7:30-     Registration and Check-In
8:00 am   

8:00-     Opening Ceremony, Welcome & Announcements
8:10 am   Savio L-Y. Woo, PhD, DSc, Zong-Ming Li, PhD, Marc Safran, MD

Podium Session 1
Knee Ligaments: From Injury Mechanisms to Treatment Options
Moderators: Giuliano Cerulli, MD & David Butler, PhD

8:10 am   Double Bundle PCL Reconstruction: The Effect of Femoral Tunnel
Displacement on Knee Kinematics and In Situ Forces
T Zantop, S Lenschow, A Weimann, W Petersen

8:25 am   Sequential Growth Factor Application in BMSC Ligament Engineering
JE Moreau, J Chen, RL Horan, DL Kaplan, GH Altman

8:40 am   Anterior Tibial Translation Is Not a Likely Mechanism of Anterior Cruciate
Ligament Injury during Non-Contact Sports Situations
AM Chaudhari, CO Dyrby, TP Andriacchi

8:55 am   Biomechanical Properties of Bone-Patellar Tendon-Bone Allografts after
Treatment with a New Sterilization Method Using Peracetic Acid-Ethanol
S Scheffler, J Scherler, A Pruss, R von Versen, A Weiler

9:10 am   The Effect on Remaining Intact Ligaments of Combined ACL/MCL
Transection in an Ovine Stifle Joint Model of Osteoarthritis
Y Funakoshi, M Hariu, JE Tapper, LL Marchuk, LD Barclay, CA Sutherland,
NG Shrive, CB Frank

9:25 am   Microstructure of Calcium Phosphate Hybridized Tendon-Bone Interface:
Biological Graft Fixation in ACL Reconstruction
M Sakane, H Mutsuzaki, J Tanaka, Y Miyanaga, N Ochiai
Break and Poster Session 1

9:40 - 10:10 am
A Three-Dimensional Biphasic Poroelastic Finite Element Model for the Human Anterior Cruciate Ligament
**AF Ali, CB Frank, NG Shrive**

Stretching-Induced Activation of p38 MAPK Regulates a-SMA Expression
**G Wang, JH-C Wang**

Initial Cyclic Strain Governs Damage Accumulation in Ligaments In Vitro by a Tissue Hydration Mediated Mechanism
**ML Zec, CB Frank, NG Shrive**

Mechanobiology Based Map of Fibrocartilage Metaplasia Reversal Using Correlations between In Vivo Experiments and Anisotropic Porohyperelastic Models
**B Haridas, JA Weiss, DL Butler**

Effect of Humeral Rotation on Elbow Valgus Laxity: Cadaveric Study
**T Mihata, MR Safran, MH McGarry, M Abe, TQ Lee**

Podium Session 2

Special Symposium - Rotator Cuff Injury and Repair
Moderators: Richard Debski, PhD, Evan Flatow, MD

10:10 am Introduction

10:15 am Rotator Cuff: Why Its Difficult Study - Review of Its Biomechanics
**P McMahon, J Stehle**

10:25 am Understanding Tendon Damage
**E Flatow, VM Wang, L Rajan, M Schaffler**

10:35 am Development of an Animal Model of a Chronic Rotator Cuff Tear
**LJ Soslowsky, JA Gimbel, GR Williams**

10:45 am Biology of Rotator Cuff Tendon-to-Bone Healing
**SA Rodeo**

10:55 am Biomechanics of Bone to Tendon Healing: Enhancement of Rotator Cuff to Tendon Bone Repair with Periosteum - Biomechanical and Histological Studies
**C-H Chen, C-Y Yang, W-J Chen, C-H Shih**

11:05 am Biologic Enhancement of Tendon Repair
**J Iannotti**

11:15 am Discussion

11:40 am - 12:30 pm Lunch and Poster Viewing

12:30 pm
Podium Session 3
Biology & Biomechanics of Tendons
Moderators: Kai-Nan An, PhD, Per Renström, MD, PhD

12:30 pm  Effect of Gap Size on Gliding Resistance after Flexor Profundus Tendon Repair: A Biomechanical Evaluation in Human In Vitro Study
C Zhao, T Tanaka, K Kutsumi, T Tsubone, ME Zobitz, PC Amadio, KN An

12:45 pm  The Adaptation of Mouse Tendons to Exercise Are Genotype Specific
VM Wang, CW Tsai, T Banack, HT Wolde-Semait, KJ Jepsen, EL Flatow

1:00 pm  A Role of Interleukin-1Beta and Tumor Necrosis Factor-Alpha in Remodeling of the Patellar Tendon after Fibroblast Necrosis
H Tohyama, H Uchida, H Matsumoto, K Yasuda

1:15 pm  Orthotropic Hyperelasticity with Two Fiber Families: A Study on the Effect of Fiber Organization on Continuum Mechanical Properties in Soft Tissues
B Haridas, JA Weiss, ES Grood, DL Butler

1:30 pm  Collagen Fibril Diameter Distribution does not Reflect Changes in the Mechanical Properties of Stress-Deprived Tendon
M Lavagnino, SP Arnoczky, K Frank, T Tian

1:45 pm  Wild Type Titin and a Truncated Isoform are Expressed in Human Tendon Cells: Does Titin Regulate Cell Stiffness?
AJ Banes, J Qi, C Otey, D Bynum, L Almekinders, F Guilak, LAlexopolous, M Chua, L Chi, X Yang, H Granzier, S Labeit

Break and Poster Session 2

2:00  Characterization of mRNA Levels for Matrix Molecules and Proteases in Ruptured Human Anterior Cruciate Ligaments Utilizing Quantitative Real-Time RT-PCR
DS Bramono, JC Richmond, PP Weitzel, H Chernoff, I Martin, V Volloch, JS Gandhi, DL Kaplan, GH Altman

Meniscal Changes after Ligament Transection in Ovine Stifle Joints
Y Funakoshi, M Hariu, JE Tapper, LL Marchuk, C Sutherland, NG Shrive, CB Frank

A New Tibial Coordinate System Improves the Precision of Anterior-Posterior Knee Laxity Measurements: A Cadaveric Study Using Roentgen Stereophotogrammetric Analysis
PJ Roos, CP Neu, ML Hull, SM Howell

Estimation of Traction Parameters in Mesenchymal Stem Cell-Seeded Type-I Collagen Gels Using an Initial Stress Based Hyperelasticity Approach
B Haridas, V Nirmalanandhan, M Dressler, DL Butler
Podium Session 4 - Part I
Pathophysiology, Tissue Engineering and Other Hot Topics
Moderators: Roland Jakob, MD & Steven Arnoczky, DVM

2:30 pm  Apyrase Diminishes the [CA2+]IC Response of Ligament Cells Stretched on a Microgrooved Substrate
*BF Jones, ME Wall, L Carroll, S Washburn, AJ Banes*

2:35 pm  The Effect of Cyclic Tensile Strain on Collagen Synthesis by ACL Fibroblasts In Vitro
*E Attia, M Bhargava, JA Hannafin*

2:40 pm  Advanced Studies in MMP-2 Function and Signal Pathways of ACL Injury
*XF Zhou, HS Lee, C Qin, KLP Sung*

2:45 pm  Discussion

2:55 pm  Altered Schwann Cell Function with a Model for Carpal Tunnel Syndrome
*K Rowshan, T Chao, P Bui, T Mozaffar, O Steward, R Gupta*

3:00 pm  Tendon and Nerve Displacement at the Carpal Tunnel during Finger Movements
*UC Ugbolue, W-H Hsu, RJ Goitz, Z-M Li*

3:05 pm  Expression of Matrix Molecules in Joint Capsules from Human Elbow Contractures
*KA Hildebrand, M Zhang*

3:10 pm  Discussion

3:20 pm  Analysis of the Anatomy and Function of the Hamstring Muscles: Implications for ACL Reconstruction
*Y Makihara, A Nishino, T Fukubayashi, A Kanamori, SL-Y Woo*

3:25 pm  Measurement of Loads in the Ovine Stifle Joint during In-Vitro Robotic Reproduction of In-Vivo Kinematics
*RA Howard, JM Rosvold, JE Tapper, LL Marchuk, JL Ronsky, CB Frank, NG Shrive*

3:30 pm  In-Vivo Kinematics of the ACL during Weightbearing Knee Flexion
*G Li, LE DeFrate*

3:35 pm  Quantitative Assessment of Glenohumeral Translation in Baseball Players: A Comparison of Pitchers Versus Non Pitching Athletes
*JE Tibone, P Sethi, TQ Lee*

3:40 pm  Discussion
Break & Poster Session 3

3:50 pm- 4:20 pm
Effects of Contraction Kinetics on Cell Dispersion in Type 1 Collagen Gels
VS Nirmalanandhan, C Gooch, DL Butler

Effect of Foot Position on Knee Muscle Activity While Landing from a Jump
A Kanamori, F Goto, F Kaneko, T Fukubayashi

Novel Histological Processing Techniques for Morphological Assessment of Normal and Damaged Tendons
VM Wang, D Laudier, CW Tsai, KJ Jepsen, MB Schaffler, EL Flatow

Effects of Knocking Down Titin Message Level on Cytoskeletal Proteins in Human Tenocytes
J Qi, L Chi, D Bynum, AJ Banes

Podium Session 4 - Part II
Pathophysiology, Tissue Engineering and Other Hot Topics
Moderators: Lars Engebretsen, MD, PhD, & Jennifer Wayne, PhD

4:20 pm
Mechanical Load Upregulates ATP Hydrolysis by Human Tendon Cells
M Tsuzaki, D Bynum, L Almekinders, J Faber, AJ Banes

4:25 pm
Increased Deposition of Sulphated Glycosaminoglycans in Human Patellar Tendinosis
SC Fu, KM Chan, CG Rolf

4:30 pm
The Hypothesis of the “Angiogenetic Tissue Degradation”
W Petersen, T Zantop, R Mentelein, T Pufe

4:35 pm
Discussion

4:45 pm
In Vivo Mechanical Performance of Cell-Collagen Repairs to be Used for Rabbit Patellar Tendon Repair
N Juncosa, GP Boivin, MT Galloway, C Gooch, JR West, DL Butler

4:50 pm
Effect of Prostaglandin E2 on Tendon Repair
P Aspenberg, K Hultman

4:55 pm
Oxygen Diffusivity through Natural Extracellular Matrices for Tendon Tissue Engineering
C Androjna, JM Belovich, KA Derwin

5:00 pm
Discussion
5:10 pm  Is Patient with Anterior Cruciate Ligament Deficient Controlling Toe Out Angle and Knee Rotation during Side-Step Cutting Maneuvers?  
K Udagawa, Y Kitsuta, T Nagura, H Matsumoto, Y Toyama

5:15 pm  The Effect of Walking Speed on the Stability of the ACL Deficient Knee  
T Moraiti, N Stergiou, S Ristanis, AD Georgoulis

5:20 pm  In Vivo Analysis of Meniscal and Tibiofemoral Kinematics in Cruciate Ligament-Deficient Knees Using Kinematic Magnetic Resonance Imaging  
K-Y Lee, CB Ma, M Safran, JP Slavinsky, E Ozhinsky, CR Allen, S Majumdar

5:25 pm  There is an Early Tension Loss in a Tendon ACL Graft that Increases the Anterior Limit of Motion: A Cadaveric Study of Four Tibial Fixation Devices  
DM Grover, SM Howell, ML Hull

5:30 pm  Discussion

5:40-  Closing Remarks
5:50 pm  Ejnar Eriksson, MD, & Savio L-Y. Woo, PhD, DSc

Dinner and Award Ceremony  
Gold Mountain Restaurant, 644 Broadway St., 415-296-7733

6:00-  Bus transportation provided to restaurant
6:15 pm

6:30-  Cash Bar
7:00 pm

7:00-  Dinner and award ceremony
9:00 pm