

# Harold Hamm Diabetes Center Quarterly Newsletter



**Jed Friedman, Ph.D.**  
Director, Harold Hamm Diabetes Center  
Chickasaw Nation Endowed Chair

**Director's Corner.** This first issue of the HHDC Newsletter provides opportunities to reflect on where we've been, where we are, and where we want to go. Our progress since relaunching the HHDC in 2019 has been truly remarkable. A few recent highlights: 2019 was a banner year for hiring with 6 new HHDC faculty, including 4 new Endowed chair holders. Among these is Ken Jones, Ph.D. who arrived from Colorado and has doubled as the HHDC director of OUHSC core laboratories and Covid19 detective as described below. Our new investigators brought >\$5 Million in research funding and more than double our NIH-NIDDK funded research projects on the OUHSC campus. The opening of the new HHDC laboratories in Biomedical Research Center, and the impactful discoveries and publications are bringing increasing national recognition to your own disciplines and to our HHDC research community. The outpouring of support by donors at the Connect-to-Cure Diabetes Gala and the grateful commitment of the Children's Hospital and Hospital Authority Trust to growing diabetes research across this campus has been amazing. The extent of our collaborations across basic science departments, Norman campus, OMRF, and hospital clinical programs has been growing steadily. With the awarding of over \$1M in HHDC team science, pilot grants, equipment grants, and bridge funding in 2019 the future looks bright. The outreach in the Diabetes community and care in the clinics reaching more than 25,000 people throughout Oklahoma and our tribal partners present new opportunities to expand behavioral and clinical research throughout our University and Diabetes community. From bariatric surgery to clinical research at the local, tribal, and national level, patient programs and nutritional intervention to halt the obesity/diabetes epidemic are under development. Due to the Covid19 outbreak, we suspended the bi-monthly Metabolic Research Conference, however, we initiated a new weekly virtual Diabetes working group named OGTT- Oklahoma Group for Testing Theories (in Diabetes and Obesity), organized by Dr. Karen Jonscher. Our support staff has been amazing. In addition to Katie Hoefling who coordinates our meetings and calls for proposals, Alexandra LeGrant, our new grants manager brings extensive administrative and accounting experience to our researchers. As we move toward a soft re-opening of laboratories and clinics, we are excited to welcome a new HHDC website this June, further renovation of diabetes research labs, and a call for research proposals this fall as we move closer toward new breakthroughs in our search for a cure.

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**Ken Jones, Ph.D.**  
Associate Professor  
Harold Hamm Chair in  
Adult Diabetes Research

## Research Spotlight:

### HHDC Researcher Part of Team to Develop New Covid-19 Test for Oklahomans

HHDC Researcher Ken Jones, Ph.D., is part of an OUHSC, OU Medicine & OMRF team that developed a new COVID-19 test for Oklahomans. The new test uses smaller amounts of a patient's sample, which is tested five times to ensure accuracy. The team partnered with Fluidigm Corporation, which allows for a large number of testing daily, about 1,800, and no supply chain issues. This test will greatly increase the capacity of testing in the state. To run such a large number of tests with such a short turn-around, Dr. Jones and the team turned the basement of the hospital into a lab space in record time. What normally takes about a year, Dr. Jones and the team did in 4 weeks. Since COVID-19 is a droplet-transmitted disease, the lab was built to be a viral containment field, consisting of three rooms with separate air handling systems to ensure no contamination. In order to manage a large number of daily testing, Dr. Jones and Instructor Philip O'Neill built an informatics platform to interpret the results. As Dr. Jones and Philip O'Neill have assisted with clinical testing in's three previous hospitals in Colorado, their expertise in data analysis and report generation was critical in developing the new test. In addition to analyzing and interpreting the results, they developed software to get the test results to the patient's physician much quicker than traditional results in as little as six hours. They and the team came together and worked endlessly to get the job done. Testing with the new test is expected to start this week.



**Karen Jonscher, Ph.D.**  
Associate Professor

### Launch of a New Diabetes/Obesity Working Group: Oklahoma Group for Testing Theories (OGTT)

This group of students and faculty mentors is focused on discussing recent advancements and methodologies in obesity and diabetes research across species and the lifespan. Every Wednesday from 12-1 pm, a presenter leads a discussion on a recently published paper, a manuscript they are currently working on, or data they have recently collected for grants. The goal of this group is to develop a community within the HHDC that can enhance areas of research and strengthen or develop collaborations within OUHSC, OMRF, and OU Norman.

Whether you want feedback on your new data, manuscript or aims, or want to find a collaborator for a new initiative out what is going on in obesity and diabetes research at OUHSC, we welcome your participation. Meetings are currently being held on Zoom.

**For more information about the group, please contact: [Karen-Jonscher@ouhsc.edu](mailto:Karen-Jonscher@ouhsc.edu)**



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

## Update From the Adult Endocrinology & Diabetes Clinic

All of our patients are being seen by virtual visits either by telehealth using audio/visual or by telephone only. The process of transitioning to telehealth usually takes at least a year but we have done this in a few weeks. We could not have done this without the hard work, dedication and leadership of our clinic manager April Brawdy who is going out of her way to make sure our patients are as comfortable as they can be with the technology. We could truly not have done this without her hard work. Once CMS relaxed the rules for telemedicine allowing its expansion, she got busy. Our diabetes educators Christine Olson and Dianne Brown along with Angela Yuras our nurse practitioner have jumped in with both feet. Dr. Jonea Lim is leading the way in terms of the number of telemedicine patients she has seen. Finally, we are expanding virtual visits to our hospital-based endocrine clinic where our endocrine fellows see their patients. We will have our first virtual clinic there this week with plans to expand its reach over the next few weeks. This is all done to provide our patients with diabetes the care they need while helping them to practice physical distancing to keep them safe. I am sure we will continue to use telemedicine in some way after this crisis is behind us.

### Co-Authored By:



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

## Update from the Pediatric Diabetes & Endocrinology Clinic

We have instituted telemedicine for the vast majority of our visits. The visits at our partner Chickasaw and Choctaw sites are all being conducted by phone. Our families have been feeling the stress of watching how COVID-19 is affecting communities across the nation and hearing that having diabetes puts one at greater risk is adding to that stress. For some of our patients, we've been lucky enough to have systems in place to remotely check their blood sugars and even pump settings, and are continuing to work with our kids and families to have this technology be as widely available as possible. Our education team has done amazing work in helping our patients and their families stay in touch with everyone. Still, a lot of work to be done; health disparities definitely exist in Oklahoma, and not everyone has easy access to all the things that make remote management and telemedicine work, but we're continuing to explore new avenues to help all our kids. As for our research, per the request of the VPR, we have shut down our lab for the time being, and the efforts of the researchers are focused on writing manuscripts and grants while preparing for experiments once we are allowed to open our labs again.



**Jeanie Tryggstad, M.D.**  
Associate Professor

# NEW HHDC MEMBER GRANTS

**PI: Joni Beck, PharmD, BC-ADM, CDE**

Funding Organization: Dexcom, Inc.

Title of Grant: Continuous Glucose Monitor Use in High-Risk  
Young Adults with Diabetes

Amount Awarded: \$160,955

Dates: 6/1/2020 to 5/31/2021

**PI: Adam Duerfeldt, Ph.D.**

Funding Organization: NIH-NEI

Title of Grant: Small Molecule PPAR-alpha Agonism as a  
Novel Approach to Treat Vascular Diseases

Amount Awarded: \$2,162,055

Dates: 5/1/2020 to 4/30/2025

**PI: David Fields, Ph.D.**

Funding Organization: NICHD

Title of Project: Maternal Obesity, Milk Composition,  
and Infant Growth

Amount Awarded: \$3,600,632

Dates: 3/01/2020 to 2/28/2025

**PI: Tiangang Li, Ph.D.**

Funding Organization: NIA

Title of Grant: Novel mechanisms of aging-associated  
hyper-susceptibility to hepatotoxicity and  
liver injury

Amount Awarded: \$408,826

Dates: 4/1/2020 to 1/31/2022

**PI: Hui-Ying Lim, Ph.D.**

Funding Organization: National Heart Lung Blood Institute

Grant Type: R01

Title of Grant: A cardiac Wingless-Snail-Tep2 axis directs  
normal lipid homeostasis and protects  
against diet-induced obesity

Amount Awarded: \$1,800,000

Dates: 4/1/2020 to 3/31/2025

**PI: Dingbo (Daniel) Lin, Ph.D.**

Funding Organization: USDA

Title of Grant: Dietary xanthophylls in preventing inflammation  
and promoting gut health in prediabetes

Amount Awarded: \$500,000

Dates: 3/01/2020 to 2/28/2023

**PI: Ann Louise Olson, Ph.D.**

Funding Organization: OCASCR

Title of Grant: PFKFB3 Regulation of Glycolysis and Glucose  
Uptake in Adipocyte Differentiation

Amount Awarded: \$56,000

Dates: 1/1/2020 to 6/30/2020

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As a reminder, when submitting grants in SoonerTrack, please select the box, "This Project is a Diabetes Related Project." We would love to highlight your work in diabetes and by selecting this box, it helps us easily pull this information via monthly reporting. Thank you!

## NEW HHDC LAB STAFF:



**Kenneth Jones Ph.D.**

Associate Professor, Department of Cell Biology, Harold Hamm Chair in Adult Diabetes Research  
Director for Bioinformatics, Harold Hamm Diabetes Center  
Director, Laboratory for Molecular Biology and Cytometry Research (LMBCR)  
Associate Director for Bioinformatics, LMBCR  
Director, Molecular, Biology and Cytometry Research Shared Resource (MBCR SR)  
Associate Director for Bioinformatics, MBCR SR



**Karen Jonscher, Ph.D.**

Associate Professor, Department of  
Biochemistry and Molecular Biology



**Archana Unnikrishnan, Ph.D.**

Assistant Professor, Department of  
Biochemistry and Molecular Biology



**Tiangang Li, Ph.D.**

Associate Professor, Department of  
Physiology  
Harold Hamm Chair in Adult  
Diabetes Research

**Jed Friedman/Karen Jonscher Lab Staff:**

- Jess Abrams, Research Assistant III
- Rachel Janssen, Associate Director of  
Laboratory Research
- Ashok Mandala, Post-Doctoral Research Fellow
- Kameron Sugino, Post-Doctoral Fellow



**Michael Rudolph, Ph.D.**

Assistant Professor, Department of  
Physiology  
Choctaw Nation Chair in Adult  
Endocrinology

**Tiangang Li Lab Staff:**

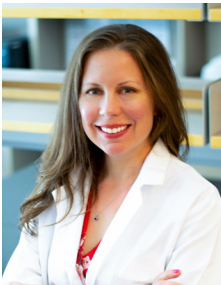
- David Matye, Research Assistant II
- Cheng Chen, Post-Doctoral Research Fellow

**Michael Rudolph Lab Staff:**

- Rohan Varshney, Staff Scientist

**Archana Unnikrishnan Lab Staff:**

- Michael Chan, Research Assistant III



**Elizabeth Wellberg, Ph.D.**

Assistant Professor, Department of  
Pathology

**Elizabeth Wellberg Lab Staff:**

- Marisol Castillo-Castrejon, Instructor
- Stevi Johnson Murguia, Research Assistant II

**Kenneth Jones Lab Staff:**

- Philip O'Neil, Instructor