

## WORKSHOP

# Obesity and Fat Metabolism in HIV-infected Individuals

### *Sponsored by*

National Institute of Allergy and Infectious Diseases  
National Institute of Diabetes and Digestive and Kidney Diseases  
National Institutes of Health Office of AIDS Research  
National Institutes of Health Office of Research on Women's Health

May 22 and 23, 2018  
5601 Fishers Lane, LD20A/B  
Rockville, Maryland

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## AGENDA

### May 22 (Tuesday), 2018

8:00-8:25 **Registration**

8:25-8:30 **Welcome and Opening Remarks**

*Griffin Rodgers (Director, National Institute of Diabetes and Digestive and Kidney Diseases)*

*Catherine Godfrey (National Institute of Allergy and Infectious Diseases)*

*Andrew Bremer (National Institute of Diabetes and Digestive and Kidney Diseases)*

8:30-10:30 **Session 1: Overview – Setting the Stage**

**Chair:** *Peter Hunt (University of California, San Francisco)*

**Session Overview:**

- Brown vs beige fat; generalized obesity vs dysfunctional adipose tissue
- Lifespan issues

8:30-9:00 **Overview of the underlying biology of immune activation linking it to obesity**

*Clovis Palmer (Burnet Institute)*

9:00-9:30 **Epigenetic link – in utero issues**  
*Mary-Elizabeth Patti (Joslin Diabetes Center)*

9:30-10:00 **Fat types, distribution, sex differences, age differences, racial and ethnic differences**  
*Aaron Cypess (National Institute of Diabetes and Digestive and Kidney Diseases)*

**10:00-10:30 Group Discussion**

10:30-10:45 **Break**

**10:45-12:30 Session 2: It's the Virus!**

**Co-Chairs:** *Todd Brown (Johns Hopkins University)*  
*Roger Paredes (IrsiCaixa AIDS Research Institute)*

**Session Overview:**

- Relationship between HIV and its viral products and fat

10:45-11:15 **HIV viral products and the immunometabolism**  
*Dorothy Lewis (The University of Texas Health Science Center at Houston)*

11:15-11:45 **miRNA, dicer and adipose tissue in HIV: novel pathways of fat regulation and organ specific cross-talk in HIV**  
*Steve Grinspoon (Massachusetts General Hospital)*

11:45-12:00 **Fat and HIV persistence, role of fat metabolism and inflammation**  
*Marta Giralt (University of Barcelona)*

**12:00-12:30 Group Discussion**

12:30-1:30 **Lunch**

**1:30-3:00 Session 3: Immune and Metabolic Interactions**

**Co-Chairs:** *Steve Grinspoon (Massachusetts General Hospital)*  
*Jason Baker (University of Minnesota)*

**Session Overview:**

- What WBCs are in fat? (M1, M2, Tregs, T effectors, NK cells, innate immune lymphocytes, and possibly even B-cells)

- The adipocyte as a monocyte origin cell

1:30-1:50 **Adipose tissue function, dysfunction, and fat fibrosis. What does this all mean?**  
*Suneil Koliwad (University of California San Francisco)*

1:50-2:10 **Fat as an immunologically active tissue: Defining the scope and cell types**  
*Alyssa Hasty (Vanderbilt University School of Medicine)*

2:10-2:30 **Role of leptin and other adipokines in HIV infection and HIV-related obesity**  
*John Koethe (Vanderbilt University)*

**2:30-3:00 Group Discussion**

3:00-3:15 **Break**

**3:15-5:15 Session 4: GI Tract and Adipocyte Interactions**

**Co-Chairs:** *Rohit Loomba (University of California San Diego)*  
*Netanya Utay (University of Texas Houston)*

**Session Overview:**

- The interplay between HIV and the GI tract, adipose tissue, and the liver
- Other microbial “players” involved in mediating interactions between HIV and tissues

3:15-3:35 **GI tract barrier breakdown and adipocyte inflammation**  
*Janet Lo (Massachusetts General Hospital)*

3:35-3:55 **Microbiome and products of microbial metabolism**  
*Ivan Vujkovic -Cvijin (National Institute of Allergy and Infectious Diseases)*

3:55-4:15 **Liver disease/fatty liver, function of total fat, dysfunctional adipose tissue, and a depot that can't handle it...Difference between HIV and non-HIV**  
*Colleen Hadigan (National Institute of Allergy and Infectious Diseases)*

**4:15-5:15 Group Discussion**

5:15 **Adjourn**

**May 23 (Wednesday), 2018**

8:00-8:15 **Recap of Day 1**

8:15-10:15 **Session 5: Pharmacology and Treatment of Obesity**

**Chair:** *Jordan Lake (University of Texas Health Science Center)*

**Session Overview**

- Non-viral effects of current HIV therapy
- Viral and non-viral considerations for future HIV therapies

8:15-8:35 **ART effect on fat quantity and quality**

*Grace McComsey (University Hospitals Health System and Case Western Reserve Univ )*

8:35-8:55 **Metformin**

*Alex Soukas (Center for Genomic Medicine)*

8:55-9:15 **Other treatment options in the pipeline**

*Steven Heymsfield (Pennington Biomedical Research Center)*

9:15-10:15 **Group Discussion**

10:15-10:30 **Break**

10:30-12:15 **Session 6: How do we translate this information to the clinic? What clinical trials are needed? What tools are needed?**

**Co-Chairs:** *Judith Currier (University of California Los Angeles)*  
*Grace Aldrovandi (University of California Los Angeles)*

**Session Overview:**

- Moving the science forward
- What clinical trials are needed?
- What tools are needed?

10:30-10:50 **Measuring endpoints and outcomes**

*Caroline Apovian (Boston University School of Medicine)*

10:50-11:10 **What clinical trials are needed?**

*Turner Overton (University of Alabama School of Medicine)*

**11:10-12:00 Group Discussion**

**12:00-12:15 Wrap-up and Next Steps**

*Catherine Godfrey (National Institute of Allergy and Infectious Diseases)*

*Andrew Bremer (National Institute of Diabetes and Digestive and Kidney Diseases)*

12:15      **Adjourn**