

## Wednesday, September 7

Welcome Reception  
21C Museum Hotel, Durham  
*Second Floor Gallery*  
6:00 pm – 8:00 pm

## Thursday, September 8

FLRC Day 1  
21C Museum Hotel, Durham  
*Main Gallery and Second Floor Gallery*

**8:30** **Check-in and Continental Breakfast | *Second Floor Gallery***

**9:00** **Welcoming Comments | *Main Gallery***

**Saskia Neher, PhD** | University of North Carolina at Chapel Hill  
**John Rawls, PhD** | Duke University

### **Session I: Thinking Outside the Sphere: Weird and Wonderful Functions of Lipoproteins**

Chair: **Sarah Cohen, PhD** | University of North Carolina at Chapel Hill

**9:05** **Sarah Cohen, PhD** | University of North Carolina at Chapel Hill

*APOE Moonlights as a Lipid Droplet Protein in Astrocytes*

**9:25** **Lance Johnson, PhD** | University of Kentucky

*APOE, Immunometabolism, and Lipid Droplet Dynamics in Microglia*

**9:45** **Selected Abstract - William Clarkson** | University of South Carolina

*Association between Cholesterol Efflux Capacity and HDL-Sized and Whole Plasma Proteins in the HERITAGE Family Study*

**10:00** **Selected Abstract - Alexander Bashore, PhD** | Columbia University

*High Plasma Lp(a) Levels Associate with a Specific Transcriptomic Signature in Monocytes in African Americans but not in Whites*

**10:15** **Break**

## Thursday, September 8

FLRC Day 1

Continued

### Session II: A Celebration of Innovation: New Technologies, New Insights

Chair: **Scott Gordon, PhD** | University of Kentucky

10:45 **Michael Airola, PhD** | Stony Brook Cancer Center

*Snapshots of Lipid Synthesis and Storage*

11:05 **Melissa Ellermann, PhD** | University of South Carolina

*Endocannabinoids Modulate Commensal and Pathogenic Enterobacteriaceae in the Gut*

11:25 **Meng Wang, PhD** | Baylor College of Medicine

*Lysosomal Lipid Signals in Longevity Regulation*

11:45 **Selected Abstract - Shunxing Rong, PhD** | UT Southwestern Medical Center

*Increasing Phosphatidylethanolamine Content in the Endoplasmic Reticulum*

12:00 **Selected Abstract - Ian Williamson, PhD** | Duke University

*Glycerate Production from Enteric Fructose Metabolism is Elevated by Dietary Fat, Inducing Glucose Intolerance through  $\beta$ -cell Damage*

### 12:15 Lunch

**Faculty and Staff – Lunch on Your Own**

**Trainees – Career Development Session** (Prior Registration Required)

#### Option 1 | Gallery Three

**How to Publish in High- Impact Journals: A Panel Discussion**

**Alan Daugherty, PhD, DSc** | University of Kentucky

**Suzanne Barbour, PhD** | Duke University

**Scott Gordon, PhD** | University of Kentucky

**Deb Muoio, PhD** | Duke University

#### Option 2 | Gallery Five

**Transitional Awards from NIH**

**Karin Lidman, PhD** | Program Director, Office of Research Training and Career Development, Division of Cardiovascular Sciences, NHLBI, NIH

**Ian Williamson, PhD** | Postdoctoral Research Associate, Division of Gastroenterology, Duke University School of Medicine

**Sarah Cohen, PhD** | Assistant Professor, Cell Biology and Physiology, University of North Carolina at Chapel Hill

## Thursday, September 8

FLRC Day 1

Continued

### 2:00 Keynote Speaker

**Karen Mohlke, PhD** | University of North Carolina at Chapel Hill

*Molecular Genetic Mechanisms Underlying Inter-Individual Variation in Lipid Metabolism*

### 2:45 Break

### 3:15 Larry Rudel Award Lectures

Chair: **Ryan Temel, PhD** | University of Kentucky

3:15 **Natalia Do Couto, PhD** | University of Illinois at Chicago

Postdoctoral Fellow

*Cholesterol-Induced Suppression of Kir2.1 Contributes to Atherosclerotic Plaque Development*

3:30 **Kathryn Gunn, PhD** | University of North Carolina at Chapel Hill

Postdoctoral Fellow

*Active Lipoprotein Lipase Dimer Revealed by CryoEM*

3:45 **Clint Upchurch** | University of Virginia

Graduate Student

*AAV8-Mediated Expression of Scfv-E06 to Target Oxidized Phosphatidylcholines is an Effective Therapeutic Intervention to Prevent Progression to Hepatic Fibrosis*

### Session III: I'm No Model: Lipid Metabolism in Unconventional Systems

Chair: **Robert Bauer, PhD** | Columbia University

4:00 **Meredith Wilson, PhD** | Carnegie Institute for Science

*Imaging Intestinal Lipid Droplet Dynamics in Vivo with Fluorescent Perilipin 2 and Perilipin 3 Knock-In Zebrafish*

4:20 **Marina Blanco, PhD** | Duke Lemur Center

*From Fruits to Fats: High Sugar Diets Predict White Adipose Tissue Deposition and Depletion in a Hibernating Lemur*

4:40 **Eva Hurt-Camejo, PhD** | Astra Zeneca

*Absence of Atherogenesis Associated with Vasculo-Protective Properties of Lipoproteins despite Elevated Total Plasma Lipids in Brown Bears (*Ursus arctos*)*

5:00 **Selected Abstract - Madison Kirk** | Wake Forest University

*The Effect of Hydrogel Materials on Lipid Metabolic Capacity of Three-Dimensional Primary Human Hepatocyte Cultures*

## **Thursday, September 8**

FLRC Day 1

Continued

**6:00 Depart hotel lobby for the short walk to Durham Bulls Baseball Stadium**

**6:15 Dinner and Baseball (Prior Registration Required)**

Durham Bulls vs Scranton/Wilkes Barr RailRiders

*Pinnacle Party Deck*

Durham Bulls Athletic Park

## **Friday, September 9, 2021**

FLRC Day 2

The North Carolina Diabetes Research Center

Annual Symposium

*Haw River Ballroom*



**8:00 Buses depart 21C Museum Hotel lobby for transportation to the venue**

**9:00 Welcoming Comments**

**9:15 NCDRC Keynote Speaker**

**Scott Summers, PhD** | University of Utah

*Ceramides and the Two Phases of Lipotoxicity*

**10:15 Presentation**

**Herman Pontzer, PhD** | Duke University

*Evolution, Activity, and Aging in Human Energy Expenditure*

**11:00 Break**

**11:15 Presentation**

**Beth Mayer-Davis, PhD** | University of North Carolina at Chapel Hill

*Nutrition for Precision Medicine Study*

**12:00 Lunch**

## **Friday, September 9, 2021**

FLRC Day 2

Continued

### **1:00 Afternoon Presentations**

**David Herrington, MD** | Wake Forest University

*Understanding Cardiometabolic Heterogeneity in the Age of Big Data, Advanced Analytics and Complexity Theory*

**Anna Lee, PhD** | North Carolina Agricultural and Technical State University

*Examining the Influence of Social Determinants of Health on Obesity and Diabetes among Aging African Americans*

**Abbie Smith-Ryan, PhD** | University of North Carolina Chapel Hill

*Isoenergetic High Intensity Interval Training and Moderate Intensity Training in Adults with Type I Diabetes*

**Morgana Mongraw-Chaffin, PhD** | Wake Forest University

*Meals for Moms: A Postpartum Medically-Tailored Meal Program to Promote Weight Loss and Blood Glucose Control Among Women with Hyperglycemia in Pregnancy*

**Svati Shah, MD, MHS** | Duke University

*Omics Biomarkers in Obesity and Diabetes: A Step Towards Precision Health?*

### **4:15 Invitation to Poster Session**

**Elimelda "Moige" Onger, PhD** | North Carolina Agricultural and Technical State University

### **4:30 Poster Session | Cash Bar**

### **5:45 Buses depart Haw River Ballroom for 21C Museum Hotel**

## Saturday, September 10

FLRC Day 3

21C Museum Hotel, Durham

*Main Gallery and Second Floor Gallery*

### 8:30 Continental Breakfast | *Second Floor Gallery*

### 9:00 Virgil Brown Lecture | Main Gallery

Deb Muoio, PhD | Duke University

*Mitochondrial Fitness and Failure in Health and Disease*

### Session I: The Big Picture: Systems, Omics, and Whole-body Studies

Chair: **Svati Shah, MD, MHS** | Duke University

9:45 **Keshari Thakali, PhD** | University of Arkansas Medical Sciences

*Sex Differences in Maternal Programming of Perivascular Adipose Tissue*

10:05 **Jessica Alvarez, PhD, RD** | Emory University

*Nutritional Metabolomics to Identify Novel Pathways Linked to Body Composition*

10:25 **Opeyemi Olabisi, MD, PhD** | Duke University

*A Friend of Lipid but a Toxin to Kidney Cells: The role of APOL1 in the pathogenesis of kidney failure in African Americans*

### 10:45 Break

### Session II: Adios Adipose: Lipids in Other Tissues

Chair: **Rebecca Haeusler, PhD** | Columbia University

11:00 **Arion Kennedy, PhD** | North Carolina State University

*Investigating H2-Kb Restricted Peptides in Fatty Liver Disease*

11:20 **Taku Kambayashi, MD, PhD** | University of Pennsylvania

*Control of Lipids through the Skin by the Immune-Sebum Axis*

11:40 **Phillip White, PhD** | Duke University

*A New Homeostatic Regulatory Node at the Intersection of Amino Acid and Lipid Metabolism*

12:00 **Robert Helsley, PhD** | University of Kentucky

*Carnitine Palmitoyltransferase 1a Serves as a Gatekeeper of Sexual Dimorphic NAFLD*

12:20 – Closing remarks and meeting adjourned