ASBMR Topical Meeting on Bone and Skeletal Muscle Interactions

July 16, 2012

Welcome and Networking Reception
6:00 p.m. – 7:30 p.m.

July 17, 2012

Breakfast
7:00 a.m. – 7:45 a.m.

Introduction
7:45 a.m. – 8:00 a.m.

7:45 a.m.  Welcome and Opening Remarks
Lynda F. Bonewald, Ph.D., University of Missouri, Kansas City, Missouri, USA
NIH Representatives

SESSION 1
8:00 a.m. – 10:15 a.m.
Bone and Muscle Interactions during Development
Chairs: Thomas L. Clemens, Ph.D., Johns Hopkins University, Baltimore, Maryland, USA
Dawn DW Cornelison, Ph.D., University of Missouri, Columbia, Missouri, USA

8:00 a.m.  Effects of Muscle Forces on Bone Shape during Embryogenesis
Elazar Zelzer, Ph.D., Weizmann Institute of Science, Rehovot, Israel

8:30 a.m.  Hedgehog-Dependent, Bone-Mediated Regulation of Skeletal Muscle Development
Bradley B. Olwin, Ph.D., University of Colorado, Boulder, Colorado, USA

9:00 a.m.  Normal and Pathological Bone and Muscle Development in Children and Adolescents

9:30 a.m.  Determinants of Peak Bone and Muscle Mass
Sundeep Khosla, M.D., Mayo Clinic, Rochester, Minnesota, USA

10:00 a.m.  Session 1 Panel Discussion
All Session 1 speakers and chairs

BREAK/EXHIBITS OPEN/POSTER VIEWING
10:15 a.m. – 10:35 a.m.

SESSION 2
10:35 a.m. – 12:50 p.m.
Aging: Changes in Muscle and Bone, Linkages and Shared Etiologies
Chairs: Eric S. Orwoll, M.D., Oregon Health and Science University, Portland, Oregon, USA
Roger A. Fielding, Ph.D., Tufts University, Boston, Massachusetts, USA

10:35 a.m.  Markers for Sarcopenia: Lessons from Osteoporosis
Steven R. Cummings, M.D., San Francisco Coordinating Center, San Francisco, California, USA

11:05 a.m.  Mobility and Falls
Stephanie A. Studenski, M.D., M.P.H., University of Pittsburgh, Pittsburg, Pennsylvania, USA

11:35 a.m.  Etiology of Concomitant Bone and Muscle Loss
Tamara B. Harris, M.D., M.S., National Institute on Aging, NIH, Bethesda, Maryland, USA
<table>
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<tr>
<th>Time</th>
<th>Event</th>
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<tr>
<td>12:05 p.m.</td>
<td>Muscle and Brown Fat: Origins and Relationships to Bone</td>
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<td>Clifford J. Rosen, M.D., Maine Medical Center Research Institute, Scarborough, Maine, USA</td>
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<td>12:35 p.m.</td>
<td>Session 2 Panel Discussion</td>
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<td>All Session 2 speakers and chairs</td>
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<td><strong>LUNCH AND PANEL DISCUSSION</strong></td>
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<td>12:50 – 1:45 p.m.</td>
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<td><strong>The Power of Collaborations – A Conversation Starter</strong></td>
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<td>Chairs: Lynda F. Bonewald, Ph.D., University of Missouri, Kansas City, Missouri, USA</td>
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<td>Roger A. Fielding, Ph.D., Tufts University, Boston, Massachusetts, USA</td>
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<td>Panelists: Steven R. Cummings, M.D., San Francisco Coordinating Center, San Francisco, California, USA</td>
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<td>Glen Nuckols, Ph.D., National Institute of Arthritis and Musculoskeletal and Skin Diseases, NIH, Bethesda, Maryland, USA</td>
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<td>Nathan K. LeBrasseur, Ph.D., Mayo Clinic, Rochester, Minnesota, USA</td>
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<td>Mark A. Febbraio, Ph.D., Baker IDI Heart &amp; Diabetes Institute, Melbourne, Australia</td>
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<td>2:45 p.m.</td>
<td><strong>POSTER SESSION</strong></td>
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<td>1:45 – 2:45 p.m.</td>
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<td><strong>SESSION 3</strong></td>
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<td>2:45 p.m. – 4:30 p.m.</td>
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<td><strong>Common Mechanisms Influencing Bone and Muscle Mass-‘Pleiotropy’</strong></td>
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<td>Chairs: Karyn Esser Ph.D., University of Kentucky, Lexington, Kentucky, USA</td>
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<td>Douglas P. Kiel, M.D., M.P.H., Institute for Aging Research, Hebrew SeniorLife and Harvard Medical School, Boston, Massachusetts, USA</td>
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<td>2:45 p.m.</td>
<td>Genetic Determinants</td>
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<td>Douglas P. Kiel, M.D., M.P.H., Institute for Aging Research, Hebrew SeniorLife and Harvard Medical School, Boston, Massachusetts, USA</td>
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<td>3:15 p.m.</td>
<td>Signaling Pathways Mediating Skeletal Muscle Mass and Function</td>
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<td>David Glass, M.D., Novartis Institutes for BioMedical Research Inc, Cambridge, Massachusetts, USA</td>
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<td>3:45 p.m.</td>
<td>The Growth Hormone -IGF-1 Axis in Bone and Muscle</td>
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<td>Thomas L. Clemens, Ph.D., Johns Hopkins University, Baltimore, Maryland, USA</td>
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<td>4:15 p.m.</td>
<td>Session 3 Panel Discuss</td>
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<td>All Session 3 chairs and speakers</td>
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<td><strong>BREAK/EXHIBITS OPEN/POSTER VIEWING</strong></td>
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<td>4:30 p.m. – 4:50 p.m.</td>
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<td><strong>YOUNG INVESTIGATOR PRESENTATIONS</strong></td>
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<td>4:50 p.m. – 6:05 p.m.</td>
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<td>4:50 p.m.</td>
<td>Introductions and Award Presentations</td>
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<td>Lynda F. Bonewald, Ph.D., University of Missouri, Kansas City, Missouri, USA</td>
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<td>5:05 p.m.</td>
<td>A Muscle Specific Factor Increases Survival of Dexamethasone-Stressed Osteocytes</td>
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<td>Katharina Jähn, University of Missouri School of Medicine, Kansas City, Missouri, USA</td>
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<td>5:20 p.m.</td>
<td>Effect of Orchidectomy on the Musculoskeletal System of Myostatin Knock Out Mice</td>
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<td>Vanessa Dubois, University of Leuven, Leuven, Belgium</td>
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<td>5:35 p.m.</td>
<td>Acute Exposure to Fibroblast Growth Factor 23 Increases Cardiac Contractility</td>
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<td>Chad D. Touchberry, Ph.D., University of Missouri School of Medicine, Kansas City, Missouri, USA</td>
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5:50 p.m.  Concomitant Volumetric Muscle Loss Impairs an Early Vascular Response in a Composite Bone-Muscle Defect Model  
Nick J. Willett, Ph.D., Georgia Institute of Technology, Atlanta, Georgia, USA

6:05 p.m.  The Identification and Characterization of New Proteins Essential for Drosophila Myotendinous Junction Formation  
Zong-Heng Wang, University of Missouri School of Medicine, Kansas City, Missouri, USA

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WELCOME AND NETWORKING RECEPTION/POSTER VIEWING  
6:20 p.m. – 7:20 p.m.

DINE AROUND WITH SPEAKERS  
7:30 p.m.

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July 18, 2012

BREKFAST/EXHIBITS OPEN  
7:00 a.m. – 8:00 a.m.

SESSION 4  
8:00 a.m. – 9:45 a.m.  
Defective Mechanotransduction and Repair  
Chairs: Regis J. O’Keefe, M.D., University of Rochester Medical Center, Rochester, New York, USA  
Joseph A. Houmard, Ph.D., East Carolina University, Greenville, North Carolina, USA

8:00 a.m.  Disuse-induced Loss of Muscle/Bone Mass: Always Predictive of Loss of Function?  
Susan A. Bloomfield, Ph.D., Texas A&M University, College Station, Texas, USA

8:30 a.m.  Exercise: Surprises Regarding the Effects of Vibration on Bone and Muscle  
Clinton T. Rubin, Ph.D., Stony Brook University, Stony Brook, New York, USA

9:00 a.m.  Orthopaedic Applications and Repair: Gaps in Our Knowledge of the Role of Muscle on Bone Repair  
Regis J. O’Keefe, M.D., University of Rochester Medical Center, Rochester, New York, USA

9:30 a.m.  Session 4 Panel Discussion  
All Session 4 speakers and chairs

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BREAK/EXHIBITS OPEN/POSTER VIEWING  
9:45 a.m. – 10:05 a.m.

SESSION 5  
10:05 a.m. – 11:50 p.m.  
Preventing and Treating Muscle and Bone Loss  
Chairs: Roger A. Fielding, Ph.D., Tufts University, Boston, Massachusetts, USA  
Nathan K. LeBrasseur, Ph.D., Mayo Clinic, Rochester, Minnesota, USA

10:05 a.m.  Nutrition: Effect of Vitamin D in Muscle and Relationship to Bone  
Bess Dawson-Hughes, M.D., Tufts University, Boston, Massachusetts, USA

10:35 a.m.  Progress in Clinical Trials for ACVR2B  
Teresa A. Zimmers, Ph.D., Kimmel Cancer Center, Thomas Jefferson University, Philadelphia, Pennsylvania, USA

11:05 a.m.  A Regenerative Medicine Approach to Musculotendinous Tissue Reconstruction  
Stephen F. Badylak, D.V.M., Ph.D., M.D., University of Pittsburgh, Pittsburgh, Pennsylvania, USA
11:35 a.m.  Session 5 Panel Discussion  
All Session 5 speakers and chairs

LUNCH AND POSTER VIEWING  
11:50 a.m. – 12:50 p.m.

SESSION 6  
12:50 p.m. – 3:05 p.m.  
Emerging Areas  
Chairs: Robert Marcus, M.D. Stanford University, Stanford, California, USA  
Vincent J. Caiozzo, Ph.D., University of California, Irvine, California, USA

12:50 p.m.  Osteocalcin and the Regulation of Muscle Mass  
Gerard Karsenty, M.D., Ph.D., Columbia University Medical Center, New York, New York, USA

1:20 p.m.  Muscle as an Endocrine Organ  
Mark A. Febbraio, Ph.D., Baker IDI Heart & Diabetes Institute, Melbourne, Australia

1:50 p.m.  The Wnts in Muscle-Bone Cross Talk  
Mark L. Johnson, Ph.D., University of Missouri, Kansas City, Missouri, USA

2:20 p.m.  Regulatory Interactions between Myeloid Cells and Skeletal Muscle  
James G. Tidball, Ph.D., University of California, Los Angeles, California, USA

2:50 p.m.  Session 6 Panel Discussion  
All Session 6 speakers and chairs

BREAK/EXHIBITS/POSTER VIEWING  
3:05 p.m. – 3:30 p.m.

SESSION 7  
3:30 p.m. – 4:30 p.m.  
Meeting Wrap Up  
Chair: Lynda F. Bonewald, Ph.D., University of Missouri, Kansas City, Missouri, USA

3:30 PM  Panel Discussion - Where Do We Go From Here?  
Session chairs and inclusion of NIH representatives  
- Lyndon Joseph, Ph.D., National Institute on Aging, NIH, Bethesda, Maryland, USA  
- Joan A. McGowan, Ph.D., National Institute of Arthritis and Musculoskeletal and Skin Diseases, NIH, Bethesda, Maryland, USA  
- Glen Nuckols, Ph.D., National Institute of Arthritis and Musculoskeletal and Skin Diseases, NIH, Bethesda, Maryland, USA  
- John Williams, Ph.D., National Institute on Aging, NIH, Bethesda, Maryland, USA  
- Karen Winer, M.D., National Institute of Child Health and Human Development, NIH, Bethesda, Maryland, USA

Meeting Adjourns  
4:30 p.m.