

CURRICULUM VITAE

Jeffrey Robert Schelling

Personal Data

Date and place of birth: March 15, 1959, Dayton, OH
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Family: Married, two children

Education and 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,
The MetroHealth System
2008- Professor of Medicine,
Case Western Reserve University
2015- Adjunct Professor of Chemistry,
Cleveland State University

Medical Licensure Ohio, #35-05-2643

Professional Society Memberships

1990-2009 National Kidney Foundation
1991- American Society of Nephrology
1992-2012 International Society of Nephrology
1993-2000 American Federation for Medical Research
1993-2000 Central Society for Clinical Research
2003-2009 American Society for Cell Biology
2010-2012 American Diabetes Association

Awards and Certifications

1988	C.C.J. Carpenter Award, Outstanding Internal Medicine Resident
1988-	ABIM diplomate in Internal Medicine
1990	ABIM diplomate in Nephrology (renewed 2014)
1998-2002	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	Crain's Cleveland Business Health Care Heroes finalist
2009	United Way Spotlight Volunteer Award
2011	Crain's Cleveland Business Health Care Heroes finalist

Professional and Community Service

National and International Service

1996-02	Ad hoc reviewer, 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 Association, Atlanta, GA; Tampa, FL
2000-03	Member, National Peer Review Committee, Cardio-Renal Section, American Heart Association, 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
- 2007-12 Editorial Board, *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 for 2P01 DK017433, "Role of Eicosanoids in Renal Function"
- 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 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 Member, Program Committee, American Society of Nephrology annual meeting, Philadelphia, PA
- 2011 Member, National Kidney Foundation Fellowship Grant Review Committee, Chicago, IL
- 2011 Ad hoc reviewer, NIH PBKD Study Section, Bethesda, MD
- 2012 Ad hoc reviewer, Medical Research Council Developmental Pathway Funding Scheme/ Developmental Clinical Studies, Swindon, UK
- 2012 Abstract Review Committee, International Society of Nephrology Forefronts Symposium on Systems Biology and the Kidney
- 2012 Ad hoc reviewer, NIH Special Emphasis Panel ZRG1 DKUS-L 80, Clinical Research Pilot and Feasibility R21 applications
- 2012 Abstract Review Committee, “Matrix/Integrins”, American Society of Nephrology annual meeting, San Diego, CA
- 2012-14 Member, American Society of Nephrology Grants Review Committee, Washington, DC
- 2012 Ad hoc reviewer, NIH Special Emphasis Panel ZRG1 DKUS-L 80, Clinical Research Pilot and Feasibility R21 applications
- 2012 Ad hoc reviewer, V.A. Nephrology Study Section, Washington, D.C.
- 2012 Abstract Review Committee, American Diabetes Association annual meeting, Chicago, IL
- 2013-14 Ad hoc reviewer, NIH-NIDDK, Kidney, Urologic and Hematologic Diseases D (DDK-D) Study Section, Bethesda, MD
- 2013 Chairman, Abstract Review Committee, “Extracellular Matrices and Their Receptors”, American Society of Nephrology annual meeting, Atlanta, GA
- 2013 Reviewer, University of Michigan NIH P30 pilot and feasibility grants
- 2014 Abstract Review Committee, American Diabetes Association annual meeting, San Francisco, CA
- 2014-19 Member, NIH-NIDDK, Kidney, Urologic and Hematologic Diseases D (DDK-D) Study Section, Bethesda, MD
- 2014 Abstract Review Committee, “Oxidative Stress/Cell Signaling”, American Society of Nephrology annual meeting, Philadelphia, PA
- 2014- Editorial Board, *Frontiers in Nephrology*
- 2014 Session moderator, “Oxidative Pathways to Cell Damage”, American Society of Nephrology annual meeting, Philadelphia, PA
- 2015 Ad hoc reviewer, NIH Special Emphasis Panel ZRG1 DKUS-L (55) R, Pilot and Feasibility Clinical Research Grants in Kidney or Urologic Diseases R21 applications
- 2015-16 Ad hoc reviewer, NIH Special Emphasis Panel ZRG1 DKUS-L (11) B, Small Business Grants: Nephrology

- 2016 Ad hoc reviewer, NIDDK Diabetes Complications Consortium Pilot and Feasibility grant review
- 2017 Ad hoc reviewer, NIH Special Emphasis Panel ZRG1 DKUS-L 55, Pilot and Feasibility Clinical Research Grants in Kidney or Urologic Diseases R21 applications
- 2017 Abstract Review Committee, “CKD: Risk Factors for Incidence and Progression”, American Society of Nephrology annual meeting, New Orleans, LA
- 2017 Ad hoc reviewer, NIH Special Emphasis Panel PAR11-306 "NIDDK Central Repositories Non-Renewable Sample Access (X01)" applications
- 2017 Session moderator, “The Slow Burn: CKD Incidence and Progression”, American Society of Nephrology annual meeting, New Orleans, LA
- 2018 Ad hoc reviewer, NIH ZAT1 SM (45) 1 - Early Phase Clinical Trials of Natural Products

Journal Reviews (8-10 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, Ann Intern Med, Biochem J, BMC Nephrol, Cell Death Differ, Chem Biol Drug Des, Circulation, Circ Res, Diabetes, Diabetologia, EMBO J, Exp Cell Res, Gene, Hum Mol Genet, J Am Soc Nephrol, J Biol Chem, J Cell Physiol, J Clin Invest, J Hosp Med, Kidney Int, Lancet, Mol Biol Cell, Mol Cancer, Mol Cell Biol, Mol Cell Endocrinol, Mol Med, Nephron Exp Nephrol, Oncogene, Pediatr Nephrol, Physiol Genomics, PLoS Genetics, PLoS One, Proc Natl Acad Sci USA*

Local Service

- 1995-97 Kidney Foundation of Ohio Grant Review Committee
- 1995 Community Dialysis Center/Rosenberg Foundation Grant Review Committee
- 1995-07 Rammelkamp Center Research Seminar Organizer
- 1996-06 Kidney Foundation of Ohio Medical Advisory Board, Vice-Chair (2003-04), Chair (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
- 2001-15 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, The MetroHealth System
- 2003 Judge, MetroHealth Residents Research competition
- 2004 Research Committee, Department of Medicine, The MetroHealth System
- 2005 Chair, General Internal Medicine Division Chief Search Committee, The MetroHealth System
- 2005 Judge, MetroHealth Residents Research competition
- 2005-08 Lecture Committee, Case Western Reserve University School of Medicine
- 2006 Hypertension screening, Central Bible Baptist Church
- 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 Judge, MetroHealth Residents Research competition
- 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- Selection and Advisory Committee, Physician-Scientist program, The MetroHealth System
- 2009 Health fair screening and education, Cleveland City Mission
- 2009 Blood pressure screening, Sherwin-Williams Health Fair
- 2009 Judge, MetroHealth Residents Research competition
- 2009-16 Board of Directors and Research Committee Chairman, Diabetes Partnership of Cleveland (formerly Diabetes Association of Greater Cleveland)
- 2010-11 Board of Directors, Dietrich Diabetes Research Institute
- 2010-13 Executive Committee, Diabetes Partnership of Cleveland (formerly Diabetes Association of Greater Cleveland)
- 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
- 2010 United Way Health Fair volunteer, Nationwide Insurance Enterprises, Highland Hills, OH
- 2010- Medical Director, Lutheran Hospital inpatient dialysis program
- 2011 Kidney Foundation of Ohio Minority Health Month seminar, "Kidney Disease in African Americans", Senior Outreach Services, Cleveland, OH
- 2011 Kidney Foundation of Ohio Minority Health Month seminar, "Kidney Disease in African Americans", Epworth Church, Cleveland, OH
- 2011-12 K01 Award Mentoring Committee, David Kennedy, Ph.D., Lerner Research Institute, Cleveland Clinic Foundation
- 2011 Chair, Gastroenterology Division Chief Search Committee, The MetroHealth System
- 2011- Health fair screening and education, Project Hope, Cleveland, OH
- 2011-14 Committee on Appointment, Promotion and Tenure, Case Western Reserve University School of Medicine
- 2011- Medical Director, MetroHealth Medical Center inpatient dialysis program
- 2012 Judge, MetroHealth Residents Research competition
- 2013-14 Co-Chair, Committee on Appointment, Promotion and Tenure, Case Western Reserve University School of Medicine
- 2013- Medical Director, MetroHealth Old Brooklyn Health Center inpatient dialysis program
- 2014- Ph.D. thesis committee, Norah Alghamdi, Department of Chemistry, Cleveland State University.
- 2014 Search committee, Director of Research Administration, The MetroHealth System
- 2014 Judge, MetroHealth Residents Research competition
- 2014 M.D./Ph.D. thesis committee, Christian Anderson, Case Western Reserve University School of Medicine
- 2016 Judge, MetroHealth Rammelkamp Research Day competition
- 2017- Board of Directors, Ohio Renal Care Group LLC
- 2017 Chair, Physician Scientist Program selection committee, MetroHealth Medical Center
- 2017 Search Committee, Chief of Nephrology and Hypertension, Department of Medicine, University Hospitals Cleveland Medical Center
- 2018 Search committee, Director of Research Administration, The MetroHealth System

Peer-reviewed Original 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. PMID: 2400167
2. Ullian ME, **Schelling JR**, Linas SL. Aldosterone enhances angiotensin II receptor binding and inositol phosphate responses. *Hypertension* 20:67-73, 1992.
<http://hyper.ahajournals.org/content/20/1/67.long>
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.
<https://www.jci.org/articles/view/116139/pdf>
4. **Schelling JR**, Baum KF, Teitelbaum I. Didanosine administration in an HIV-positive renal transplant patient. *Am J Kidney Dis* 22:60-63, 1993. PMID: 8322796
5. **Schelling JR**, Linas SL. Angiotensin II-dependent proximal tubule sodium transport requires receptor-mediated endocytosis. *Am J Physiol* 266:C669-C675, 1994.
<https://www.physiology.org/doi/pdf/10.1152/ajpcell.1994.266.3.C669>
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. https://ac.els-cdn.com/S0085253815586018/1-s2.0-S0085253815586018-main.pdf?_tid=de4dc8d5-cd7c-44b5-8c73-852e31008fd0&acdnt=1526480176_cd051685647ad2e9071432ce052b39fb
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. <https://www.physiology.org/doi/pdf/10.1152/ajpcell.1994.267.5.C1239>
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.
<https://www.physiology.org/doi/pdf/10.1152/ajprenal.1996.270.4.F682>
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. <https://www.physiology.org/doi/pdf/10.1152/ajpcell.1997.272.5.C1558>
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. PMID: 9713883
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. PMID: 9690559
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. https://ac.els-cdn.com/S0085253815461290/1-s2.0-S0085253815461290-main.pdf?_tid=51e94ce0-20a1-4365-8bb5-342765974d12&acdnt=1526480614_27b0249dd0e24d189946baa787e6b7f0
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. https://ac.els-cdn.com/S0085253815464403/1-s2.0-S0085253815464403-main.pdf?_tid=678de906-194f-4ff3-8fd9-23a8f334daa8&acdnt=1526480799_f381d9cc5811c2acff90d4b5572a6e19
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. <https://www.jci.org/articles/view/5754/pdf>

14. 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. PMID: 10496527
15. **Schelling JR**. Fatal hypermagnesemia. *Clin Nephrol* 53:61-65, 2000. PMID: 10661484
16. 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.
<https://www.physiology.org/doi/pdf/10.1152/ajprenal.2000.279.2.F383>
17. 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. https://ac.els-cdn.com/S0085253815472722/1-s2.0-S0085253815472722-main.pdf?tid=aaa617fb-8124-4162-8d68-d39bda0ac664&acdnat=1526486255_837fdec0608b8c798a905c3d2308027a
18. 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. PMID: 11071968
19. 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. PMID: 11228193
20. 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. https://ac.els-cdn.com/S0085253815478202/1-s2.0-S0085253815478202-main.pdf?tid=77ef0ef4-860b-4be4-9034-84816feae87c&acdnat=1526478954_8fa9ecb8d0cf89d22eb61adea4f28470
21. 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. PMID: 11331884
22. 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 β 8 integrin expression and function in the absence of apoptosis. *J Biol Chem* 277:47826-47833, 2002. <http://www.jbc.org/content/277/49/47826.full.pdf>
23. 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. <https://www.physiology.org/doi/pdf/10.1152/ajprenal.00314.2002>
24. 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. 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. http://jasn.asnjournals.org/content/14/suppl_2/S195.full.pdf
25. **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. <http://www.jbc.org/content/279/14/14398.full.pdf>
26. 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. https://ac.els-cdn.com/S008525381550152X/1-s2.0-S008525381550152X-main.pdf?_tid=abc04367-3e07-44d9-a24d-7457842c203f&acdnat=1526477940_ab6ed0a80f4ada9ab51bc1b2efd32698
27. 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. <http://www.jbc.org/content/279/25/26280.full.pdf>
 28. 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.
 29. 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. <https://www.physiology.org/doi/pdf/10.1152/ajprenal.00412.2004>
 30. 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. PMID: 15861348
 31. Rico M, Mukherjee A, Konieczkowski M, Khan S, **Schelling JR**, Sedor JR. WT1-interacting protein and ZO-1 translocate into podocyte nuclei after puromycin aminonucleoside treatment: Translating cell junction disassembly into altered gene expression. *Am J Physiol Renal Physiol* 289:F431-F441, 2005. <https://www.physiology.org/doi/pdf/10.1152/ajprenal.00389.2004>
 32. Ziembicki J, Tandon R, **Schelling JR**, Sedor JR, Miller RT, Huang C. Mechanical force-activated phospholipase D is mediated by G_{12/13}-Rho and calmodulin-dependent kinase in renal epithelial cells. *Am J Physiol Renal Physiol* 289:F826-F834, 2005. <https://www.physiology.org/doi/pdf/10.1152/ajprenal.00412.2004>
 33. Lakhe-Reddy S, Khan S, Konieczkowski M, Jarad G, Wu KL, Reichardt LF, Takai Y, Bruggeman LA, Wang B, Sedor JR, **Schelling JR**. $\beta 8$ integrin binds RhoGDI-1 and activates Rac1 to inhibit mesangial cell myofibroblast differentiation. *J Biol Chem* 281:19688-19699, 2006. [PMC2711893](https://pubmed.ncbi.nlm.nih.gov/17535745/)
 34. 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. PMID: 17535745
 35. 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. <https://www.physiology.org/doi/pdf/10.1152/ajprenal.00246.2006>
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Patents

U.S. Provisional Patent Application Serial No. 62/700,628. Inhibition of fatty acid transport protein (FATP2) to treat diabetes and chronic kidney disease. July 19, 2018.

Grant Support

Principal Investigator (Current)

Source: NIH 1U01 DK106965 (T.H. Hostetter, co-PI)

Title: Identification of chronic kidney and cardiovascular disease biomarkers

Dates: 9-14-15 to 7-31-20

Total Direct Costs: \$1,522,213

Source: NIH 2R01 DK067528

Title: Mechanisms of tubular atrophy in renal disease

Dates: 8-1-05 to 1-31-21

Total Direct Costs: \$1,329,069 (2016-21)

Co-Investigator (Current)

Source: NIH 2T32 DK07470 (J.R. Sedor, PI)

Title: Case Western Reserve University Fellowship Training Grant

Dates: 7-1-14 to 6-30-19

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: Fraternal Order of Eagles
Title: Genetic regulation of diabetic kidney disease
Dates: 1/1/98 to 12/31/98
Total Direct Costs: \$10,000

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

Source: CWRU Clinical and Translational Science Collaborative
Title: Diabetic nephropathy screening for urine fatty acid biomarkers
Dates: 11/1/11 to 6/30/12
Total Direct Costs: \$8,000

Source: NIH R01 DK072348
Title: Mechanisms of glomerular disease progression
Dates: 7-1-08 to 4-30-13
Total Direct Costs: \$1,062,500

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

Source: NIH 5 U01 DK06345 (D. Gipson, PI)
Title: Focal Segmental Glomerular Sclerosis (FSGS) Trial in Young Adults and Children
Dates: 9-1-04 to 9-30-10
Total Direct Costs: \$5,000

Source: NIH 2U01 DK061021 (M. Rahman, PI)
Title: Chronic renal insufficiency cohort (CRIC) study
Dates: 7-1-09 to 4-30-16
Total Direct Costs: \$2,988,904

Source: NIH 1R01 DK101500 (S. Navaneethan, PI)
Title: Visceral adiposity and physical fitness in chronic kidney disease
Dates: 12/1/14-11/30/19
Total Direct Costs: \$250,000

Clinical Trials (PI since 9/1/2017)

The Nephrotic Syndrome Study Network (NEPTUNE)
Dates: 3/11/2009-11/26/2018
Total Direct Costs:

Cure Glomerulonephropathy Network (CURE GN)
Dates: 1/26/2015-12/19/2018
Total Direct Costs:

Abatacept Renal
Dates: 8/23/2016-6/12/2019
Total Direct Costs:

Membranous Nephropathy Trial of Rituximab (MENTOR)
Dates: 12/21/2012-7/1/2019
Total Direct Costs:

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

- 2014 Medical College of Wisconsin, Renal Grand Rounds, “Lipotoxicity as a Mechanism of Tubular Atrophy”, Milwaukee, WI
- 2016 Duke University, Renal Grand Rounds, “Fatty Acid Reabsorption and Lipotoxicity in the Pathophysiology of Tubular Atrophy”, Durham, NC
- 2019 University of Toledo, Medical Grand Rounds, “Do Cardiovascular Disease Guidelines Apply to Chronic Kidney Disease Patients?” Toledo, OH
- 2019 University of Toledo, Renal Grand Rounds “Development of FATP2 as a Therapeutic Target for Diabetic Kidney Disease” Toledo, OH

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 $\beta 8$ 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 $\beta 8$ 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, “ $\beta 8$ Integrin Regulation of Kidney Glomerular Function”
- 2008 Renal Research Conference, University Hospitals of Cleveland, “Mesangial Cell $\beta 8$ 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”
- 2011 Rammelkamp Research Conference, MetroHealth Medical Center, “Regulation of Proximal Tubule Cell Survival by the NHE1 Na⁺/H⁺ Exchanger”
- 2012 Renal Research Conference, University Hospitals of Cleveland, “Regulation of Proximal Tubule Cell Survival by the NHE1 Na⁺/H⁺ Exchanger”
- 2014 City-wide Renal Research Conference, Louis Stokes V.A. Hospital, “Regulation of Proximal Tubule Cell Survival by the NHE1 Na⁺/H⁺ Exchanger”
- 2015 Department of Chemistry Seminar, Cleveland State University, “Lipotoxicity as a Mechanism of Chronic Kidney Disease”
- 2017 MetroHealth Medical Center, Department of Medicine research update, “Lipotoxicity in the Pathophysiology of Tubular Atrophy”
- 2017 MetroHealth Medical Center, Research Faculty Meeting, “Lipotoxicity in the Pathophysiology of Diabetic Nephropathy”
- 2018 City-wide Renal Research Conference, Louis Stokes V.A. Hospital, “Development of FATP2 as a Therapeutic Target for Diabetic Kidney Disease”
- 2019 Department of Pharmacology Grand Rounds, Case Western Reserve University, “Development of FATP2 Inhibitors as Therapy for Diabetic Kidney Disease”
- 2019 Department of Inflammation and Immunity, Cleveland Clinic Foundation, “Development of FATP2 Inhibitors for the Treatment of Diabetic Kidney Disease”

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)
- 2011- CWRU School of Medicine, IQ+ Small Group Instructor (3-4 hr session)

Clinical Teaching

- 1992- Attending Physician, MHMC Nephrology Consult Service, 8-10 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)
- 1992-18 Attending Physician, 2-4 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)
- 2004-13 Acid-Base Basics, 3rd year CWRU School of Medicine 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"
- 2011 CWRU Nephrology Fellowship core curriculum lecture, "Acute Kidney Injury"
- 2012 CWRU Nephrology Fellowship core curriculum lecture, "CKD and Cardiovascular Disease Risk"
- 2012 MetroHealth Medical Center Residents Rounds, "Acute Kidney Injury"

- 2012 CWRU Nephrology Fellowship core curriculum lecture, "Acute Kidney Injury"
- 2013 Department of Physiology and Biophysics, MS in Medical Physiology program, "Diuretic Use in Essential Hypertension"
- 2013 CWRU Nephrology Fellowship core curriculum lecture, "Managing Diabetic Nephropathy with RAS Inhibition"
- 2013 CWRU Nephrology Fellowship core curriculum lecture, "Acute Kidney Injury"
- 2013 CWRU Nephrology Fellowship core curriculum lecture, "Hypokalemia and Hyperkalemia"
- 2014 CWRU Pulmonary Fellowship core curriculum lecture, "Acute Kidney Injury"
- 2014 CWRU Pulmonary Fellowship core curriculum lecture, "Continuous Renal Replacement Therapy"
- 2014 MetroHealth Medical Center Residents Rounds, "Acute Kidney Injury"
- 2014 CWRU Nephrology Fellowship core curriculum lecture, "Acute Kidney Injury"
- 2014 CWRU Nephrology Fellowship core curriculum lecture, "Hypokalemia and Hyperkalemia"
- 2015 CWRU Nephrology Fellowship core curriculum lecture, "Managing Diabetic Nephropathy with RAS Inhibition"
- 2016 CWRU Nephrology Fellowship core curriculum lecture, "Acute Kidney Injury"
- 2016 CWRU Nephrology Fellowship core curriculum lecture, "Hypokalemia and Hyperkalemia"
- 2017 CWRU Nephrology Fellowship core curriculum lecture, "Managing Diabetic Nephropathy with RAS Inhibition"
- 2017 CWRU Nephrology Fellowship core curriculum lecture, "Acute Kidney Injury"
- 2017 CWRU Nephrology Fellowship core curriculum lecture, "Hypokalemia and Hyperkalemia"
- 2018 CWRU Nephrology Fellowship core curriculum lecture, "Acute Kidney Injury"
- 2018 CWRU Nephrology Fellowship core curriculum lecture, "Potassium Homeostasis"
- 2019 MetroHealth Medical Center Residents Rounds, "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", The Bertram Inn and Conference Center, Aurora, OH

- 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”
- 2011 Diabetes Partnership of Cleveland Community Forum, “Prevention of Kidney Failure from Diabetes”, Embassy Suites, Independence, OH
- 2015 Diabetes Partnership of Cleveland summer student program lecture, “Diabetic Nephropathy”
- 2017 MetroHealth Medical Center Cardiology Grand Rounds, “Do Cardiovascular Disease Guidelines Apply to Chronic Kidney Disease Patients?”
- 2018 MetroHealth Medical Center Medical Grand Rounds, “Do Cardiovascular Disease Guidelines Apply to Chronic Kidney Disease Patients?”
- 2018 Kidney Patient Education and Support Group, “Cardiovascular Disease in the ESRD Population”, Parma Snow Library, Parma, OH

Laboratory Trainees

- 1995 Douglas Gentry, Cedarville College, Springfield, OH, summer student
Co-author on *Am J Physiol* 270:F682-F690, 1996.
Subsequent positions: M.D., Ohio State University, Columbus, OH; Family Medicine Residency, Munson Medical Center, Traverse City, MI; Family practice, Ludington, MI
- 1997-00 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 *BMC Nephrol* 13:61, 2012.
Subsequent positions: Assistant Professor of Medicine, Case Western Reserve University, Cleveland, OH; Associate 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: M.D., 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: M.D., Duke University, Durham, NC; M.P.H., Univ. of North Carolina, Chapel Hill, NC; Internal Medicine residency, University of Chicago, Chicago, IL; Chief medical resident, University of Chicago, Chicago, IL; Pulmonary-critical care fellowship, University of Chicago, Chicago, IL; Assistant Professor of Medicine, University of Chicago, Chicago, IL
- 1999 George Jarad, M.D., rotating 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; J.D., American University, Washington, D.C.
- 2000 Jeffrey Yu, Case Western Reserve University, Cleveland, OH, summer student
Subsequent positions: M.D., Morehouse School of Medicine, Atlanta, GA; Neuroscience research, Emory University School of Medicine, Atlanta, GA; Neurology residency, University of Illinois, Chicago, IL; Neurology practice, 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 positions: Post-doctoral fellowship with Jeffrey Miner, Ph.D., Washington University, St. Louis, MO; Associate 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; Internal Medicine practice, Columbus, 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; General surgery residency, Case Western Reserve University Hospitals, Cleveland, OH; Minimally invasive surgery fellowship, Case Western Reserve University Hospitals, Cleveland, OH; Assistant Professor of Surgery, Washington University, St. Louis, MO

- 2003 Gasan Nemr, M.D., rotating Internal Medicine resident
Subsequent positions: Oncology research fellowship, Cleveland Clinic Foundation, Cleveland, OH; Internal Medicine practice, Cleveland, OH
- 2003 Jonathan Law, Duke University, Durham, NC, summer student
Subsequent positions: M.D., Ohio State University, Columbus, OH; Pediatric otolaryngology residency, Washington University, St. Louis, MO; Otolaryngology practice, Columbia, TN
- 2003 Morgan Koepke, Denison University, Granville, OH, summer student
Co-author on *Kidney Int* 66:1029-1035, 2004. Subsequent positions: M.D., Northeast Ohio Medical University, Rootstown, OH; Internal Medicine residency, Summa Health Systems, Akron, OH; Internal Medicine practice, Brooklyn, OH
- 2003 Mazen Elyan, M.D., rotating Internal Medicine resident
Subsequent positions: Rheumatology fellowship, MetroHealth Systems; Assistant Professor of Medicine, Case Western Reserve University, Cleveland, OH; Rheumatology practice, Monroe, MI
- 2004 Patrick Blake, Ohio Wesleyan University, Delaware, OH, summer student
Subsequent positions: M.D., Cleveland Clinic Lerner College of Medicine, Cleveland, OH; Preliminary year, University of Pittsburgh, Pittsburgh, PA; Dermatology residency, University of Texas Southwestern, Dallas, TX; Dermatology practice, San Diego, CA
- 2005 Rajinikanth Seshan, M.D., rotating Internal Medicine resident
Subsequent positions: Nephrology fellowship, Case Western Reserve University; Nephrology practice, Griffin, GA
- 2005 Bassam Abu Jawdeh, M.D., rotating Internal Medicine resident
Co-author on *Cell Mol Biol* 52:115-121, 2006.
Subsequent position: Nephrology fellowship, Case Western Reserve Univ, Cleveland, OH
- 2005 Satyan Pai, Carnegie-Mellon University, Pittsburgh, PA, summer student
Subsequent positions: Senior Research Associate, Genentech, San Francisco, CA; Software engineer, Science Exchange, Palo Alto, CA; Software engineer, Fanrock, 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., Tulane University, New Orleans, LA; Founder and Managing Director, Uweza Aid Foundation, Kibera, Kenya
- 2006 Anand Reddy, M.D., rotating Internal Medicine resident
Subsequent positions: Nephrology fellowship, Mt. Sinai School of Medicine, New York, NY
Nephrology practice, Odessa, TX
- 2006 Nana Korsah, M.D., rotating Internal Medicine resident
Subsequent positions: Nephrology fellowship, M.S. in Epidemiology and Biostatistics, Case Western Reserve University, Cleveland, OH; Nephrology practice, Mishawaka, IN
- 2007 Ian Goldlust, Emory University, Atlanta, GA, summer student
Subsequent positions: M.S. in Chemistry, Emory University, Atlanta, GA; Ph.D. in Oncology, University of Cambridge, London, UK; Medical School, Columbia University, New York, NY
- 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.
First author on *J Biol Chem* 286:42435-42445, 2011.
Second author on *J Clin Invest* 124:1057-1068, 2014.

- Subsequent positions: Transplantation fellowship, Johns Hopkins University, Baltimore, MD; Associate Professor of Medicine, University of Cincinnati, Cincinnati, OH
- 2008 Mary Petrusis, Washington and Lee University, Lexington, VA, summer student
Subsequent positions: Research assistant, Department of Neuroscience, Case Western Reserve University, Cleveland, OH; Research assistant, Department of Biochemistry, Wake Forest University, Winston Salem, NC; M.D., Wake Forest University, Winston Salem, NC; Neurology residency, Barnes-Jewish Hospital, St. Louis, MO
- 2008 Eden Engel-Rebitzer, Shaker Heights High School, Shaker Heights, OH, summer student
Subsequent positions: College, Wesleyan University, Middletown, CT; Research assistant, National Center for Post-Traumatic Stress Disorder, Boston, MA; Post-baccalaureate studies, Tufts/Bucknell Universities program, Boston, MA; Medical School, University of Pennsylvania, Philadelphia, PA
- 2009 Ismail Husain, Gannon University, Erie, PA, summer student
Subsequent positions: D.O., Lake Erie College of Osteopathic Medicine, Erie, PA; Family Medicine practice, Warren, OH
- 2009 Garren DeCaro, University of Toledo College of Medicine, Toledo, OH, summer student
Co-author on *J Biol Chem* 286:42435-42445, 2011.
Subsequent position: Internal Medicine residency, Summa Health System, Akron, OH; Nephrology fellowship, Case Western Reserve University, Cleveland, OH; Internal Medicine practice, Akron, OH
- 2010 David Habib, Warren Wilson College, Asheville, NC, summer student
Subsequent position: M.D., University of Cincinnati, Cincinnati, OH; Emergency Medicine residency, University of Cincinnati, Cincinnati, OH
- 2011 Kavitha Srighanthan, M.D., rotating Internal Medicine resident
Subsequent position: Assistant Professor, Case Western Reserve University, Cleveland, OH
- 2011 Katie Lindauer, Miami University, Oxford, OH, summer student
Subsequent position: M.D., Michigan State University, East Lansing, MI; Medical student investigator, University of Chicago Kovler Diabetes Center, Chicago, IL
- 2011 Amanda Tyhulski, University of Toledo, Toledo, OH, summer student
Subsequent position: Medical Technical Assistant, The MetroHealth System
- 2012 Katherine Pawlicki, Hiram College, Hiram, OH, summer student
Subsequent position: M.D., Northeast Ohio Medical University, Rootstown, OH
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- 2016 Amelia Gingras, Shaker Heights High School, Shaker Heights, OH, summer student
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Co-author on *J Am Soc Nephrol* 29:81-91, 2018.
- 2016 Anna Rothstein, Brandeis University, Waltham, MA, visiting student
Subsequent position: Medical School, University of Toledo, Toledo, OH
- 2017-18 Asif Uddin, Honors College, The Ohio State University, summer student.
Co-author on *J Am Soc Nephrol* 29:81-91, 2018.
- 2017 Zachary Schmidt, Denison University, summer student.
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