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 β-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 1 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” Ongeri, 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