

Digestive Health Research Institute – MSSRP MENTOR INFORMATION
The Case Medical Student Summer Research Program (MSSRP)
 Supported by NIH/NIDDK 1T35DK111373-02

NIDDK-Funded Primary Mentors				
GROUP 1: Digestive & Liver Diseases	GROUP 2: Diabetes	GROUP 3: Metabolism & Nutrition	GROUP 4: Kidney Diseases	GROUP 5: Digestive, Liver, & Kidney Imaging
Derek Abbott, MD, PhD	David Buchner, PhD*	Henri Brunengraber, MD, PhD	Leslie Bruggeman, PhD	Christopher Flask, PhD
Fabio Cominelli, MD, PhD	Rose Gubitosi-Klug, MD, PhD	Donna Driscoll, PhD	Stanley Hazen, MD, PhD	Vikas Gulani, MD, PhD
Gregory Cooper, MD, MPH	Michael Weiss, MD	Darcy Freedman, PhD, MPH*	John O’Toole, MD	Katherine MacRae Dell, MD
Mitchell Drumm, PhD	Richard Zigmond, PhD	John Kirwan, PhD	Mahboob Rahman, MD	
Claudio Fiocchi, MD		Maria Hatzoglou, PhD	John Sedor, MD	
Wendy Goodman, PhD*		Vincent Monnier, MD		
Lina Lu, MD				
Theresa Pizarro, PhD				
Takuya Sakaguchi, PhD*				
NIDDK-Related Secondary Mentors				
GROUP 6: GI Cancers & Tumorigenesis	GROUP 7: Metabolism & Kidney Disease	GROUP 8: Inflammation & Infection	GROUP 9: Imaging & Other Diagnostic Technology	
Amitabh Chak, MD	Timothy Kern, PhD	Donald Anthony, Jr, MD, PhD	Anant Madabushi, PhD	
Sanford Markowitz, MD, PhD	Laura Nagy, PhD	Robert Bonomo, MD		
Neal Meropol, MD	Thomas Hostetter, MD	Maneesh Dave, MD*		
	Jackson Wright, MD, PhD	Curtis Donskey, MD		
		Alex Rodriguez-Palacios, PhD, DVM*		
		Carlos Subauste, MD		

Research Interests for Case MSSRP T35 Mentors (NIDDK Grant Number Indicated)

DEREK ABBOTT, MD, PhD, Professor of Pathology, CWRU; Member, Cleveland DDRCC; Mentor: Digestive Diseases T32 (NIDDK), Cell & Molecular Biology T32, Immunology T32, MSTP T32. Dr. Abbott's research focuses on mechanisms of activation of NOD2 in Crohn's disease and mechanisms of cytokine release by NOD2 (P01 DK091222, Project 2 PI)

DONALD ANTHONY, Jr, MD, PhD, Associate Professor of Medicine (Infectious Diseases & HIV) & Pathology, CWRU; Member, Cleveland DDRCC; Mentor: Immunology T32, Molecular Medicine T32, Geographic Med. & Infectious Diseases T32. Dr. Anthony's research focuses on immune cell function during hepatitis C virus infection.

ROBERT BONOMO, MD, Professor of Medicine, Pharmacology, Molecular Biology & Microbiology, CWRU; Mentor: MSTP T32, Molecular Therapeutics T32, Geographic Med. & Infectious Diseases T32. The primary focus of our laboratory is to understand the genetic and amino acid sequence determinants of the enzymes that inactivate β -lactams, the β -lactamases.

LESLIE BRUGGEMAN, PhD, Associate Professor of Molecular Medicine (Nephrology & Hypertension), CWRU; Mentor: Nephrology T32 (NIDDK). Dr. Bruggeman's research focuses on molecular and cellular biology of chronic kidney diseases (R01 DK095832, R01 DK108329, R01 DK097836).

HENRI BRUNENGRABER, MD, PhD, Mount Sinai Auxiliary Commemorative Professor of Nutrition Research; Chairman, Dept. of Nutrition, CWRU; Director, Case Mouse Metabolic Phenotyping Center; Member & Scientific Prog. Leader, Cleveland DDRCC; Mentor: Urology T32 (NIDDK), MSTP T32. Dr. Brunengraber's research focuses on metabolic regulation, design and testing of artificial nutrients, noninvasive probes of liver metabolism; markers of alcoholism, mass spectrometry; metabolomics. (U24 DK076174). He was also the longstanding director of the previous T32 Metabolism Training Grant.

DAVID BUCHNER, PhD, Assistant Professor of Genetics & Biochemistry, CWRU. Dr. Buchner's laboratory is focused on understanding the genetics and pathophysiology of obesity and diabetes (R03 DK099533). Dr. Buchner is a junior mentor for this T35 application and will function in this capacity under the guidance of a senior faculty mentor.

AMITABH CHAK, MD, Professor of Medicine (GI & Liver Diseases) & Oncology, CWRU; Pilot/ Feasibility Program Director & Member, Cleveland DDRCC; Mentor: Digestive Diseases T32 (NIDDK). Dr. Chak's patient-oriented research focuses on novel endoscopic imaging techniques, Barrett's esophagus, and esophageal adenocarcinoma.

FABIO COMINELLI, MD, PhD, Hermann Menges, Jr. Professor of Medicine (GI & Liver Diseases) & Pathology, CWRU; Chief, Division of GI & Liver Diseases, UHCMC; Director, CWRU/UHCMC Digestive Health Institute; Director & Member, Cleveland Digestive Diseases Research Core Center (DDRCC); Mentor: Digestive Diseases T32 (Co-Director, NIDDK), Immunology T32. Dr. Cominelli's research focuses on the role of the cytokine network and the gut microbiota in the regulation of mucosal immune responses and their alteration in human and experimental IBD (R01 DK055812; R01 DK042191; P01 DK091222, PD & Project 2 PI). He also directs the Cleveland Digestive Diseases Research Core Center (P30 DK097948, PD) and co-directs the post-doctoral Combined Training Program in Digestive Disease Sciences (T32 DK083251, co-PD).

GREGORY COOPER, MD, Professor of Medicine (GI & Liver Diseases) & Epidemiology, CWRU; Gastroenterology Fellowship Training Program Director, CWRU/UHCMC; Clinical Component Director & Member, Cleveland DDRCC; Mentor: Digestive Disease T32 (NIDDK). Dr. Cooper's research focuses on the epidemiology of colon cancer and advanced detection methods (P30 DK097948).

MANEESH DAVE, MD, MPH, Assistant Professor of Medicine (GI & Liver Diseases), CWRU. Dr. Dave's research focuses on the role and mechanisms of action of mesenchymal stem cells in mouse models of CD-like ileitis and patients with IBD. Dr. Dave is a junior faculty mentor for this T35 application and will function in this capacity under the guidance of a senior faculty member.

CURTIS DONSKEY, MD, Professor of Medicine (Infectious Diseases & HIV), CWRU; Mentor: Digestive Disease T32 (NIDDK), Geographic Med. & Infectious Diseases T32. Dr. Donskey's basic and clinical research focuses on the mechanisms by which the normal intestinal microflora inhibit colonization by nosocomial pathogens.

DONNA DRISCOLL, PhD, Staff, Department of Cell Biology & Vice-Chair for Faculty Development, CCF; Professor of Molecular Medicine, CCLCM-CWRU; Member, Cleveland DDRCC; Mentor: Molecular Medicine T32. Dr. Driscoll's research focuses on translational re-coding of the UGA codon as selenocysteine, the 21st amino acid, and regulation of selenoprotein synthesis (R01 DK078591).

MITCHELL DRUMM, PhD, Professor of Pediatrics (Pulmonology) & Genetics, CWRU; Director, Fibrosis Research Center; Member, Cleveland DDRCC; Mentor: Cardiovascular Genetics T32, Pediatric Respiratory Research T32, Neonatal Research T32. Dr. Drumm's research focuses on the genetics and molecular biology of cystic fibrosis, with a focus on the gastrointestinal manifestations of the disease (P30 DK027651).

CLAUDIO FIOCCHI, MD, Clifford and Jane Anthony Chair for Digestive Disease Research & Education, Departments of Pathobiology & GI & Hepatology, CCF; Professor of Molecular Medicine, CCLCM-CWRU; BioRepository Core Director & Member, Cleveland DDRCC; Mentor, Digestive Diseases T32 (Director, NIDDK), Molecular Medicine T32. Dr. Fiocchi's research program is focused on the pathogenesis of IBD and the immune, non-immune, and cell-cell interaction events occurring in the intestinal mucosa of IBD patients. (T32 DK083251; R01 DK050984, R01 DK069854, R01 DK093630, P30 DK097948, BioRepository Core)

CHRISTOPHER FLASK, PhD, Associate Professor of Radiology, Biomedical Engineering, and Pediatrics, CWRU; Assoc. Director, Histology/ Imaging Core & Member, Cleveland DDRCC; Director, Case Imaging Research Center; Mentor: Urology T32 (NIDDK), Nephrology T32 (NIDDK), Interdisciplinary Biomedical Imaging T32, Musculoskeletal T32. Dr. Flask's research focuses on MRI imaging biomarkers of ARPKD kidney and liver disease in children. (R01 DK085099)

DARCY FREEDMAN, PhD, MPH, Associate Professor of Epidemiology & Biostatistics, CWRU. Dr. Freedman's research focuses on the effects of food hub openings as a nutritional intervention in urban communities on rates of obesity (R01 DK108184). Dr. Freedman is a junior faculty mentor for this T35 application and will function in this capacity under the guidance of a senior faculty mentor.

WENDY GOODMAN, PhD, Instructor of Pathology, CWRU. Dr. Goodman's research focuses on regulatory T cell function in Crohn's disease and experimental IBD. Dr. Goodman is a junior faculty member for this T35 application. She is highly enthusiastic about mentoring T35 summer research trainees and will function in this capacity under the guidance a senior faculty mentor.

ROSE GUBITOSI-KLUG, MD, PhD, Mary Blossom Chair in Pediatric Diabetes, Associate Professor of Pediatrics (Endocrinology) & Pharmacology; Interim Chief, Division of Pediatric Endocrinology, Diabetes, & Metabolism, CWRU; Mentor: Cardiovascular Genetics T32. Dr. Gubitosi-Klug's basic and clinical research focuses on the role of the leukotriene cascade in early diabetic retinopathy, and epidemiologic studies in patients with long-term type I diabetes (DP3 DK101074; DP3 DK104438; DP3 DK106890; U01 DK094057).

VIKAS GULANI, MD, PhD, Associate Professor of Radiology and Urology, CWRU; Director, Magnetic Resonance Imaging; Member, Cleveland DDRCC; Mentor: Interdisciplinary Biomedical Imaging T32. Dr. Gulani's translational research focuses on developing new MRI methods that provide a quantitative underlay for evaluation of liver tissue/pathology. (R01 DK098503)

MARIA HATZOGLU, PhD, Professor of Nutrition, Genetics and Pharmacology, CWRU; Member, Cleveland DDRCC; Mentor: Cell & Molecular Biology T32, MSTP T32. Dr. Hatzoglou's research program focuses on the molecular mechanisms regulating gene expression during stress induced by nutrient limitation. (R37 DK060596; R01 DK053307)

STANLEY HAZEN, MD, PhD, Chair, Department of Cellular & Molecular Medicine, CCF, Professor of Molecular Medicine, CCLCM-CWRU; Mentor: Cardiovascular Genetics T32, MSTP T32. Dr. Hazen's research focuses on understanding the molecular mechanisms by which inflammation contributes to disease. His NIDDK-funded research areas focus on the role of a diet-induced gut microbiota-mediated pathway as a predictor of CKD susceptibility and adverse prognosis (R01 DK106000).

THOMAS HOSTETTER, MD, Professor of Medicine (Nephrology & Hypertension), Vice-Chairman of Research Services, UHCMC/CWRU. Dr. Hostetter's research focuses on identification of novel therapies and biomarkers for chronic kidney disease.

TIMOTHY KERN, PhD, Professor of Medicine and Pharmacology, CWRU; Director, Center for Diabetes Research; Mentor: Urology T32 (NIDDK), Molecular Therapeutics T32, Visual Sciences T32. Dr. Kern's research focuses on how hyperglycemia causes retinopathy in animal models of diabetes.

JOHN KIRWAN, PhD, Staff, Departments of Pathobiology & Gastroenterology & Hepatology, CCF; Professor of Molecular Medicine, CCLCM-CWRU; Co-Director, Case Mouse Metabolic Phenotyping Center; Mentor: Digestive Diseases T32 (NIDDK), Molecular Medicine T32. Dr. Kirwan's research focuses on the effects of insulin resistance on aging, skeletal muscle metabolism, fatty liver disease, and obesity (R01 DK108089, U34 DK107917).

LINA LU, MD, Staff, Department of Immunology, CCF; Professor of Molecular Medicine, CCLCM-CWRU. Dr. Lu's research focuses on mechanisms of liver immunity and regulation during inflammatory disease and transplant (R01 DK103581, R01 DK 084192).

<p>KATHERINE MACRAE DELL, MD, Professor of Pediatrics (Nephrology); Chief, Division of Pediatric Nephrology; Mentor: Nephrology T32 (NIDDK), Interdisciplinary Biomedical Imaging T32. Dr. MacRae Dell's research focuses on MRI imaging biomarkers of ARPKD kidney and liver disease in children. (R01 DK085099)</p>
<p>ANANT MADABUSHI, PhD, Professor of Biomedical Engineering, Radiology, Urology, CWRU; Mentor: Cardiovascular Genetics T32, Interdisciplinary Biomedical Imaging T32. Dr. Madabushi's research focuses on quantitative image analysis and multi-modal, multi-scale correlation of massive data sets for disease diagnostics, prognostics, therapy related to cancer.</p>
<p>SANFORD MARKOWITZ, MD, PhD, Professor of Medicine (Hematology & Oncology), Molecular Biology & Microbiology, CWRU; Mentor: Digestive Diseases T32 (NIDDK), Cancer Biology T32, Cell & Molecular Biology T32, Interdisciplinary Biomedical Imaging T32, MSTP T32, Molecular Medicine T32. Dr. Markowitz's research focuses on abnormalities in colon cancer, including studies of colon cancer suppressor genes and oncogenes, functions of positive and negative regulatory growth factors, and the role of genomic instability in inherited and sporadic colon cancers.</p>
<p>NEAL MEROPOL, MD, Professor of Medicine (Hematology & Oncology), CWRU; Chief, Division of Hematology & Oncology, UHCMC; Associate Director for Clinical Research, Case Comprehensive Cancer Center; Associate Director, Clinical Programs, UH Seidman Cancer Center Dr. Meropol's research focuses on medical decision making in the treatment of cancer.</p>
<p>VINCENT MONNIER, MD, Professor of Experimental Pathology, CWRU; Mentor: Urology T32 (NIDDK), Dermatology T32, MSTP T32, Visual Sciences T32. Dr. Monnier's research focuses on the molecular mechanisms by which the aging process leads to impairment of protein function. In particular, his research studies the predictive value of metabolic stress markers for long-term increased risk of vascular complications in patients with type-I diabetes (DP3 DK101123).</p>
<p>LAURA E. NAGY, PhD, Staff Scientist, Dept. of Pathobiology, CCF; Professor, Dept. of Nutrition, CWRU; Professor of Molecular Medicine, CCLCM-CWRU; Director, Cleveland Alcohol Research Center; Scientific Prog. Leader & Member, Cleveland DDRCC; Mentor: Immunology T32, MSTP T32. Dr. Nagy's research focuses on the underlying immunological and molecular mechanisms by which chronic alcohol consumption contributes to chronic hepatitis and diabetes.</p>
<p>JOHN O'TOOLE, MD, Associate Professor of Medicine (Nephrology & Hypertension), CWRU; Mentor: Nephrology T32 (NIDDK). Dr. O'Toole's research focuses on the genetics of human kidney disease (R01 DK108329, R01 DK091597, R01 DK097836).</p>
<p>THERESA PIZARRO, PhD, Professor of Pathology and Medicine, CWRU; Associate Director & Member, Cleveland DDRCC; Director, Cleveland DDRCC Enrichment Program & Histology/Imaging Core; Mentor: Digestive Diseases T32 (NIDDK), Immunology T32. Dr. Pizarro's research program focuses on basic cytokine biology, epithelial-dendritic cell interactions gut health and disease, and gender differences in the pathogenesis of IBD (R01 DK042191, P01 DK091222, Project 3 PI, P30 DK097948).</p>
<p>MAHBOOB RAHMAN, MD, Professor of Medicine (Nephrology & Hypertension), CWRU; Mentor: Nephrology T32 (NIDDK), Cardiovascular Genetics T32. Dr. Rahman's clinical research focuses on identifying predictors of rapid progression of chronic renal insufficiency and clarifying the relationship between kidney dysfunction and the risks of subclinical and clinical cardiovascular events and death (U01 DK061021)</p>
<p>ALEXANDER RODRIGUEZ-PALACIOS, PhD, DVM, Assistant Professor of Medicine (GI & Liver Diseases), CWRU; Technical Director, Cleveland DDRCC Mouse Models Core. Dr. Rodriguez-Palacios' research focuses on animal models on intestinal inflammation and methods for assessing the 3-D architecture of inflamed intestinal tissues. Dr. Rodriguez-Palacios is a junior T35 faculty mentor who will function in collaboration with a senior faculty mentor.</p>
<p>TAKUYA SAKAGUCHI, PhD, Assistant Staff, Department of Stem Cell Biology & Regenerative Medicine, CCF; Assistant Professor of Molecular Medicine, CCLCM-CWRU. Dr. Sakaguchi's research focuses on the genetics of the biliary system formation (R01 DK103637). Dr. Sakaguchi is a junior faculty mentor on this T35 application and will function in this capacity under the guidance of an experienced senior faculty mentor.</p>
<p>JOHN SEDOR, MD, Professor of Molecular Medicine (Nephrology & Hypertension), Physiology & Biophysics; Vice-Chairman for Research, Department of Medicine, CWRU; Mentor, Nephrology T32 (Director, NIDDK), Cardiovascular Genetics T32, Interdisciplinary Biomedical Imaging T32. Dr. Sedor's research focus on defining the clinical, cellular and genetic bases of kidney disease, including identification of nephropathy susceptibility genes and defining mechanisms of kidney disease progression using in vitro (cell culture) and animal models. (T32 DK007740, R01 DK097836)</p>
<p>CARLOS SUBAUSTE, MD, PhD, Professor of Medicine (Infectious Diseases & HIV Medicine), Ophthalmology & Pathology, CWRU; Mentor: Nephrology T32 (NIDDK), Immunology T32, MSTP T32, Molecular Medicine T32, Geographic Med. & Infectious Diseases T32, Visual Sciences T32. Dr. Subauste's research focuses on the role of CD40 in immune responses to various pathogens and diabetic inflammation, and uses transgenic diabetic mouse.</p>

JACKSON T. WRIGHT, JR., MD, PHD, FACP, FASH, FAHA, Professor Emeritus of Medicine (Nephrology & Hypertension); Director, William T. Dahms, MD Clinical Research Unit, UHCMC; Director, Clinical Hypertension Program; Mentor: Nephrology T32 (NIDDK), Cardiovascular T32, Sleep Medicine T32. Dr. Wright has had a major or leadership role in nearly all major clinical outcome trials conducted in black populations over the past two decades. His leadership and participation in NIH-funded clinical trials with large minority representation has resulted in significant advancement of the knowledge base for treatment of hypertension and chronic kidney disease.

RICHARD ZIGMOND, PhD, Professor of Neurosciences & Pathology, CWRU; Mentor: Neurodegenerative Diseases T32, Visual Sciences T32. Dr. Zigmond's research focuses on plasticity in the adult nervous system, particularly on alterations that occur in response to (1) neural damage and (2) changes in the neural activity due to diabetic neuropathy. (R01 DK097223)