

# Harold Hamm Diabetes Center Quarterly Newsletter



**Jed Friedman, Ph.D.**

Director, Harold Hamm Diabetes Center  
Chickasaw Nation Endowed Chair

**Director's Corner.** In this issue we feature four new members of Harold Hamm Diabetes Center – Dr. Tiangang Li, Associate Professor of Physiology and Hamm Endowed Chair for Adult Diabetes Research, and Dr. Emily Jones, Associate Professor and PhD Program Director in the College of Nursing.

Dr. Li arrived in December last year from KU Medical Center and Dr. Jones from Boston University this past year. Both are mid-career investigators and are welcome additions to the diabetes center research base in basic research in liver metabolism, and cardiometabolic health in Native American women with diabetes.

Dr. Norm Hord also joined the diabetes center as the new chairman of the Nutrition Department from Oregon State University. Dr. Hord brings a welcome breadth of knowledge in human nutrition and a research program focused on dietary nitrate and nitrite in the prevention and treatment of cardiovascular and metabolic diseases associated with diabetes.

Last but not least, Dr. Itivrita Goyal is a fellowship-trained new Assistant Professor of Endocrinology. Dr. Goyal comes from the University of Buffalo and has had research training focused on exploring the anti-inflammatory and anti-atherogenic effects of statins at the cellular and molecular level.

Heading into a busy fall season, the diabetes center is working on several new initiatives for 2021. A national search is underway and interviews on-going for a new head of the Division of Adult Endocrinology, and to fill Dr. Chernauser's chair in the Division of Pediatric Endocrinology.

Research-wise, the campus continues to grow with NIH-NIDDK funding increasing from 2.3M in 2019 to \$8.4M in 2020, a remarkable 221% increase. Our fall Diabetes symposia will be virtual for the first time this year, with three outstanding outside speakers. Look for an announcement for Harold Hamm Diabetes Center pilot grants this October with a deadline for receipt of applications in January.

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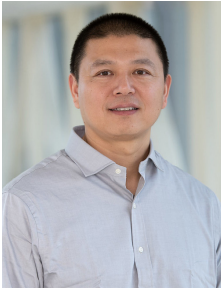
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**Tiangang Li, Ph.D.**

Assistant Professor of Physiology  
Harold Hamm Chair for Adult Diabetes  
Research

*Dr. Li is an Associate Professor of Physiology and member of the Harold Hamm Diabetes Center at the University of Oklahoma Health Sciences Center. He obtained his Bachelor of Science degree in Bio-Pharmaceutics in Jilin University in China. He came to the United States in 2001 and completed his PhD in Kent State University and Postdoc training in Northeast Ohio Medical University. Before joining the Harold Hamm Diabetes Center in Dec 2019, Dr Li was an Assistant/Associate Professor at the University of Kansas Medical Center. His major research interest is in the area of cholesterol and bile acid metabolism and signaling in fatty liver disease, type-2 diabetes, and liver injury.*

## Research Spotlight:

Dr. Li has a long standing research interest in understanding the pathophysiological roles of bile acids in the pathogenesis and treatments of fatty liver diseases and type-2 diabetes

Dr. Li has a long standing research interest in understanding the pathophysiological roles of bile acids in the pathogenesis and treatments of fatty liver diseases and type-2 diabetes. Bile acids are synthesized from the precursor cholesterol in the liver, a process that accounts for about half of the cholesterol elimination in humans. Bile acids are released into the small intestine where bile acids emulsify dietary fat and lipid soluble vitamins to facilitate nutrient absorption. However, research conducted in the past two decades have demonstrated that bile acids are not merely physiological detergents but also important signaling molecules that activate nuclear receptors and cell signaling pathways to control lipid, glucose, energy metabolism, immune response, cell proliferation and cell death. Dysregulation of bile acid homeostasis has been linked to inflammatory liver and gut diseases, gallstones, dyslipidemia, and cancers. On the other hand, targeting bile acid signaling pathways by various approaches have shown great promise in treating human diseases including dyslipidemia, cholestasis, fatty liver disease, and type-2 diabetes. Bile acid signaling is highly complex and impacts different cell types and organ systems. Better understanding of the function of bile acids under normal physiology and various diseased conditions is needed for future development of effective and safe bile acid-based therapies to treat inflammatory and metabolic diseases.

Recently, studies in Dr. Li's lab reported that Transcriptional Factor EB (TFEB), a nutrient and stress-sensing transcriptional factor that was previously reported to promote lysosomal biogenesis, autophagy and fatty acid oxidation, also induced hepatic bile acid synthesis to decrease liver and plasma cholesterol levels in obese and insulin resistant mice. The study also revealed a gut-liver bile acid signaling axis whereby a bile acid-induced growth factor fibroblast growth factor 19 (FGF19) in the small intestine activates intracellular signaling cascade to inhibit the nuclear translocation of transcriptional factor EB (TFEB) and therefore its function in the liver. By this mechanism, small intestine can sense elevated bile acid levels and communicate with the hepatocytes to decrease TFEB induction of bile acids synthesis and maintain bile acid homeostasis. Furthermore, the study showed that blocking intestinal bile acid uptake into the enterocytes by pharmacological interventions decreased intestinal production of FGF15 (mouse ortholog of human FGF19) and enhanced hepatic TFEB function leading to improved fatty liver disease in obese mice. Ongoing research in Dr. Li's lab is further investigating the crosstalk of gut-liver bile acid signaling and hepatic TFEB function in regulating amino acid and cofactor metabolism to enhance the hepatic antioxidant defense mechanism and promote fatty acid oxidation to ameliorate hepatic fat accumulation.



**Jed Friedman, Ph.D.**

Director, Harold Hamm Diabetes Center  
Chickasaw Nation Endowed Chair

## Harold Hamm Diabetes Center Researchers Earn Grant to Study Liver Disease in Children

More than 30% of children who are obese will eventually be diagnosed with non-alcoholic fatty liver disease, or NAFLD, a silently progressing condition that sometimes isn't discovered until a child's liver is stiffened with fibrosis.

Children born to obese mothers face a higher risk of developing NAFLD, but the exact reasons why remain unknown. Three researchers at Harold Hamm Diabetes Center have been awarded a \$2.3 million grant from the National Institutes of Health to investigate the role of the microbiome – the millions of bacteria in a person's gut – and how the microbes passed from mother to child contribute to the onset of NAFLD. The researchers are also testing a nutritional compound for its potential to counter negative changes in the microbiome, thereby lowering the risk for NAFLD.

Babies receive their first microbes from their mother as they travel through the birth canal, breast feed, and have skin-to-skin contact. The microbiome plays a major role in how the immune system develops, beginning soon after birth. By age 3, a child's microbiome is established, but things that disrupt its development in the first 1,000 days can alter the infant's early immune system with significant consequences in later life. A primary suspect in that disruption is what the mother eats during pregnancy.

"A mother's diet that causes her to be overweight will be transmitted to the infant in several ways. Knowing what those microbes are and figuring out how they disrupt the child's immune system is the focus of this study," said Jed Friedman, Ph.D., director of the diabetes center and a principal investigator on the grant.

Dr. Friedman's past research in this area helped him to attract the new federal grant. In his previous study, he took stool samples from 2-week-old infants who were born to obese mothers. Those samples, which contain the microbiome, were placed into mice that had no microbes of their own. As the mice got older, they became obese and experienced a change in their immune systems.

"That prompted us to start thinking about what these microbes are and what they're doing," Dr. Friedman said. "They're coming from the mother in some way, but they're leaking out of the infants' microbiome and changing their immune system and making them gain weight. There's a super-highway from the gut to your liver. So anything that leaks out of the gut travels straight to the liver. Your liver is a prime target for these microbes."

Dr. Friedman's current study will go a step further to determine how much of an infant's microbiome disruption can be attributed to a mother's diet during pregnancy vs. what the baby takes in during breastfeeding. Mice born to an obese mother will be placed with healthy-weight mice to breastfeed, and their immune system development will be monitored, he said.

The human microbiome is sometimes called the "undiscovered community within," Dr. Friedman said, because it is 10 times the size of the human genome and extremely complicated because of how microbes act and communicate with each other. But for all its complexities, researchers have discovered ways to create a healthier microbiome, such as using probiotics in children who have immune conditions like allergies, he said.

Part of this study will test the nutritional compound pyrroloquinoline quinone, or PQQ, for its ability to improve the microbiome. PQQ is an antioxidant found in green, leafy vegetables and, among other things, human breast milk, Friedman

said. In the study, his team will investigate whether PQQ can counteract the microbial factors that lead to NAFLD.

“About 50% of women of reproductive age in the United States are overweight or obese, and of the 30% of obese children who are diagnosed with NAFLD, about 20% will have advanced disease by the time it is discovered,” Dr. Friedman said. “The diagnosis represents a lifelong struggle, and there are no treatments except major lifestyle changes. That’s why we want to catch it before it starts.”

Dr. Friedman’s co-principal investigators on the grant are Karen Jonscher, Ph.D., who brings expertise with PQQ, and Kenneth Jones, Ph.D., who contributes a wealth of experience in laboratory testing, including single-cell RNA sequencing to capture images of the liver and its many cell types.

Research reported in this press release is supported by the National Institute of Diabetes and Digestive and Kidney Diseases, a component of the National Institutes of Health, under the award number 1R01DK121951-01A1.



## 17th Annual HHDC Research Symposium to be held virtually on November 13

The 2020 Harold Hamm Diabetes Center Research Symposium will be held virtually on Friday, November 13, 2020. The Symposium will consist of selected oral presentations and Symposia talks by:

**BRYAN C. BERGMAN, Ph.D.**, Professor of Medicine, Division of Endocrinology, Diabetes, and Metabolism, University of Colorado Anschutz Medical Campus

**JAY D. HORTON, M.D.**, Dr. Robert C. and Veronica Atkins Chair in Obesity and Diabetes, Scott Grundy’s Director Chair, Professor of Internal Medicine and Molecular Genetics, Director of the Center for Human Nutrition, UT Southwestern Medical Center

**JANE REUSCH, M.D., ASCI, AAP, FAHA**, Professor, Division of Endocrinology, Metabolism and Diabetes, Director of Diabetes Research and Personalized Medicine to Transform Care; Associate Director, Center for Women’s Health Research; Co-Director, University of Colorado NIH Diabetes Research Center; Departments of Medicine, Integrative Physiology, and Bioengineering; Staff Physician and Merit Investigator, Rocky Mountain Regional VAMC, Aurora, Colo., University of Colorado Anschutz Medical Center

For more information please go [HERE >](#)



**Emily Jones, Ph.D., R.N.C.-O.B.,  
F.A.H.A., F.P.C.N.A.**  
Assistant Professor  
PhD Program Director,  
Fran and Earl Ziegler College of Nursing

## New OUHSC Investigator works to Reduce Diabetes Risk in American Indian Women in Oklahoman

Novel approaches to better understand and reduce maternal stress in American Indian women with gestational diabetes mellitus are needed to promote their engagement in programs that reduce cardiometabolic risk and improve health during pregnancy and postpartum. Dr. Emily Jones' program of research is grounded in her former clinical practice as a labor and delivery nurse. As a nurse, she observed the need to approach women's reproductive health and cardiometabolic health holistically and to bridge the divide between pregnancy-related healthcare and cardiometabolic disease prevention-focused care after pregnancy.

Dr. Jones joined OU Health Sciences Center as Associate Professor and PhD Program Director in the Fran and Earl Ziegler College of Nursing in 2019, after nine years as faculty at the University of Massachusetts Boston. She grew up in Atoka, Oklahoma, a rural town in the southeastern corner of the state. She graduated from Atoka High School, earned a Bachelor's of Science in Nursing from Oklahoma Baptist University and a PhD in Nursing from the University of Alabama at Birmingham.

With a broad background in women's obstetrical health and health promotion, Dr. Jones has specific training and expertise in translational health disparities research and in the epidemiology and prevention of cardiovascular disease. Her research focuses on translating type 2 diabetes and cardiovascular disease prevention in regionally diverse American Indian communities by adapting and testing lifestyle modification interventions for women diagnosed with gestational diabetes. Since 2010, she has collaborated with partners in the Chickasaw Nation Department of Health and with New England tribal health systems to conduct foundational studies with academic-community research teams. Her teams have identified Oklahoma and New England American Indian women's cardiometabolic risk factors, knowledge, risk perception, and self-efficacy beliefs related to preventing diabetes and cardiovascular disease following pregnancy with gestational diabetes as well as program design preferences for postpartum lifestyle intervention. Early on, Dr. Jones found that American Indian childbearing women with significant cardiometabolic risk had high risk perception for developing T2D and CVD, due to extensive family history. The majority believed that prevention was possible through lifestyle change but had low individual self-efficacy concerning their ability to make needed behavioral changes, particularly given high perceived stress associated with competing priorities and demands. Still, the women expressed interest in a lifestyle program that addressed change at family and community levels and targeted stress as a barrier to weight loss.

Dr. Jones' current funding through the Presbyterian Health Foundation New Investigator Seed Grant Program is allowing her team to build on this prior work and re-engage the Chickasaw Nation community in a new direction as they work to adapt a Native-specific mindfulness based stress reduction intervention to be culturally and situationally relevant for women with gestational diabetes. Jeffrey Proulx, PhD, a researcher in the Mindfulness Center at Brown University, is Dr.

Jones' mentor in this project. Dr. Proulx's work focuses on the development of mindfulness programs in Native American communities as a protective mechanism for health, particularly concerning diabetes-related outcomes. As a Native American, himself, his efforts bridge Native contemplative and healing practices and mainstream mindfulness practices. This collaboration may lead to future opportunities to conduct multi-site studies to test the impact of mindfulness based stress reduction interventions on diabetes-related outcomes in Native communities.

As the Director of the PhD in Nursing program at OUHSC, Dr. Jones recruits and trains early career nurse scholars and researchers to advance nursing science and ultimately shape and make more effective the practice of nursing.



**Norman Hord, Ph.D., MPH, R.D.**  
Professor and Chair  
Department of Nutritional Sciences  
College of Allied Health

## HHDC Welcomes Nutritional Sciences Chair, Dr. Norman Hord

Norman Hord, Ph.D., MPH, R.D., has been named professor and chair of the Department of Nutritional Sciences in the College of Allied Health at the University of Oklahoma Health Sciences Center. Previously, Dr. Hord served as head of the Oregon State University School of Biological and Population Health Sciences in the College of Public Health and Human Sciences.

"I was drawn to the OU College of Allied Health by the excellent faculty in the department and across campus," said Dr. Hord. "There are tremendous opportunities for multidisciplinary collaboration with faculty serving in Harold Hamm Diabetes Center to grow opportunities to use dietary approaches to improve health outcomes."

As a senior faculty member and member of the diabetes center, Dr. Hord will participate in committee meetings to address research and training goals of the center, including pilot grant review panels, junior faculty development, and collaborative research activities between the Department of Nutritional Sciences and members of the center. A primary tenet of Dr. Hord's work is that food offers excellent and efficacious risk reduction strategies for diet-related chronic diseases, approaches that are often as, or more efficacious than conventional pharmaceutical treatments.

Dr. Hord supervises a research program focused on dietary nitrate and nitrite in the prevention and treatment of cardiovascular and skeletal disorders associated with endothelial nitric oxide (NO) deficiency, a hallmark of aging in sedentary western cultures. Humans acquire over 80% of dietary nitrate from leafy green and root vegetables, not from processed meats, like ham, bologna and sausage. Processed meat production requires the use of nitrite to reduce risk of foodborne illness, and consumption of these products is associated with a small increase in gastrointestinal cancer risk. Dietary nitrate and nitrite contribute to endogenous NO production through the recently discovered nitrate-nitrite-NO pathway; this pathway is being exploited to lower blood pressure by dietary means.

Current research findings suggest that dietary nitrate improves glucose tolerance and lowers insulin resistance, effects which are associated with increased expression of GLUT-4 in insulin-sensitive tissues. Taken together with other effects including decreased hepatic gluconeogenesis, inflammation and oxidative stress, dietary nitrate is a good candidate as an inexpensive approach to metabolic health using food-based approaches.

In humans, interventions with dietary nitrate have been demonstrated to lower blood pressure, stabilize atherosclerotic plaques and improve athletic performance. Dr. Hord notes that the International Olympic Committee recognizes the

performance-enhancing properties of dietary nitrate. Research conducted by Dr. Hord and collaborators has shown that nitrate improves athletic endurance in part by changing the mixture of metabolic fuels used by muscle during exercise. This and other research has positive implications for enhancing muscle performance in the elderly, potentially decreasing risk of falls and improving fitness.

Dr. Hord completed his undergraduate education in foods and nutrition at Michigan State University, East Lansing, Mich., and earned a Master of Science degree in nutrition from Clemson University, S.C. At Purdue University, West Lafayette, Ind., he achieved his doctorate in nutrition, and earned a master's degree in public health at Johns Hopkins University. He has held significant leadership roles in national professional organizations, including the Association of Nutrition Departments and Programs, Diet and Cancer Research Interest section of the American Society for Nutrition, and member of the faculty for the Summer Curriculum in Cancer Prevention at the National Cancer Institute. Dr. Hord serves as a grant reviewer for National Institutes of Health, U.S. Department of Agriculture and U.S. Department of Defense/American Institute of Biological Sciences grant review panels.



**Itivrita Goyal, M.D.**

Assistant Professor  
Department of Internal Medicine

## HHDC Welcomes New Endocrinology Provider, Dr. Itivrita Goyal

Board certified in Internal Medicine, Itivrita Goyal, M.D., comes to the Harold Hamm Diabetes Center as an assistant professor of Medicine in the Division of Endocrinology, Diabetes and Metabolism, OU College of Medicine.

“Harold Hamm Diabetes Center is on the front line of diabetes management and translational research, both in the state of Oklahoma as well as the country. The center is highly regarded internationally for its aggressive work toward developing more effective therapies for diabetes that will pave the way for a cure,” said Dr. Goyal. “I am very excited to be part of the team at HHDC. I look forward to working with my colleagues and collaborators, clinicians and researchers under Dr. Friedman’s leadership and bound by shared goals.”

Dr. Goyal completed a fellowship in endocrinology, diabetes and metabolism at the State University of New York at Buffalo, where she also completed a residency in internal medicine. She earned her medical degree from Maulana Azad Medical College, New Delhi, India. Dr. Goyal’s clinical interests are diabetes and general endocrinology. In addition to caring for patients, Dr. Goyal pursues ongoing research activities, with primary emphasis on inflammation, metabolism and cancer-related endocrinological complications.

During her fellowship training, Dr. Goyal’s research focused on exploring the anti-inflammatory and anti-atherogenic effects of statins at the cellular and molecular level. An additional study that she is currently working on is evaluation of the underlying mechanisms of insulin resistance associated with androgen deprivation therapy (ADT) in prostate cancer patients and its reversal with pioglitazone therapy; a project she hopes to establish in her current role at Harold Hamm as well. She has co-authored numerous abstracts and publications exploring a broad range of endocrine topics and has given oral and poster presentations at a number of national and international scientific meetings. Dr. Goyal is a member of the National Endocrine Society, American Association of Clinical Endocrinology and American College of Physicians.

## New Grants to HHDC Members:

**PI: Yun Le, Ph.D.**

Funding Organization: Oklahoma Center for the Advancement of Science and Technology

Title of Grant: Function of the VEGF in the retina

Amount Awarded: \$135,000

Health Research Award HR20-065

Dates: 0/01/2020 – 9/30/2023

The goal is to perform preliminary study investigating the role of VEGF in retinal neuronal function

**PI: Joshua Butcher, Ph.D.**

K01 AG064121

Dates: 08/01/2020 – 05/31/2025

NIH/NIA: Skeletal Muscle as a Target for Cardio-Metabolic Disease in Sarcopenic Obesity

The goal of this mentored career development award is allow for extensive training in aging and muscle function as well as lay the foundation for understanding the fundamental links between skeletal muscle health, obesity, and aging

**PI: Joshua Butcher, Ph.D.**

Pilot Award Project

Dates: 08/14/2020 – 06/30/2021

NIH/NIGMS: Augmented Muscle Mass as a Buffer Against Influenza

This pilot project award is from the Oklahoma Center for Respiratory and Infectious Diseases (OCRID) CoBRE (P20GM103648) and is designed to test if augmented muscle mass protects against pulmonary dysfunction with influenza infection

**PI: Marianna Wetherill, Ph.D, R.D.**

NIH- R01DK127464

09/17/2020 – 08/31/2025

Total cost: \$2,467,095

Project Title: Nutrition to Optimize, Understand, and Restore Insulin Sensitivity in HIV for Oklahoma (NOURISH OK)

**Dharambir Sanghera, Ph.D., F.A.H.A.**

Professor of Pediatrics Genetics (Co-inv) and Evgeny Sidorov, MD (PI), Associate Professor Neurology have received Leinbach Seed Grant of \$15,000 from the Department of Neurology to investigate metabolomic and epigenetic changes in acute and chronic phases of Ischemic stroke in MISS patients.

**Dharambir Sanghera, Ph.D., F.A.H.A.**

Professor of Pediatrics Genetics and Evgeny Sidorov, MD, Associate Professor Neurology have received a COMAA grant award \$25,000 on June 23, 2020; Dr. Sidorov is PI and Dr. Sanghera is Co-Investigator. The goals are to identify metabolome biomarkers in the acute and chronic stages of ischemic stroke using Omics and metabolomic technologies.



## HHDC NEW MEMBER PUBLICATIONS:

Liu, Y., Bao H., Wang, W<sup>t</sup>., **Lim, H-Y<sup>t</sup>** (2019) Cardiac Snail family of transcription factors direct systemic lipid metabolism in *Drosophila*. *PLOS Genetics*. DOI:10.1371/journal.pgen.1008487. PMID:PMC31725726. (\* Corresponding author)

Yifeng Wang, Sumedha Gunewardena, Feng Li, David J. Matye, Cheng Chen, Xiaojuan Chao, Taeyoon Jung, Yuxia Zhang, Maciej Czerwiński, Hong-Min Ni, Wen-Xing Ding, **Tiangang Li**. An FGF15/19-TFEB regulatory loop controls hepatic cholesterol and bile acid homeostasis *Nature Communications*. (2020) Jul 17;11(1):3612. PMID: 32681035; PMID: PMC7368063.

**Jiang S**, Teague AM, Tryggestad JB, Lyons TJ, Chernaosek SD. Fetal circulating human resistin increases in diabetes during pregnancy and impairs placental mitochondrial biogenesis. *Mol Med*. 2020 Aug 6;26(1):76. doi: 10.1186/s10020-020-00205-y. PMID: 32762639; PMID: PMC7409642.

**Jiang S**, Teague AM, Tryggestad JB, Jensen ME, Chernaosek SD. Role of metformin in epigenetic regulation of placental mitochondrial biogenesis in maternal diabetes. *Sci Rep*. 2020 May 20;10(1):8314. doi:10.1038/s41598-020-65415-0. PMID: 32433500; PMID: PMC7239922.

**Reinschmidt KM**, Salvatore AL, Li J, Finnell KJ, Lopez Giron AE, Bump ER, Philip TJ, Stoner JA. Diabetes among Hispanics in Oklahoma: Assessing Disparities to Guide Basic and Applied Research. *The Journal of the Oklahoma State Medical Association* 2020; 113(4) July/August:160-166. <https://www.bluetoad.com/publication/?m=24761&i=671309&p=14>

Lei Wu, Yi Lyu, Ramkumar Srinivasagan, Jinlong Wu, Babajide Ojo, Minghua Tang, Guadalupe Davilla El-Rassi, Katherine Metzinger, Brenda J Smith, Edralin A Lucas, Stephen L Clarke, Winyoo Chowanadisai, Xinchun Shen, Hui He, Tyrrell Conway, Johannes von Lintig, **Dingbo Lin**. 2020. Astaxanthin-shifted gut microbiota is associated with inflammation and metabolic homeostasis in mice. *J Nutr*. <https://doi.org/10.1093/jn/nxaa222>

Ryan Greenway, Nick Barts, Chathurika Henpita, Anthony P. Brown, Lenin Arias Rodriguez, Carlos Rodríguez Peña, Sabine Arndt, Gigi Y. Lau, Michael P. Murphy, Lei Wu, **Dingbo Lin**, Michael Tobler, Joanna L. Kelley, Jennifer H. Shaw. 2020. Convergent evolution of conserved mitochondrial pathways underlies repeated adaptation to extreme environments. *Proc Natl Acad Sci U S A*. 2020 Jun 25;202004223. doi: 10.1073/pnas.2004223117. Online ahead of print.

Morgan D. Strong, Matthew D. Hart, Tony Z. Tang, Babajide A. Ojo, Lei Wu, Mariah R. Nacke, Workneh T. Agidew, Hong J. Hwang, Peter R. Hoyt, Ahmed Bettaieb, Stephen L. Clarke, Brenda J. Smith, Barbara J. Stoecker, Edralin A. Lucas, **Dingbo Lin**, Winyoo Chowanadisai. 2020. Role of zinc transporter ZIP12 in susceptibility-weighted brain magnetic resonance imaging (MRI) phenotypes and mitochondrial function. *FASEB J*. 2020 Jul 27. doi: 10.1096/fj.202000772R. Online ahead of print.

Yunzhou Dong, Megan L. Brophy, Lili Yu, Aiyun Wen, Hao Wu, Ashiqur Rahman, Kai Song, Xiaolei Liu, Lin Deng, Scott Wong, Scott Hahn, Sukyoung Kwak, Kenneth Krygier, Yusuke Kawashima, **Hiroyuki Matsumoto**, Yoshio Kodera, Ju Chen, Richard J. H. Wojcikiewicz, Klaus Lay, Hong Chen. 2020. Epsin-mediated degradation of IP3R1 fuels atherosclerosis. *Nat Commun* 11, 3984. <https://doi.org/10.1038/s41467-020-17848-4>

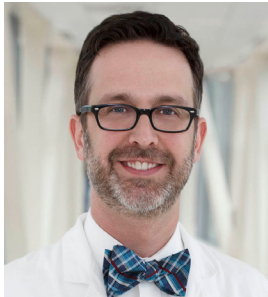
Sapkota, BR and **Sanghera DK** (2020). A rare missense variant in the milk fat globule-EGF factor 8 (MFGE8) increases T2DM susceptibility and cardiovascular disease risk with population-specific effects *Acta Diabetologica*: <https://doi.org/10.1007/s00592-019-01463-x> PMID: 32025861

Sidorov E, Beaver BM, Bejar C, Chao X, Ray B, Indukuri, VV, Reddivari L, Chainakul J, Vanamala JKP, **Sanghera DK** (2020). Comparison of Metabolomic Profile in Acute and Chronic Stage of Ischemic Stroke. *J of Stroke and Cardiovascular Diseases* 29 (4), 104618 PMID: 32025861

**Jonscher, KR**, Abrams, JK and Friedman, JE, Maternal diet alters trained immunity in the pathogenesis of pediatric NAFLD (2020) *J. Cell. Immun.* (in press).

## Clinic Updates

### Pediatric Diabetes & Endocrinology Clinic



**David Sparling, M.D., Ph.D.**  
Assistant Professor  
CHF Paul and Ann Milburn  
Chair in Pediatric Diabetes

The pediatric clinic continues to go strong. We have had a busy few months, as we continue to expand back to “full-time” care, but in the setting of the ongoing COVID-19 crisis. Patients, staff and providers have all been flexible, and we have been receiving exemplary marks on our post-visit surveys; when needed, patients are very much appreciating telemedicine. We continue to work on expanding our telemedicine CDE services for our patients as well.

Furthermore, we continue to expand our research offerings for patients with Type 1 and Type 2 diabetes, and those at risk as well. Dr. Beck has an investigator-initiated industry-funded study looking at continuous glucose monitor (CGM) use and interventions in our older teen population, and we recently have been approved to open another industry-funded CGM study. Trialnet, the study examining the risk to family members of patients with Type 1 diabetes, also continues to recruit, as does a prevention study run through Trialnet.

Finally, we have a new trainee on board; Dr. Kanwaljeet Hura, our new fellow.

### Adult Diabetes & Endocrinology Clinic



**Mary Zoe Baker, M.D.**  
David Ross Boyd  
Professor of Medicine

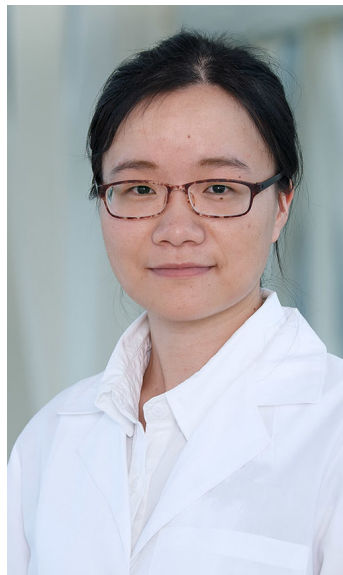
We are very pleased to welcome Dr. Iti Goyal to the Endocrine faculty. Dr. Goyal joined us in early September from Buffalo, NY, where she did her endocrine fellowship. She will be involved in the education of our students, residents and fellows and is already seeing patients in the Harold Hamm Diabetes Center Adult Endocrine clinic.

In the Adult Endocrine clinic, we are continuing to see most of our patients in person in the clinic with robust social distancing procedures in place. Telehealth visits are available upon request. We have adapted to this new normal for now.

## New HHDC Lab Staff:



**Michael Edenhoffer**  
Research Technician  
Unnikrishnan Lab



**Lijie Gu**  
Associate Research Scholar  
Li Lab



**Reid Selby**  
Research Assistant II  
Jones Lab



**Alexander Yeganeh**  
Research Assistant II  
Rudolph Lab