



**The Adipose Tissue Niche:  
Role in Health & Disease**

November 29 – 30, 2016

National Institutes of Health  
Lister Hill Auditorium, Building 38A, Bethesda, MD

**NIH** National Institute of Diabetes and Digestive and Kidney Diseases

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**Day 1: Tuesday, November 29, 2016**

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- 7:30 a.m. **Registration**  
(Lister Hill Auditorium, NIH Campus)
- 8:15–8:30 a.m. **Opening Remarks/Meeting Overview**
- 8:30–9:15 a.m. **Keynote 1: Perivascular Cells, Plasticity and Organ Fibrosis**  
*Benjamin Humphreys, M.D. Ph.D., Washington University*
- 9:15–10:00 a.m. **Keynote 2: Cells and Viscoelasticity**  
*David J. Mooney, Ph.D., Harvard University*
- 10:00-10:30 a.m. Break**

<b>Session I:</b>	<b>Adipose Tissue Remodeling and Fibrosis</b> <i>Valerie Horsley (Moderator)</i>
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- 10:30–11:00 a.m. **Adipogenic Signaling in Scleroderma Fibrosis: Potential Clinical Implications**  
*John Varga, M.D., Northwestern University*
- 11:00–11:30 a.m. **Adipose Tissue Fibrosis: Progenitors Contribution**  
*Karine Clement, M.D., Ph.D., Institute of Cardio-metabolism and Nutrition, Paris*
- 11:30–11:45 p.m. **Hot Topic-Ubiquitin Ligase Siah2 in Adipocytes Regulated Obesity-Induced Macrophage Recruitment in Adipose Tissue**  
*Elizabeth Floyd, Ph.D., Pennington Biomedical Research Center*
- 11:45–12:15 p.m. **Myocardin Related Transcription Factor A Regulates Healthy and Unhealthy Remodeling of White Adipose Tissue**  
*Stephen Farmer, Ph.D., Boston University School of Medicine*
- 12:15–12:30 p.m. **Poster Blitz #1**  
Boards #s 3,4,6,10,12,16,20,21,22,23
- 12:30–2:00 p.m. **Poster Session and Lunch in Atrium**

<b>Session II:</b>	<b>Adipose Tissue Support Cells: Role of Pericytes, Vascular Smooth Muscle Cells, Stem Cells and Other Stromal Cells</b> <i>Stephen Farmer (Moderator)</i>
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- 2:00–2:30 p.m.      **Contribution of Mural Cells to Adipose Tissue Remodeling**  
*Rana Gupta, Ph.D., UT Southwestern University*
- 2:30–3:00 p.m.      **Nutrient-Sensing Signaling Mechanisms that Control Adipocyte Expansion and Function**  
*David Guertin, Ph.D., University of Massachusetts Medical School, Worcester*
- 3:00–3:15 p.m.      **Hot Topic-Adipose Tissue Macrophages and Preadipocytes as Mediators and Predictors of Adipose Tissue Remodeling with Weight Loss**  
*Carey Lumeng, M.D., Ph.D., University of Michigan Medical School*
- 3:15–3:45 p.m.      **Mature Adipocytes Contribute to Skin Wound Healing**  
*Valerie Horsley, Ph.D., Yale University*
- 3:45–4:15 p.m.      Break**
- 4:15–4:45 p.m.      **Transcellular and Inter-Organ Trafficking of Adipose Tissue-Derived Particles**  
*Clair Crewe, Ph.D., UT Southwestern University*
- 4:45–5:00 p.m.      **Hot Topic-Trans-endothelial and Adipocyte Transport of Fatty Acids in White Adipose Tissue is Regulated by Prohibitin/Annexin 2 Interactions**  
*Alexes Daquinag, Ph.D., University of Texas Health Science Center, Houston*
- 5:00–5:15 p.m.      **Hot Topic-Transcription Factor Dynamics Define a Circadian Code for Fat Cell Differentiation**  
*Mary Teruel, Ph.D., Stanford University*
- 5:30 p.m.              **Adjourn**

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**Day 2:            Wednesday, November 30, 2016**


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7:30–8:00 a.m.            **Registration**  
(Lister Hill Auditorium, NIH Campus)

<b>Session III:</b>	<b>Depot Specific Extracellular Matrix Components and Mechano-transduction</b> <i>Kevin Healy (Moderator)</i>
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8:00– 8:30 a.m.            **Extracellular Matrix Control of Adipocyte Progenitor Differentiation and Fibrosis**  
*Matthew Layne, Ph.D., Boston University School of Medicine*

8:30–9:00 a.m.            **Heat and Tension in the Adipose Niche**  
*Andreas Stahl, Ph.D., University of California, Berkeley*

9:00– 9:15 a.m.            **Hot Topic—A Glucocorticoid and Diet-Responsive Signal in the Adipose Niche Cates the Initiation of Adipogenesis**  
*Brian Feldman, M.D, Ph.D., Stanford University School of Medicine*

9:15–9:45 a.m.            **Pericellular Collagenolysis and the Regulation of the Adipocyte Transcriptome**  
*Stephen Weiss, M.D., University of Michigan*

**9:45 – 10:15 a.m.            Break**

<b>Session IV:</b>	<b>Building Fat for Soft Tissue Reconstruction</b> <i>Bruce Bunnell (Moderator)</i>
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10:15–10:45 a.m.            **Tissue Engineered Humanized “Fat on a Chip” Utilizing Adipose Tissue-Derived Stromal Vascular Fraction**  
*Trivia Frazier, Ph.D., Tulane University and LaCell, LLC., New Orleans*

10:45–11:15 a.m.            **Adipose Derived Stromal Cells for Soft and Hard Tissues: Perspective of a Cranial Facial Surgeon**  
*Michael Longaker, M.D., Stanford University School of Medicine*

11:15–11:45 p.m.            **Our hASC History: Tissue Engineering, Donor-to-Donor Differences, and Translating Textiles to Tissues**  
*Elizabeth Lobo, Ph.D., University of Missouri*

11:45–12:00 p.m.            **Hot Topic-Imaging Adipose Tissue Across Scales of Resolution from Two-Photon to Super-Resolution Microscopy**  
*Daniel Malide, M.D., Ph.D., National Institute of Heart, Lung and Blood, NIH*

12:00–12:15 p.m.            **Poster Blitz #2**  
Boards #s 24,28,29,32,34,35,37,38,40,45

12:15–1:30 p.m.            **Poster Session and Lunch**

<b>Session V:</b>	<b>Building Fat Depots on a Chip</b> <i>Andreas Stahl (Moderator)</i>
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- 1:30–2:00 p.m.      **Vascularizing Fat on a Chip**  
*Leah Bellas, Ph.D., Boston University*
- 2:00–2:30 p.m.      **Microengineered Physiological Biomimicry: Human Organs-on-a-Chips**  
*Daniel Huh, Ph.D., University of Pennsylvania*
- 2:30–2:45 p.m.      **Hot Topic- A Complex Co-culture White Adipose Tissue Model for Predicting Therapeutic Responses**  
*Rosalyn Abbott, Ph.D., Tufts University*
- 2:45-3:15 p.m.      **Bone Marrow Adipose: Tissue Engineered and *in vivo* Models**  
*Michaela Reagan, Ph.D., Maine Medical Center Research Institute*
- 3:15–3:45 p.m.      **WAT-on-a-Chip: A Physiologically Relevant Microfluidic System Incorporating White Adipose Tissue**  
*Kevin Healy, Ph.D., University of California, Berkeley*
- 3:45–4:00 p.m.      **Closing Remarks**
- 4:00 p.m.              **Adjournment**