<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>11:45 am – 12:20 pm</td>
<td><strong>Registration</strong> (lobby), <strong>poster set-up</strong> (Great Room A)</td>
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</table>
| 12:20 pm | **Welcome and Opening Remarks**  
Regis O’Keefe, MD, PhD  
Fred C Reynolds Professor and Head | Department of Orthopedic Surgery  
Center of Regenerative Medicine  
Division of Biology and Biomedical Sciences  
Institute of Clinical and Translational Sciences  
Siteman Cancer Center  
Washington University in St. Louis |
| 12:25 pm | **Keynote Introduction**  
Farshid Guilak, PhD  
Professor | Department of Orthopaedic Surgery  
Co-Director | Center of Regenerative Medicine  
Director of Research | Shriners Hospitals for Children St. Louis  
Washington University in St. Louis |
| 12:30 pm | **Keynote Lecture: Kristi Anseth, PhD**  
Tisone Professor and Distinguished Professor  
University of Colorado | Boulder, CO  
“Engineering Bioresponsive and Adaptable Materials for Regenerative Medicine” |
| 1:35 – 3:03 pm | **Session I – ENGINEERING TISSUE REPAIR**  
**Session Moderator: Natasha Case** |
| 1:35 pm | **Warren Grayson, PhD**  
Professor  
Johns Hopkins University | Baltimore, MD  
“Autologous Regeneration of Midfacial Bone in Large Animals” |
| 2:02 pm | **Stephanie Bryant, PhD**  
Professor  
University of Colorado | Boulder, CO  
“Tissue-Mimetic Hydrogel Composites for Musculoskeletal Tissue Engineering” |
| 2:29 pm | **Nate Huebsch, PhD**  
Assistant Professor  
Washington University | St. Louis, MO  
“Designing Alginate Hydrogels to Exploit Integrin Signaling for Musculoskeletal Tissue Engineering” |
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<tr>
<th>Time</th>
<th>Speaker</th>
<th>Institution and Location</th>
<th>Topic</th>
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<tbody>
<tr>
<td>2:51 pm</td>
<td>Ning Gao</td>
<td>The Institute of Materials Science &amp; Engineering, Washington University</td>
<td>&quot;Enriching MSC Paracrine Effects by Enhancing N-Cadherin Interaction For Ischemic Limb Regeneration&quot;</td>
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<tr>
<td>3:15 – 4:00 pm</td>
<td>POSTER SESSION (Great Room A)</td>
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<tr>
<td>4:10 – 5:20 PM</td>
<td>Session 2 – MECHANISMS OF REGENERATION</td>
<td>Session Moderator: Sade Williams Clayton</td>
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<tr>
<td>4:10 pm</td>
<td>Bruno Peault, PhD</td>
<td>University of California at Los Angeles, CA and the University of Edinburgh (UK)</td>
<td>&quot;Mesenchymal Stem Cells, From Natural Niches to Tissue Repair and Remodeling&quot;</td>
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<tr>
<td>4:37 pm</td>
<td>Ken Muneoka, PhD (virtual)</td>
<td>College of Veterinary Medicine and Biomedical Sciences, Department of Veterinary Physiology and Pharmacology, Texas A&amp;M University</td>
<td>&quot;A Digital approach to Regeneration and Regenerative Medicine&quot;</td>
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<tr>
<td>5:04 pm</td>
<td>Feini (Sylvia) Qu, VMD, PhD</td>
<td>Washington University, St. Louis, MO</td>
<td>&quot;Development vs. Regeneration: Skeletal Patterning and Outgrowth of the Murine Digit Tip&quot;</td>
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DINNER | Third Degree Glass Factory  
5200 Delmar Blvd, St. Louis, MO 63108  
6:00 pm Cocktails & Glass blowing demonstration  
7:00 pm Dinner
FRIDAY | May 6, 2022

7:00 – 8:00 am  BREAKFAST | Main lobby

8:15 – 9:30 am  Session 3 – TRANSLATIONAL APPROACHES IN REGENERATIVE MEDICINE
Session Moderator: M. Farooq Rai

8:15 am  Nenad Bursac, PhD
Professor of Biomedical Engineering, Cell biology, and Medicine
Duke University | Durham, NC
“Modeling Rare Skeletal Muscle Diseases in a Dish”

8:42 am  David Brogan, MD, MSc
Assistant Professor
Orthopaedic Surgery
Washington University | St. Louis, MO
“Intra-operative Imaging of Nerve Injuries: A Paradigm Shift”

9:04 am  Hua Shen, PhD
Orthopaedic Surgery
Washington University | St. Louis, MO
“Metabolic Regulation of Intrasynovial Flexor Tendon Repair”

9:18 am  Jennifer Brazill, PhD
BMD
Washington University | St. Louis, MO
“SARM1 Drives Type 1 Diabetes-Associated Bone Suppression and Fragility”

9:32 am  Ryan Potter
Orthopaedic Surgery
Washington University | St. Louis, MO
“Systemic VEGFA Ablation Blunts Locomotive Deficits and Intradiscal Innervation Following Lumbar Intervertebral Disc Injury”

9:46 am  Xiaohong Tan
Biomedical Engineering
Washington University | St. Louis, MO
“Dual Peptide Functionalized Alginate Hydrogels to Modulate Nucleus Pulposus Cell Phenotype”

9:58 – 10:15 am  BREAK
### Session 4 – SKELETAL STEM CELLS AND REPAIR

**Session Moderator: Nicole Gould**

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<tr>
<th>Time</th>
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<th>Topic</th>
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<tr>
<td>10:15</td>
<td><strong>Matt Greenblatt, MD, PhD</strong></td>
<td>Weill Cornell Medical College</td>
<td>“A Skeletal Stem Cell Basis for Lineage Selection in Bone Homeostasis and Repair”</td>
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<td>10:42</td>
<td><strong>Celine Colnot, PhD</strong> (virtual)</td>
<td>INSERM U955-Mondor Biomedical Research Institute</td>
<td>“Skeletal Stem/Progenitor Cells in Periosteum and Skeletal Muscle Coordinate Endochondral Ossification During Bone Regeneration”</td>
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<tr>
<td>11:09</td>
<td><strong>Kareem Azab, PhD</strong></td>
<td>Radiation Oncology - Div. of Cancer Biology, Department of Radiation Oncology Biomedical Engineering - Washington University</td>
<td>“3D Tissue-Engineered Bone Marrow Model as a Tool to Predict Therapeutic Efficacy in Cancer Patient Response”</td>
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<td>11:31</td>
<td><strong>Neda Rashidi</strong></td>
<td>Mechanical Engineering and Material Science Washington University</td>
<td>“Modulation of Human Adipose Stem Cell Collagen Synthesis by Mechanosensing of Substrate Architecture Through the PIEZO1 Ion Channel”</td>
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<tr>
<td>11:45</td>
<td><strong>Wei Zou, PhD</strong></td>
<td>Pathology and Immunology Washington University</td>
<td>“Car Cells Express BMP Inhibitors Negatively Regulating Bone Formation In Vivo”</td>
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**12:00 – 1:00 pm**  
**LUNCH | Main Lobby**
### Session 5 | SYSTEMIC INFLUENCES ON REPAIR AND REGENERATION

**Session Moderator: Natalia Harasymowicz**

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<tr>
<th>Time</th>
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| 1:00  | Philipp Leucht, PhD  | Associate Professor  
NYU Grossman School of Medicine | New York City, NY  
“Skeletal Stem Cell Aging: Is it reversible?” |
| 1:27  | Benjamin Levi, MD  | Dr. Lee Hudson-Robert R. Penn Chair  
Division Chief of General Surgery  
Director, Center for Organogenesis & Trauma  
Associate Professor in Surgery  
University of Texas Southwestern Medical Center | Dallas, TX  
“The Power of One: Investing in One Cell and One Lab Member at a Time” |
| 1:54  | Jie Shen, PhD     | Assistant Professor  
Orthopaedic Surgery  
Washington University | St. Louis, MO  
“Fracture Nonunion: New Insights into Mechanism and Therapy” |
| 2:16  | Kunjan Khanna, PhD | Orthopaedic Surgery  
Washington University | St. Louis, MO  
“TMEM178 Negatively Regulates IL-1β Production Through Inhibition of NLRP3 Inflammasome” |
| 2:30  | Xiao Zhang        | Department of Medicine  
Washington University | St. Louis, MO  
“Neural Contributions to Leptin-Mediated Bone Marrow Adipocyte Catabolism” |

### POSTER SESSION | Great Room A

<table>
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<tr>
<th>Time</th>
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<tr>
<td>2:50</td>
<td>Matthew Silva, PhD</td>
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| 3:45  | Julia and Walter R. Peterson Orthopaedic Research Professor  
Department of Orthopaedic Surgery,  
Co-Director | Musculoskeletal Research Center  
Washington University | St. Louis, MO |
3:50 pm  **Keynote Speaker: Vicki Rosen, PhD**  
Professor  
Harvard School of Dental Medicine | Boston, MA  
“Cues for Enhancing Musculoskeletal Regeneration From Studying BMP Signaling”

4:50 pm  **Closing Remarks**  
**Matthew Silva, PhD**  
Julia and Walter R. Peterson Orthopaedic Research Professor | Department of Orthopaedic Surgery, 
Co-Director | Musculoskeletal Research Center  
Washington University | St. Louis, MO