

# PROGRAM

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- 6:45 am** Bus Pick up from Downtown San Diego
- 7:30-8:00 am** Registration/Check-In and Continental Breakfast
- 8:30 am** Welcome  
*Savio L-Y. Woo, PhD, DSc*
- 8:35 am** Opening Remarks  
*YC Fung, PhD*
- 8:45 am** Logistics  
*Alejandro J Almarza, PhD*

## **Podium Session 1: ACL and ACL Reconstruction** **Moderators: Giuliano Cerulli, MD & Ray Vanderby, PhD**

- 8:50 am** **Keynote Lecture**  
Does Screw Placement Influence The In Vivo Results of an Osteoconductive Bioabsorbable Composite Interference Screw? **p12**  
*WR Walsh, N.Cotton, R Oliver, F Vizesi, P Smitham, Y Yu, W Bruce*
- 9:05 am** T2 Relaxation Time of the Reconstructed ACL and Regenerated Semitendinosus Tendon After Operation **p13**  
*R Kuramochi, A Sanada, T Fukubayashi*
- 9:20 am** Rotational Laxity of ACL Deficient and Reconstructed Knees **p14**  
*N Zheng, B Gao, MW Moser, PA Indelicato*
- 9:25am** Roentgen Stereophotogrammetric Analysis to Determine the Causes of an Increase in Anterior Laxity in Cadaveric Knees Reconstructed with a Soft Tissue Anterior Cruciate Ligament Graft **p15**  
*CK Smith, ML Hull, SM Howell*
- 9:30 am** Functional Assessment of the Knee in Children Following Bone-Patellar Tendon-Bone Autograft ACL Reconstruction **p16**  
*R Lyon, X Liu, J Hung, T Kernozek*
- 9:35 am** **Discussion**
- 9:45 am** Periosteum-Derived Osteoprogenitor Cells on Tendon-Bone Healing in Anterior Cruciate Ligament Reconstruction in Rabbits **p17**  
*CH Chen, HW Liu, CM Yu, IH Lin, KC Wu, GH Hsiue*

<b>10:00 am</b>	A Bioscaffold to Improve Healing of a Patellar Tendon Defect After Graft Harvest for ACL Reconstruction <i>S Karaoglu, MB Fisher, R Liang, YC Fu., SD Abramowitch, SL-Y Woo</i>	<b>p18</b>
<b>10:15 pm</b>	Experiences on ACL Reconstruction and Complications <i>R Steadman</i>	
<b>10:15 - 10:45 pm</b>	<b>Break and Poster Session 1</b>	
	Prediction of Tendon Remodeling Based Upon Mono Nuclear Macrophage Phenotype <i>SF Badylak, JE Valentin, AM Stewart-Akers</i>	<b>p19</b>
	Lateral Meniscectomy Affects in vivo Ovine Stifle Joint Biomechanics <i>JE Beveridge, JY Brown, SP Darcy, CA Sutherland, JM Rosvold, JL Ronsky, NG Shrive, CB Frank</i>	<b>p20</b>
	Estimation of In Vivo Forces During Gait in an Ovine Stifle Joint Requires Motion Reproduction to an Accuracy of Less Than 0.5 mm <i>SP Darcy, JM Rosvold, JE Beveridge, DT Corr, CA Sutherland, JY Brown, LL Marchuk, CB Frank, NG Shrive</i>	<b>p21</b>
	Correlation of Knee Contact Angle and Peak Ground Reaction Force with Peak Acceleration in Jump Landing <i>NG Elvin, AA Elvin, M Torry, SP Arnoczky</i>	<b>p22</b>
	Proteoglycan 4 Distribution in the Goat Infraspinus Tendon: A Basis For Interfascicular Lubrication <i>T Funakoshi, LD Higgins, JJP Warner, TM Schmid, HP Hsu, T Gotterbarm, SM Vickers, M Spector</i>	<b>p23</b>
	Stress Relaxation of Tendon Fascicles at the Microstructural Level <i>HRC Screen</i>	<b>p24</b>
	Biomechanical Analysis of Anatomical Reconstruction After Combined Injury of the Posterior Cruciate Ligament and Posterolateral Corner <i>H Ishigooka, T Sugihara, H Fujiya, M Beppu</i>	<b>p25</b>
	Vanadate Affects the Healing of Medical Collateral Ligament <i>D Jiang, Z Li</i>	<b>p26</b>
	Nerve Growth with Factor Promotes Vascularity in Healing Ligament <i>T Mammoto, RA Seerattan, KR Forrester, CA Leonard, RC Bray, PT Salo</i>	<b>p27</b>
	A Method for Modeling Ligament Fibers in the Carpus <i>MJ Rainbow, JJ Crisco, DC Moore, E Akelman, SW Wolfe</i>	<b>p28</b>

Anterolateral Rotational Knee Instability of the Knee Joint: Role of Intra- and Extra-Articular Stabilizers <i>T Zantop, T Schuhmacher, S Schanz, MJ Raschke, Petersen W</i>	p29
Effects of Passage on Ligament Fibroblasts: Implications for Functional Tissue Engineering <i>AJ Almarza, SM Augustine, SL-Y Woo</i>	p30
Three-dimensional Culture of Tenocytes in Uniaxial Microchannels for Tendon Engineering <i>P Bagnaninchi, Y Yang, N Maffulli, RK Wang, A El Haj</i>	p31

### **Podium Session 2-Part I: Mechanobiology**

**Moderators: Chih-Hwa Chen, MD, Nicola Maffulli, MD PhD**

<b>10:45 am</b>	<b>Keynote Lecture</b> Cyclic Loading Inhibits Activation of the Apoptotic Pathway Caused by Loss of Homeostatic Tendon Strain: The Importance of the Mechanobiological "Survival Signal" <i>M Egerbacher, O Caballero, M Lavagnino, K Gardner, SP Arnoczky</i>	<b>p32</b>
<b>11:00 am</b>	Time Dependence of the Effect of Cyclic Tensile Strain on Collagen Production in Isolated Tendon Fascicles <i>E Maeda, DA Lee, DL Bader, JC Shelton</i>	<b>p33</b>
<b>11:05 am</b>	The Effect of Stress-Deprivation and Exercise on the Ratio of TIMP/MMP mRNA Expression in Tendons: an In-vitro Experimental Study <i>K Gardner, SP Arnoczky, O Caballero, M Lavagnino</i>	<b>p34</b>
<b>11:10 am</b>	Matrix Metalloproteinases and a Related Factor in Ligament Stress-Deprivation <i>GM Thornton, ME Kuchison, M Chung, X Shao, P Sciore, RS Boorman, DA Hart, KY Lo</i>	<b>p35</b>
<b>11:15 am</b>	<b>Discussion</b>	

### **Podium Session 2-Part II: Mechanobiology**

**Moderators: Steven Badylak, DVM MD PhD, Harukazu Tohyama, MD PhD**

<b>11:25 am</b>	Mechanical and Morphological Bases of Fatigue in Live Tendons <i>DT Fung, VM Wang, DM Laudier, R Huq, MB Schaffler, EL Flatow</i>	<b>p36</b>
<b>11:40 am</b>	The Effect of Cytokine Inactivation on Stress-Deprived Patellar Tendons <i>H Tohyama, E Kondo, S Miyatake, T Katsura, K Yasuda</i>	<b>p37</b>

<b>11:55 am</b>	Intermittent Pneumatic Compression Enhances Healing in a Tendon Repair <i>J Dahl, J Li, A Fahlgren, P Aspenberg, D Bring, P Renström, PW Ackermann</i>	<b>p38</b>
<b>12:00 pm</b>	Beneficial Effects of Low Intensity Pulsed Ultrasound (Lipus) on Tendon Depend on Time of Application <i>WT Shum, SC Fu, L Qin, WN Wong, KM Chan, LK Hung</i>	<b>p39</b>
<b>12:05 pm</b>	Divergent Early Response of Gene Expression in Fatigue Loaded and Lacerated Rat Patellar Tendons <i>HB Sun, Y Li, DT Fung, RA Klug, DM Laudier, D Leong, M Ramcharan, VM Wang, L Rajan, J Braman, RJ Majeska, MB Schaffler, EL Flatow</i>	<b>p40</b>
<b>12:10 pm</b>	<b>Discussion</b>	
<b>12:20-1:20 pm</b>	<b>Lunch and Poster Viewing</b>	

### **Podium Session 3: Bioscaffolds and Cellular Therapies**

**Moderators: Albert Banes, PhD, Cato Laurencin, MD**

<b>1:20 pm</b>	<b>Keynote Lecture</b> Embryonic and Post-Natal Development of Murine Tendon and Ligament Tissues <i>D Butler, C Frede, K Chokalingam, J Florer, S Hunter, C Gooch, R Wenstrup</i>	<b>p41</b>
<b>1:35 pm</b>	Insulin-Like Growth Factor Binding Protein-4 Decreases Collagen Expression and Content in Tendon Explants <i>LA Dahlgren, SC Harvey, AJ Nixon</i>	<b>p42</b>
<b>1:50 pm</b>	Nerve Growth Factor Improves Mechanical Properties of Healing Ligament <i>T Mammoto, KD Paulson, RA Seerattan, CA Leonard, GM Thornton, RC Bray, PT Salo</i>	<b>p43</b>
<b>2:05 pm</b>	The Role of Osteopontin in Tendon Tissue Remodeling After Denervation-Induced Mechanical Stress Deprivation <i>N Mori, T Majima, N Iwasaki, S Kon, C Kimura, A Minami, T Uede</i>	<b>p44</b>
<b>2:10 pm</b>	Platelet-Rich Plasma Enhances Cell Proliferation and Gene Expression of Matrix Metalloproteinases and Growth Factors of Human Tendon Cells In vitro <i>AE van der Windt, M de Mos, HT van Schie, H Jahr, H Weinans, JAN Verhaar, GJVM van Osch</i>	<b>p45</b>

<b>2:15 pm</b>	Biohybrid Aggrecan-Containing Hydrogels for Ligament Tissue Engineering <i>KS Brink, JJ Lim, JD Weaver, DM Doroski, JS Temenoff</i>	<b>p46</b>
<b>2:20 pm</b>	<b>Discussion</b>	
<b>2:30 pm</b>	A Novel Knitted Silk Scaffold for Ligament Tissue Engineering Application <i>H Liu, Y Wang, H Fan, SL Toh, JCH Goh</i>	<b>p47</b>
<b>2:45 pm</b>	Chemoattractance of a Remodeled ECM Scaffold and Fate of the Recruited Bone Marrow Derived Cells <i>TW Gilbert, JM Myers-Irvin, AJ Yates, SF Badylak</i>	<b>p48</b>
<b>3:00-3:30 pm</b>	<b>Break and Poster Session 2</b>	
	The Effects of HGF on Collagen, FN, and $\alpha$ -SMA Expression Induced by TGF- $\beta$ 1 in Cultured Rat MCL Fibroblasts <i>Z Li, D Jiang</i>	<b>p49</b>
	ACL Deficient Knee is Likely to Avoid Pivot Shift Phenomenon During High Demand Activity <i>K Takeda, T Nagura, T Otani, Y Kiriya, T Hasegawa, H Matsumoto, Y Toyama</i>	<b>p50</b>
	Damage Accumulation of Tendon Fascicles During Fatigue Tests <i>M Tamiwa, DL Bader, JC Shelton</i>	<b>p51</b>
	Local Bone Loss After ACL Reconstruction a PQCT Study in a Rabbit Model <i>CY Wen, PY Lui, SC Fu, MWN Wong, KM Lee, L Qin, WY Hung, KM Chan</i>	<b>p52</b>
	Anatomic Versus Non-Anatomic Double Bundle ACL Reconstruction: Impact of Femoral PL Bundle Tunnel Location on the Resulting Knee Kinematics <i>T Zantop, N Diermann, S Schanz, MJ Raschke, Petersen W</i>	<b>p53</b>
	Biocompatibility of an ECM/Porous Titanium Composite Scaffold to Support Soft Tissue Ingrowth <i>TW Gilbert, DO Freytes, K Benintende, DE Krzeminski, JL Woods, EP Yu, HR Piehler, SF Badylak</i>	<b>p54</b>
	Enhancing Tendon and Ligament Tissue Engineering Literature Searched Via Structured Annotation <i>A Jain, P Velayutham, M Wagner, DL Butler</i>	<b>p55</b>
	Analysis of Level and Inclined Gait in a Sheep Model <i>JT Shearn, MT Herfat, D Bailey, ME Mehl, C Gooch, DL Butler</i>	<b>p56</b>

Biomechanical Evaluation of Minimal Invasive Repairs for Complete Acromioclavicular Joint Dislocation <i>M Wellmann, T Zantop, A Weimann, MJ Raschke, W Petersen</i>	p57
Collagen Fiber Based ACL Graft <i>M Weber, J Stehle, A Heymer, U Noeth</i>	p58
IL-1 $\beta$ Increases Cell-Cell Connection by Up-Regulating the Expression of Connexin 43 in Human Tenocytes <i>J Qi, L Chi, D Bynum, AJ Banes</i>	p59

**Podium Session 4-Part I: Biomechanics of the Knee and the Shoulder**  
**Moderators: Toru Fukubayashi, MD, Braden Fleming, PhD**

<b>3:30 pm</b>	<b>Keynote Lecture</b> Development of a Novel Model for Rotator Cuff Pathology: The Rabbit Subscapularis Muscle <i>R Grumet, S Hadley, TQ Lee, R Gupta</i>	<b>p60</b>
<b>3:45 pm</b>	The Role of the Physical Environment on the Structure, Composition, and Biomechanics of the Developing Supraspinatus Enthesis <i>S Thomopoulos, D Zeltser, K Kousari, R Das, HM Kim, L Galatz</i>	<b>p61</b>
<b>4:00 pm</b>	Effect of Rotator Cuff Muscle Imbalance on Glenohumeral Contact Pressure and Humeral External Rotation: A Cadaveric Study <i>T Mihata, J Gates, MH McGarry, J Lee, M Kinoshita, TQ Lee</i>	<b>p62</b>
<b>4:05 pm</b>	A Comparison of Passive Flexion-Extension to Normal Gait in the Ovine Stifle Joint <i>SP Darcy, JE Beveridge, JM Rosvold, DT Corr, CA Sutherland, JY Brown, LL Marchuk, CB Frank, NG Shrive</i>	<b>p63</b>
<b>4:10 pm</b>	An Alternate Single Femoral Tunnel Method for Double Bundle Anterior Cruciate Ligament Reconstruction with the Use of an Over-the-top Graft <i>S Noorani, O Dede, S. Karaoglu, SL-Y Woo</i>	<b>p64</b>
<b>4:15 pm</b>	<b>Discussion</b>	

**Podium Session 4-Part I: Biomechanics of the Knee and the Shoulder**  
**Moderators: Evan Flatow, MD, Thay Lee, PhD**

<b>4:25 pm</b>	Reconstruction of the Injured Anterior Cruciate Ligament Does Not Restore Normal Patellofemoral Cartilage Contact Kinematics <i>SK Van de Velde, R Papannagari, LE DeFrate, TJ Gill, JM Moses, G Li</i>	<b>p65</b>
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- 4:40 pm** Lubrication, Friction, and the ACL-Deficient Knee **p66**  
*E Teeple, BC Fleming, KA Elsaid, GD Jay, JJ Crisco, AP Mechrefe*
- 4:55 pm** Effect of Sectioning the Posteromedial Structures on Posterior Tibial Translation in the PCL Deficient Knee **p67**  
*W Petersen, S Loerch, S Schanz, MJ Raschke, T Zantop*
- 5:10-5:20 pm** Closing Remarks  
*Savio L-Y. Woo, PhD, DSc*
- 5:30 pm** Bus pick up in front of the Atkinson Hall

### **Dinner and Award Ceremony**

Golden City Restaurant  
5372 Kearny Villa Rd  
San Diego, CA 92123

- 6:00-6:30 pm** Cash Bar
- 6:30-** Dinner and award ceremony

**International Symposium on Ligaments & Tendons - VII**  
**February 10, 2007**  
**La Jolla, CA**

<b>8:00 am - 8:30 am</b>	Registration & Check-In
<b>8:30 am - 8:50 am</b>	Opening Ceremony, Welcome & Announcements Dr. Savio L-Y. Woo
<b>8:30 am - 8:50 am</b>	Opening Remarks Dr. Yuan-Cheng Fung
<b>8:50 am - 10:15 am</b>	Podium Session 1: ACL Related Topics Moderators: Dr. Giuliano Cerulli & Dr. Ray Vanderby
<b>10:15 am - 10:45 am</b>	Break and Poster Session 1
<b>10:45 am - 11:25 am</b>	Podium Session 2-Part I: Mechanobiology Moderators: Dr. Chih-Hwa Chen & Dr. Nicola Maffulli
<b>11:25 am - 12:20 pm</b>	Podium Session 2-Part II: Mechanobiology Moderators: Dr. Stephen Badylak & Dr. Harukazu Tohyama
<b>12:20 pm - 1:20 pm</b>	Lunch and Poster Viewing
<b>1:20 pm - 3:00 pm</b>	Podium Session 3: Bioscaffolds and Molecular Therapies Moderators: Dr. Albert Banes & Dr. Cato Laurencin
<b>3:00 pm - 3:30 pm</b>	Break and Poster Session 2
<b>3:30 pm - 4:25 pm</b>	Podium Session 4 - Part I: Biomechanics of the Knee and Shoulder Moderators: Dr. Toru Fukubayashi & Dr. Braden Fleming
<b>4:25 pm - 5:10 pm</b>	Podium Session 4 - Part II: Biomechanics of the Knee and Shoulder Moderators: Dr. Evan Flatow & Dr. Thay Lee
<b>5:10 pm - 5:20 pm</b>	Closing Remarks: Dr. Savio L-Y. Woo
<b>6:30 PM</b>	Dinner and Award Ceremony Golden City Restaurant