A, Iyengar S, Sedor JR. Genetic susceptibility to end stage renal disease. *Curr Opin Nephrol Hypertens* 8:465-472, 1999.
13. **Schelling JR**, Sedor JR. Is care for veterans sufficient? *The Cleveland Plain Dealer*, Sunday, Feb 4, 2001, p. 4G.
14. Iyengar SK, **Schelling JR**, Sedor JR. Approaches to understanding susceptibility to nephropathy: From genetics to genomics. *Kidney Int* 61(S1):61-67, 2002.
15. **Schelling JR**, El-Meanawy MA, Barathan S, Dodig T, Iyengar SK, Sedor JR. Generation of the kidney transcriptome using serial analysis of gene expression (SAGE). *Exp Nephrol* 10:82-92, 2002.
16. **Schelling JR**, Sinha S, Konieczkowski M, Sedor JR. Myofibroblast differentiation: Specialized membrane domains and cell phenotype. *Exp Nephrol* 10:313-319, 2002.
17. Sedor JR, **Schelling JR**. Get screened for kidney disease. *The Cleveland Plain Dealer*, Sunday, Sept 15, 2002, p. 4H.
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19. **Schelling JR**, Tamarkin S. Renal biopsy. In Hricik D, Miller RT, Sedor JR (eds): *Nephrology Secrets*. Hanley and Belfus, Philadelphia, 2003, pp. 21-24.
20. **Schelling JR**. Hepatorenal syndrome. In Hricik D, Miller RT, Sedor JR (eds): *Nephrology Secrets*. Hanley and Belfus, Philadelphia, 2003, pp. 44-47.
21. **Schelling JR**. Asymptomatic proteinuria and hematuria. In Hricik D, Miller RT, Sedor JR (eds): *Nephrology Secrets*. Hanley and Belfus, Philadelphia, 2003, pp. 51-55.

22. Zipp T, **Schelling JR**. Diabetic nephropathy. In Hricik D, Miller RT, Sedor JR (eds): *Nephrology Secrets*. Hanley and Belfus, Philadelphia, 2003, pp. 105-108.
23. **Schelling JR**. Continuous renal replacement therapy. In Hricik D, Miller RT, Sedor JR (eds): *Nephrology Secrets*. Hanley and Belfus, Philadelphia, 2003, pp. 186-189.
24. El-Meanawy MA, **Schelling JR**, Barathan S, Iyengar SK, Sedor JR. Serial analysis of gene expression (SAGE). In Goligorsky MS (ed): *Methods in Molecular Medicine: Renal Disease. Guide to Technical Approaches*. Humana, Totowa, Volume 86, Chapter 17, 2003, pp.257-74.
25. Hayden PS, El-Meanawy MA, **Schelling JR**, Sedor JR. DNA expression analysis: SAGE (serial analysis of gene expression), microarrays and kidney disease. *Curr Opin Nephrol Hypertens* 12:407-414, 2003.
26. Jarad G, Simske JS, Sedor JR, **Schelling JR**. Nucleic acid-based techniques for post-transcriptional regulation of molecular targets. *Curr Opin Nephrol Hypertens* 12:415-421, 2003.
27. **Schelling JR**, Sedor JR. The metabolic syndrome as a risk factor for chronic kidney disease – More than a fat chance? *J Am Soc Nephrol* 15:2773-2774, 2004.
28. O'Connor AS, **Schelling JR**. Diabetes and the kidney. *Am J Kidney Dis* 46:766-773, 2005.
29. Sedor JR, **Schelling JR**. Association of metabolic syndrome in non-diabetic patients with increased risk for chronic kidney disease: The fat lady sings. *J Am Soc Nephrol* 16:1880-1882, 2005.
30. Waldman M, **Schelling JR**, Chung-Park M, Madaio MP, Sedor JR. Immune-mediated and other glomerular diseases. In Alpern R and Hebert S (eds): *The Kidney: Physiology and Pathophysiology*. Raven, New York, Chapter 84, 2007, pp. 2399-2446.
31. **Schelling JR**. The future in the past: Looking at heredity's role in diabetes-related kidney disease. *Diabetes Forecast* 61:95-96, 2008.
32. **Schelling JR**, Abu Jawdeh BG. Regulation of cell survival by Na⁺/H⁺ exchanger-1 (NHE1). *Am J Physiol Renal Physiol* 295:F625-F632, 2008.
33. **Schelling JR**. Tissue transglutaminase inhibition as treatment for diabetic glomerulosclerosis: It's good to be glueless. *Kidney Int* 76:363-365, 2009.
34. Abu Jawdeh BG, Kanso AA, **Schelling JR**. Evidence-based approach for prevention of radiocontrast-induced nephropathy. *J Hosp Med* 4:500-506, 2009.
35. Drawz PE, **Schelling JR**. Albuminuria in Hispanic populations: Not so black and white. *Circ Cardiovasc Genet* 3:223-225, 2010.
36. Sedor JR, **Schelling JR**, Madaio MP. Immune-mediated and other glomerular diseases. In Alpern R and Hebert S (eds): *The Kidney: Physiology and Pathophysiology*. Raven, New York, in press.

Grant Support

Principal Investigator (Current)

Source: NIH R01 DK072348

Title: Mechanisms of glomerular disease progression

Dates: 7-1-08 to 4-30-13

Total Direct Costs: \$1,062,500

Source: NIH R01 DK067528

Title: Mechanisms of tubular atrophy in renal disease

Dates: 8-1-05 to 7-31-11

Total Direct Costs: \$1,056,000

Co-Investigator (Current)

Source: NIH 2 U01 DK061021 (M. Rahman, PI)
Title: Chronic renal insufficiency cohort (CRIC) study
Dates: 7-1-09 to 4-30-13
Total Direct Costs: \$2,988,904

Source: NIH 2T32 DK07470 (J.R. Sedor, PI)
Title: Case Western Reserve University Fellowship Training Grant
Dates: 7-1-09 to 6-30-14
Total Direct Costs: \$823,482

Principal Investigator (Completed)

Source: NIH F32 DK08465
Title: Bipolar proximal tubule angiotensin II receptors
Dates: 11-1-90 to 8-31-92
Total Direct Costs: \$54,430

Source: Leonard C. Rosenberg Renal Research Foundation
Title: Glucocorticoid effects on angiotensin II receptor function
Dates: 1-93 to 6-95
Total Direct Costs: \$18,150

Source: Kidney Foundation of Ohio
Title: Glucocorticoid inhibition of vascular smooth muscle angiotensin II receptor/signal coupling
Dates: 1-94 to 6-96
Total Direct Costs: \$15,000

Source: Kidney Foundation of Ohio
Title: Mechanisms of kidney tubule cell death in chronic renal failure
Dates: 1-97 to 6-97
Total Direct Costs: \$12,000

Source: National Kidney Foundation Young Investigator Grant
Title: Glucocorticoid effects on angiotensin II-dependent phospholipase C activation
Dates: 7-1-94 to 6-30-97
Total Direct Costs: \$49,800

Source: Kidney Foundation of Ohio
Title: mRNA expression profile in progressive renal disease
Dates: 1-99 to 6-99
Total Direct Costs: \$15,000

Source: NIH K08 DK02281
Title: Nuclear and plasma membrane angiotensin II signaling
Dates: 5-1-94 to 4-30-99
Total Direct Costs: \$376,954

Source: Juvenile Diabetes Foundation
Title: Genetic susceptibility to diabetic nephropathy
Dates: 9-1-98 to 8-31-01
Total Direct Costs: \$181,760

Source: Baxter Extramural Grant Program
Title: Genetic predisposition to diabetic nephropathy
Dates: 7-1-98 to 6-30-01
Total Direct Costs: \$60,000

Source: NIH P50 DK054178 Renal Research Center (J.R. Sedor, PI; J.R. Schelling, Project 2 PI)
Title: The role of apoptosis and tubular atrophy in chronic renal failure
Dates: 9-1-98 to 8-31-03
Total Direct Costs: \$477,636

Source: American Heart Association Established Investigator Grant
Title: Fas-dependent renal interstitial fibrosis
Dates: 1-1-99 to 12-31-02
Total Direct Costs: \$300,000

Source: NIH R01 DK59997
Title: Renal disease progression in African Americans
Dates: 9-3-02 to 5-31-08
Total Direct Costs: \$1,369,179

Source: American Diabetes Association 1-07-CR-56
Title: Regulation of diabetic nephropathy progression
Dates: 1-1-07 to 12-31-09
Total Direct Costs: \$599,883

Mentor (Completed)

Source: American Heart Association 0825593D (B.G. Abu Jawdeh, postdoctoral fellow)
Title: Mechanisms of divergent NHE1 function in renal tubule versus cardiac myocyte cells
Dates: 7/1/08 to 6/30/10
Total Direct Costs: \$88,000

Co-Investigator (Completed)

Source: Central Ohio Diabetes Association (S. Iyengar, P.I.)
Title: Genetic susceptibility for end stage renal disease among non-insulin-dependent diabetics
Dates: 2-98 to 1-99
Total Direct Costs: \$35,000

Source: Leonard C. Rosenberg Renal Research Foundation (S. Iyengar, P.I.)
Title: Genetic susceptibility to hypertensive nephrosclerosis
Dates: 2-98 to 1-99
Total Direct Costs: \$20,000

Source: American Heart Association (S. Iyengar, P.I.)
Title: Genetic susceptibility to end stage renal disease in hypertensives
Dates: 7-98 to 6-00
Total Direct Costs: \$64,500

Source: NIH U01 DK57329 (J.R. Sedor, PI)
Title: Genetic Regulation of Renal Disease Progression
Dates: 9-30-99 to 9-29-08
Total Direct Costs: \$2,050,000

Source: NIH R01 DK54644 (S.K. Iyengar, PI)
Title: Genetic susceptibility to end stage renal disease
Dates: 7-1-98 to 6-30-03
Total Direct Costs: \$838,361

Source: NIH P50 DK054178 Renal Research Center (J.R. Sedor, PI; S.K. Iyengar, Project 4 PI)
Title: Genetic susceptibility to ESRD
Dates: 9-1-98 to 8-31-03
Total Direct Costs: \$531,350

Source: NIH R01 DK064719 (J.R. Sedor, PI)
Title: Mechanisms of glomerular scarring
Dates: 9-1-03 to 6-30-09
Total Direct Costs: \$820,003

Source: Diabetes Association of Greater Cleveland (J.R. Sedor, PI)
Title: Mapping diabetic nephropathy genes
Dates: 1-1-08 to 12-31-09
Total Direct Costs: \$138,000

Invited Scientific Presentations

National/International

- 1992 West Coast Salt and Water Club Meeting, "Effects of Glucocorticoids on Angiotensin II-Mediated Phospholipase C Activation", Morro Bay, CA
- 1998 Gordon Research Conference on Angiotensin, "Regulation of Angiotensin II Signaling", Ventura, CA
- 1998 International Society of Nephrology: Forefronts in Nephrology, In and Out of Control: The Regulation of Renal Cell Growth, "Renal Tubule Epithelial Cell Apoptosis", Jackson Hole, WY
- 1999 Medical College of Ohio, Department of Medicine Grand Rounds, "Mechanisms of Progressive Renal Disease", Toledo, OH
- 1999 Baxter Annual Scientific Meeting, "Genetic Susceptibility to Hypertensive Nephrosclerosis and Type II Diabetic Nephropathy", Chicago, IL
- 2000 Baxter Annual Scientific Meeting, "Genetic Susceptibility to Diabetic Nephropathy", Chicago, IL
- 2002 International Summit on Kidney Disease Prevention, "A Family-Based Strategy to Identify Genes for Diabetic Nephropathy", Singapore
- 2002 University of Louisville, Nephrology Research Group, "Renal Tubular Epithelial Cell Apoptosis is Associated with Caspase Cleavage of the NHE1 Na⁺/H⁺ Exchanger", Louisville, KY
- 2002 University of Louisville, Division of Nephrology, "Genetic Susceptibility to Diabetic Nephropathy", Louisville, KY
- 2002 American Society of Nephrology Annual Meeting, Advances in Cell and Molecular Biology, "Use of dsRNA to Silence Genes", Philadelphia, PA
- 2003 Wright State University, Cell Volume and Signal Transduction Symposium, "The NHE1 Na⁺/H⁺ Exchanger is a Renal Tubular Epithelial Cell Survival Factor", Dayton, OH
- 2004 University of Virginia, Nephrology Grand Rounds, "NHE1 is a Cell Survival Protein", Charlottesville, VA
- 2005 Boston University, Nephrology Grand Rounds, "NHE1 is a Renal Tubular Epithelial Cell Survival Protein", Boston, MA

- 2005 Medical University of Ohio, Department of Pharmacology, "NHE1 is a Cell Survival Protein", Toledo, OH
- 2005 4th World Congress on Cellular and Molecular Biology "Molecular Mechanisms of Pump-, Channel-, and Transporter-Mediated Signal Transduction", Poitiers, France
- 2007 Experimental Biology meeting, American Physiological Society Cell Section, "Novel Aspects of NHE1 Regulation and Physiology: Regulation of Cell Survival by the NHE1 Na⁺/H⁺ Exchanger", Washington, DC
- 2007 University of California at Los Angeles, Renal Grand Rounds, "Genetic Regulation of Diabetic Nephropathy Progression", Los Angeles, CA
- 2007 University of California at Los Angeles, Research Seminar, "The NHE1 Na⁺/H⁺ Exchanger is a Tubular Epithelial Cell Survival Factor", Los Angeles, CA
- 2008 University of Pittsburgh, Nephrology Grand Rounds, "Regulation of Cell Survival by the NHE1 Na⁺/H⁺ Exchanger", Pittsburgh, PA
- 2008 American Society of Nephrology annual meeting, "Regulation of Ion Channels and Transporters by Intracellular Scaffolds - NHE1 Scaffold-Mediated Regulation of Apoptosis", Philadelphia, PA
- 2009 Wake Forest University, Medical Grand Rounds, "Chronic Kidney Disease and Cardiovascular Risk", Winston-Salem, NC
- 2009 Wake Forest University, Nephrology Grand Rounds, "Regulation of Tubular Epithelial Cell Survival by the NHE1 Na⁺/H⁺ Exchanger", Winston-Salem, NC
- 2010 University of New Mexico, Renal Grand Rounds, "Regulation of Proximal Tubule Cell Survival by the NHE1 Na⁺/H⁺ Exchanger", Albuquerque, NM
- 2010 University of Colorado – Professor's Rounds, "NHE1 Promotes Tubular Epithelial Cell Survival", Denver, CO

Local

- 1993 Renal Research Conference, University Hospitals of Cleveland, "Signal Transduction Pathways Through Angiotensin II Receptors"
- 1994 Renal Research Conference, University Hospitals of Cleveland, "Regulation of Angiotensin II Receptor Function in Vascular Smooth Muscle Cells"
- 1995 Rammelkamp Research Conference, MetroHealth Medical Center, "Glucocorticoid Regulation of Phospholipase C Signaling in Vascular Smooth Muscle Cells"
- 1998 Department of Cell Biology Research Seminar, Cleveland Clinic Foundation, "Renal Tubule Epithelial Cell Apoptosis"
- 2000 Department of Medicine Research Seminar, Wade Park V.A. Medical Center, "Renal Tubular Epithelial Cell Fas Function in Chronic Renal Disease Progression"
- 2001 Rammelkamp Research Conference, MetroHealth Medical Center, "Mechanisms of Progressive Tubular Atrophy in Chronic Renal Disease"
- 2002 Renal Research Conference, University Hospitals of Cleveland, "Mechanisms of Tubular Atrophy"
- 2003 Kidney Foundation of Ohio Renal Symposium, "Genetic Regulation of Progressive Renal Disease"
- 2004 Renal Research Conference, University Hospitals of Cleveland, "NHE1 is a Renal Tubular Epithelial Cell Survival Protein"
- 2004 Diabetes Association of Greater Cleveland Research Retreat, "Mesangial β 8 Integrin Modulates Glomerulosclerosis"
- 2004 Diabetes Association of Greater Cleveland Research Retreat, "Genetic Regulation of Diabetic Nephropathy Progression"

- 2004 Diabetes Association of Greater Cleveland Research Retreat, "The NHE1 Na⁺/H⁺ Exchanger is a Survival Factor in Diabetic Nephropathy"
- 2006 Renal Research Conference, University Hospitals of Cleveland, "Characterization of β 8 Integrin Function in the Kidney"
- 2006 Division of Clinical and Molecular Endocrinology Research Conference, University Hospitals of Cleveland, "Dependence on the NHE1 Na⁺/H⁺ Exchanger for Kidney Tubule Cell Survival"
- 2008 Department of Molecular Cardiology Seminar, Cleveland Clinic Foundation, " β 8 Integrin Regulation of Kidney Glomerular Function"
- 2008 Renal Research Conference, University Hospitals of Cleveland, "Mesangial Cell β 8 Integrin Regulates PECAM-1-Dependent Cytoprotective Surveillance of the Glomerular Endothelial Cell by Sequestering TGF- β "
- 2009 Rheumatology Grand Rounds, MetroHealth Medical Center, "NHE1 Regulates Renal Tubular Epithelial Cell Apoptosis"
- 2009 Renal Research Conference, University Hospitals of Cleveland, "A Phosphoinositide-Dependent On-Off Switch Regulates Na⁺/H⁺ Exchanger-1 (NHE1) Function in Renal Proximal Tubule Cells"
- 2011 Department of Chemistry Seminar, Cleveland State University, "Na⁺/H⁺ Exchanger-1 (NHE1) Provides Cytoprotection"
- 2011 Renal Research Conference, University Hospitals of Cleveland, "The NHE1 Na⁺/H⁺ Exchanger Provides Proximal Tubule Cytoprotection in the Context of CKD"

Educational and Clinical Service

Pre-Clinical Teaching

- 1991-92 University of Colorado School of Medicine, Renal Pathophysiology Small Group Instructor
- 1995-99 CWRU School of Medicine, Homeostasis II Renal Committee Lecture: "Renal Autocoids and Hormones" (1 hr lecture)
- 1995-07 CWRU School of Medicine, Homeostasis II Renal Committee Small Group Instructor, (16-24 hr in classroom per year)
- 1999-04 CWRU School of Medicine, Homeostasis I Renal Committee Lecture: "Renal Hormones in Disease Pathophysiology" (1 hr lecture)

Clinical Teaching

- 1992- Attending Physician, MHMC Nephrology Consult Service, 6-8 weeks per year (0-1 medical students, 2-4 medical residents, 1 renal fellow, 12 hr per month didactic teaching, 8-12 hr per month bedside teaching)
- 1992- Attending Physician, 4 weeks per year, MHMC General Medicine Service, (20 hr per month didactic teaching to medical students, 20 hr per month bedside teaching to 1-4 medical students and 4-8 medical residents)
- 2004- Acid-Base Basics, 3rd year medical student seminar, 3-4 times per year (1 hr lecture)

Graduate Medical Education

- 1988 Case Western Reserve University Hospitals Residents Rounds, "Magnesium Metabolism"
- 1988 University of Colorado Renal Grand Rounds, "Mechanisms of Distal Renal Tubular Acidosis"
- 1988 University of Colorado Renal Grand Rounds, "Radiocontrast-Induced Acute Renal Failure"
- 1989 University of Colorado Renal Grand Rounds, "Hyperuricemia and the Kidney",
- 1989 University of Colorado Renal Grand Rounds, "Kidney Donor Organ Preservation"

- 1989 University of Colorado Renal Grand Rounds, "Struvite Kidney Stones"
- 1989 University of Colorado Urology Grand Rounds, "Radiocontrast Nephrotoxicity"
- 1990 University of Colorado Renal Grand Rounds, "Hepatorenal Syndrome"
- 1990 University of Colorado Renal Grand Rounds, "Dietary Sodium and Essential Hypertension"
- 1991 University of Colorado Renal Grand Rounds, "Radiocontrast-Induced Acute Renal Failure"
- 1994 MetroHealth Medical Center Residents Rounds, "Hepatorenal Syndrome"
- 1995 MetroHealth Medical Center Residents Rounds, "Calcium and Magnesium Metabolism"
- 1995 MetroHealth Medical Center Residents Rounds, "Use of Urinary Anion Gap"
- 1996 MetroHealth Medical Center Residents Rounds, "Osmolar Gap in Anion Gap Metabolic Acidosis"
- 1997 CWRU Nephrology Fellowship core curriculum lecture, "Cytokines and Intracellular Signaling"
- 1998 CWRU Nephrology Fellowship core curriculum lecture, "Uremic Pericarditis"
- 1998 CWRU Nephrology Fellowship core curriculum lecture, "Molecular Biology Techniques"
- 1999 CWRU Nephrology Fellowship core curriculum lecture, "Molecular Biology Techniques"
- 1999 MetroHealth Medical Center Residents Rounds, "Current Concepts in Hypertension"
- 2000 CWRU Nephrology Fellowship core curriculum lecture, "Chronic Renal Disease Progression"
- 2001 MetroHealth Medical Center Residents Rounds, "Acute Renal Failure"
- 2001 CWRU Nephrology Fellowship core curriculum lecture, "Molecular Biology Techniques"
- 2002 CWRU Nephrology Fellowship core curriculum lecture, "Minimal Change Disease"
- 2002 CWRU Nephrology Fellowship core curriculum lecture, "Acute Renal Failure"
- 2003 CWRU Pulmonary Fellowship core curriculum lecture, "Acute Renal Failure"
- 2003 MetroHealth Medical Center Residents Rounds, "Acute Renal Failure"
- 2004 MetroHealth Medical Center Residents Rounds, "Acute Renal Failure"
- 2004 CWRU Nephrology Fellowship core curriculum lecture, "Acute Renal Failure"
- 2005 MetroHealth Medical Center Residents Rounds, "Acute Renal Failure"
- 2005 CWRU Nephrology Fellowship core curriculum lecture, "Acute Renal Failure"
- 2006 CWRU Pulmonary Fellowship core curriculum lecture, "Continuous Renal Replacement Therapy"
- 2006 MetroHealth Medical Center Residents Rounds, "Acute Renal Failure"
- 2006 CWRU Nephrology Fellowship core curriculum lecture, "Acute Renal Failure"
- 2006 CWRU Medical Student Clinical Correlation Conference, "Acid/Base Disturbances"
- 2007 CWRU Medical Student Clinical Correlation Conference, "Acid/Base Physiology"
- 2007 CWRU Nephrology Fellowship core curriculum lecture, "Acute Renal Failure"
- 2007 MetroHealth Medical Center Residents Rounds, "Acute Renal Failure"
- 2008 MetroHealth Medical Center Residents Rounds, "Acute Renal Failure"
- 2009 CWRU Pulmonary Fellowship core curriculum lecture, "Acute Renal Failure"
- 2009 CWRU Pulmonary Fellowship core curriculum lecture, "Continuous Renal Replacement Therapy"
- 2010 CWRU Nephrology Fellowship core curriculum lecture, "CKD and Cardiovascular disease Risk"
- 2010 MetroHealth Medical Center Residents Rounds, "Acute Kidney Injury"
- 2010 CWRU Nephrology Fellowship core curriculum lecture, "Acute Kidney Injury"

Clinical Seminars: Local

- 1993- Case Western Reserve University Renal Division Conference, 1-2 times per year
- 1994 MetroHealth Medical Center Medical Grand Rounds, "Radiocontrast Nephrotoxicity"
- 1995 MetroHealth Medical Center Critical Care Grand Rounds, "Radiocontrast Nephrotoxicity"
- 1996 Nephrology Club of Northeast Ohio, "Osmolar Gap in Alcoholic Ketoacidosis and Lactic Acidosis"

- 1997 Cleveland Clinic Foundation Renal Grand Rounds, "Mechanisms of Tubular Atrophy"
- 1997 University Hospitals of Cleveland Medical Grand Rounds, "Continuous Renal Replacement Therapies in Acute Renal Failure"
- 1997 MetroHealth Medical Center Medical Grand Rounds, "Continuous Renal Replacement Therapies in Acute Renal Failure"
- 1997 Cleveland Clinic Foundation Renal Grand Rounds, "Radiocontrast Nephrotoxicity"
- 1999 MetroHealth Medical Center Critical Care Grand Rounds, "Continuous Renal Replacement Therapies in Acute Renal Failure"
- 1999 American Nephrology Nurses Association, "Continuous Renal Replacement Therapies for Acute Renal Failure Management", MetroHealth Medical Center
- 1999 MetroHealth Medical Center Family Practice Grand Rounds, "Hypertension and Renal Disease"
- 2001 MetroHealth Medical Center Medical Grand Rounds, "Renal Disease Progression: Mechanisms and Interventions"
- 2002 MetroHealth Medical Center Luncheon Series, "The Kidney Disease Epidemic: What Can We Do About It?"
- 2006 Kidney Foundation of Ohio Renal Symposium, "Cardiovascular Co-Morbidity with Diabetic Nephropathy"
- 2006 Clinical Research Management Symposium on Surpassing Excellence in Clinical Research, "Establishing a Clinical Research Career: A Guide to Young Investigators", Ritz-Carlton Hotel, Cleveland, OH
- 2007 Diabetes Association of Greater Cleveland summer student program lecture, "Diabetic Nephropathy"
- 2008 Cleveland Clinic Foundation Nephrology Grand Rounds, "Mechanisms of Diabetic Nephropathy Progression"
- 2008 Kidney Foundation of Ohio/Diabetes Association of Greater Cleveland symposium, "Diabetes and Chronic Kidney Disease", Marymount Hospital, Cleveland, OH
- 2008 Diabetes Association of Greater Cleveland summer student program lecture, "Diabetic Nephropathy"
- 2009 MetroHealth Medical Center Medical Grand Rounds, "Chronic Kidney Disease and Cardiovascular Risk"
- 2009 Diabetes Association of Greater Cleveland summer student program lecture, "Diabetic Nephropathy"
- 2010 Diabetes Association of Greater Cleveland summer student program lecture, "Diabetic Nephropathy"
- 2010 Kidney Foundation of Ohio symposium, "Kidney Disease in the Elderly", Cityview Nursing Home, Cleveland, OH
- 2010 Kidney Foundation of Ohio symposium, "Prevention of Chronic Kidney Diseases", University Circle Place Apartments, Cleveland, OH

Trainees

- 1995 Douglas Gentry, Cedarville College, Springfield, OH, summer student
Co-author on *Am J Physiol* 270:F682-F690, 1996.
Subsequent positions: Medical school, Ohio State University, Columbus, OH
Family Practice Residency; Private practice, Ludington, MI
- 1997-2000 Ashraf El-Meanawy, M.D., Ph.D., post-doctoral fellow
First author on *Am J Physiol Renal Physiol* 279:F383-F392, 2000.
Co-author on *Exp Nephrol* 10:82-92, 2002.
First author on *Methods in Molecular Medicine* 86:257-74, 2003.
Co-author on *Kidney Int* 66:1029-1035, 2004.
First author on *Am J Physiol Renal Physiol*, in revision.
Subsequent positions: Assistant Professor of Medicine, Case Western Reserve University, Cleveland, OH; Assistant Professor of Medicine, Medical College of Wisconsin, Milwaukee, WI
- 1999 Katie Schlessman, Ohio Wesleyan University, Delaware, OH, summer student
Co-author on *Kidney Int* 60:65-76, 2001.
Subsequent positions: Medical school, Case Western Reserve University, Cleveland, OH;
Family Medicine residency, Oregon Health Sciences University, Portland, OR; Assistant Professor of Family Medicine, Oregon Health Sciences University, Portland, OR
- 1999 Matt Churpek, Ohio Wesleyan University, Delaware, OH, summer student
Co-author on *Am J Physiol Renal Physiol* 279:F383-F392, 2000.
Subsequent positions: Medical school, Duke University, Durham, NC; M.P.H., Univ. of North Carolina, Chapel Hill, NC; Internal Medicine residency, Univ. of Chicago, Chicago, IL; Chief medical resident, Univ. of Chicago, Chicago, IL; Pulmonary-critical care fellowship, Univ. of Chicago, Chicago, IL
- 1999 George Jarad, M.D., Internal Medicine resident
Co-author on *Kidney Int* 60:65-76, 2001.
Subsequent position: Renal fellowship, Case Western Reserve University, Cleveland, OH
- 2000 Farah Khan, Orange High School, Orange, OH, senior project and summer student
Subsequent positions: College, Miami University, Oxford, OH; Law school, American University, Washington, D.C.
- 2000 Jeffrey Yu, Case Western Reserve University, Cleveland, OH, summer student
Subsequent positions: Medical school, Morehouse School of Medicine, Atlanta, GA;
Neuroscience research, Emory University School of Medicine, Atlanta, GA;
Neurology residency, University of Illinois, Chicago, IL
- 2000-02 George Jarad, M.D., Post-doctoral fellow
First author on *J Biol Chem* 277:47826-47833, 2002.
Co-author on *Am J Physiol Renal Physiol* 284: F829-F839, 2003.
First author on *Curr Opin Nephrol Hypertens* 12:415-421, 2003.
First author on *Kidney Int* 66:1029-1035, 2004.
Co-author on *J Biol Chem* 279:26280-26286, 2004.
Co-author on *J Biol Chem* 281:19688-19699, 2006.
Subsequent position: Post-doctoral fellowship with Jeffrey Miner, Ph.D., Washington University, St. Louis, MO; Assistant Professor of Medicine, Washington University, St. Louis, MO

- 2000-05 Karen Wu, M.D., Post-doctoral fellow
 Co-author on *J Biol Chem* 277:47826-47833, 2002.
 First author on *Am J Physiol Renal Physiol* 284: F829-F839, 2003.
 First author on *J Biol Chem* 279:28680-28686, 2004.
 Co-author on *J Biol Chem* 281:19688-19699, 2006.
 Co-author on *Cell Mol Biol* 52:110-116, 2007.
 First author on *Am J Physiol Renal Physiol* 293: F1836-46, 2007.
 Subsequent positions: Post-doctoral fellowship, Department of Nutrition, Case Western Reserve University, Cleveland, OH; Research Associate, Case Western Reserve University, Cleveland, OH
- 2001 Jay DeVore, Ohio Wesleyan University, Delaware, OH, summer student
 Co-author on *J Biol Chem* 277:47826-47833, 2002.
 Subsequent positions: Medical school, University of Cincinnati, Cincinnati, OH; Internal Medicine Residency, University of Cincinnati, Cincinnati, OH
- 2002 Jeffrey Blatnik, Miami University, summer student.
 Co-author on *Kidney Int* 66:1029-1035, 2004.
 Subsequent positions: Medical school, Case Western Reserve University, Cleveland, OH; Surgery residency, Case Western Reserve University Hospitals, Cleveland, OH
- 2003 Gasan Nemr, M.D., Internal Medicine resident
 Subsequent position: Oncology research fellowship, Cleveland Clinic Foundation, Cleveland, OH; Private practice, Cleveland, OH
- 2003 Jonathan Law, Duke University, Durham, NC, summer student
 Subsequent positions: Medical school, Ohio State University, Columbus, OH; ENT residency, Washington University, St. Louis, MO
- 2003 Morgan Koepke, Denison University, Granville, OH, summer student
 Co-author on *Kidney Int* 66:1029-1035, 2004.
 Subsequent positions: Medical school, Northeastern Ohio Universities College of Medicine, Rootstown, OH; Internal Medicine residency, Summa Health Systems, Akron, OH
- 2003 Mazen Elyan, M.D., Internal Medicine resident
 Subsequent positions: Rheumatology fellowship, MetroHealth Systems; Assistant Professor of Medicine, Case Western Reserve University, Cleveland, OH
- 2004 Patrick Blake, Ohio Wesleyan University, Delaware, OH, summer student
 Subsequent position: Medical school, Cleveland Clinic Lerner College of Medicine, Cleveland, OH; Transitional year, University of Pittsburgh, Pittsburgh, PA; Dermatology residency, University of Texas Southwestern, Dallas, TX
- 2005 Rajinikanth Seshan, M.D., Internal Medicine resident
 Subsequent position: Nephrology fellowship, Case Western Reserve University; Private practice, Lorain, OH
- 2005 Bassam Abu Jawdeh, M.D., Internal Medicine resident
 Co-author on *Cell Mol Biol* 52:115-121, 2006.
 Subsequent position: Nephrology fellowship, Case Western Reserve University, Cleveland, OH
- 2005 Satyan Pai, Carnegie-Mellon University, Pittsburgh, PA, summer student
 Subsequent position: Research scientist, Genentech, San Francisco, CA
- 2006 Jennifer Sapiro, Northwestern University, Evanston, IL, research fellowship
 Subsequent positions: Research assistant, Northeastern Ohio Universities College of Medicine, Rootstown, OH; M.P.H. candidate, Tulane University, New Orleans, LA

2006 Anand Reddy, M.D., Internal Medicine resident
Subsequent position: Nephrology fellowship, Mt. Sinai School of Medicine, New York, NY

2006 Nana Korsah, M.D., Internal Medicine resident
Subsequent position: Nephrology fellowship, M.S. in Epidemiology and Biostatistics, Case Western Reserve University, Cleveland, OH

2007 Ian Goldlust, Emory University, Atlanta, GA, summer student
Subsequent position: M.S. in Chemistry, Emory University, Atlanta, GA

2008-10 Bassam Abu Jawdeh, M.D., Post-doctoral fellow
Recipient of National AHA Fellowship grant
Co-author on *Am J Physiol Renal Physiol* 295:F625-F632, 2008.
First author on *J Hosp Med* 4:500-506, 2009.
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