

## WELCOME FROM THE CHAIRS

Dear Colleagues,

Welcome to *4<sup>th</sup> Frontiers in Biomedical Devices Conference & Exhibition*, sponsored by ASME and ASME Emerging Technologies.

In 2009 the conference focus is on specific areas: Orthopedics, Cardiovascular, Medical/Legal Issues, Diabetes, Stem Cell, Advanced Technology plus Posters. Invited speakers and technical presentations will be made by leading experts in industry and academia.

We would like to thank the Conference Organizing Committee members, our Technical Program Chair, and our Session & Track Chairs for bringing the conference to fruition and making it an outstanding program. Additionally, we would also like to thank our sponsors: Platinum Sponsor – Edwards Lifesciences; Bronze Sponsors – Acumed, Finnegan, and NeuroMed Devices, Inc.; Cardiovascular Track Sponsor – Syprosoft Engineering; Diabetes Track Sponsor – Integrium; Lunch Sponsor (Monday, June 8<sup>th</sup>) – Stradling Yocca Carlson & Rauth; Media Sponsor – Mechanical Engineering Magazine, Supporting Organizations - Sino-American Biomedical and Pharmaceutical Professionals Association (SABPA), and Society for Biological Engineering (SBE), and Technical Co-Sponsor – ASME Bioengineering Division.

Finally, we would like to thank you. Your active participation and contributions will make this conference one of a kind and will serve to synergize the community to address critical grand challenge problems in biomedical devices that face us today and into the foreseeable future.

Sincerely,

Conference Co-Chairs  
Professor Thay Lee  
University of California Irvine

Shiva Sharareh, Ph.D.  
Finite Medical

Technical Program Chair  
Joon You, Ph.D.  
ISS, Inc.

## Table of Contents

|                          |            |
|--------------------------|------------|
| Technical Program        | Page 3-15  |
| Posters                  | Page 16-18 |
| Plenary Speakers         | Page 19-20 |
| Keynote Speaker          | Page 21    |
| Sponsors                 | Page 22-23 |
| Exhibitors               | Page 24-25 |
| Supporting Organizations | Page 25    |
| Organizers               | Page 26    |

## **Monday, June 8, 2009**

### **Registration & Continental Breakfast**

Room: Salon E Foyer

**7:30 am - 8:00 am**

### **TRACK 10 - Plenary**

10-1 –Plenary & Opening Remarks

Room: Salon D - General Session

**8:00 am - 9:00 am**

**Advances In Medical Technology: Lessons From The Burgess Shale**

-*Stuart Green, University of California Irvine, Irvine, CA, United States*

### **TRACK 2 Orthopedics**

Track Chair: **Thay Lee**, *University of California Irvine, Irvine, CA, United States*

**Session 2-1: Sports: Hip Arthroscopy**

Room: Woodbridge

**9:00 am - 10:00 am**

Session Chair: **Marc Safran**, Stanford University

**Hip Arthroscopy: The Next Frontier in Orthopaedic Surgery & its Challenges**

Extended Abstract. BioMed2009-83061

-*Marc Safran, Stanford University*

**Hip Arthroscopy - Industry**

Oral Presentation Only. BioMed2009-83098

-*Marc Safran, Stanford University*

### **TRACK 1 Cardiovascular**

Track Chair: **Shiva Sharareh**, *Finite Medical Inc, Laguna Niguel, CA, United States*

Track Sponsor: **Syprosoft Engineering, Irvine, CA**

**Session 1-3: Stents - 1**

Room: Oak Creek

**9:00 am - 10:20 am**

Session Chair: **Walt Baxter**, *Medtronic Cardiac Rhythm Management, Santa Ana, CA, United States*

**Design of the Next Generation of Drug-Eluting Stents**

Invited Speaker. BioMed2009-83122

-*Santosh Prabhu, Abbott Vascular, Santa Clara, CA, United States*

**Design Considerations in Bioabsorbable Drug Coating Development**

Invited Speaker. BioMed2009-83126

-*Doug Savage, Biosensors, Newport Beach, CA, United States*

## **Monday, June 8, 2009**

### **Track 5 Advanced Technology**

Track Chair: **Joon You**, *ISS, Inc., Irvine, CA, United States*

#### **Session 5-3: Pain Management**

Room: **Quail Hill**

**9:00 am - 10:20 am**

Session Chair: **Shiva Sharareh**, *Finite Medical, Laguna Niguel, CA, United States*

#### **New Advances in Non-Invasive Neuromodulation Treatment Devices**

Invited Speaker. BioMed2009-83127

-**Leon Silverstone**, *NeuroMed Devices, Inc., Park City, UT, United States*

#### **New Frontiers in Pain Management**

Invited Speaker. BioMed2009-83128

-**Andres Betts**, *Vertech, Inc., San Clemente, CA, United States*

### **TRACK 2 Orthopedics**

Track Chair: **Thay Lee**, *University of California Irvine, Irvine, CA, United States*

#### **Session 2-2: Sports: Shoulder - Rotator Cuff**

Room: **Woodbridge**

**10:15 am - 12:00 pm**

Session Chair: **Ted Schlegel**, *University of Colorado*

#### **Evolution Of Technology In Rotator Cuff Repair**

Extended Abstract. BioMed2009-83093

-**Ted Schlegel**, *University of Colorado*

#### **A New Knotless Suture Staple Double Row Construct For Medial Repair of Rotator Cuff Tears**

Extended Abstract. BioMed2009-83058

-**Ted Schlegel**, **Karimdad Otarodifard**, *VA Long Beach HCS, Long Beach, CA, United States*,  
**Richard Hawkins**, *Steadman Hawkins Clinic of the Carolinas, Spartanburg, SC, United States*,  
**Thomas Vangness**, *University of Southern California, Los Angeles, CA, United States*, **Christopher Bui**,  
**Michelle McGarry**, *VA Long Beach HCS, Long Beach, CA, United States*, **Thay Lee**, *University of California Irvine, Irvine, CA, United States*

#### **Arthroscopic Challenges In Treating Rotator Cuff Tears Of The Shoulder**

Extended Abstract. BioMed2009-83056

-**Maxwell Park**, *SC Permanente Medical Group, Woodland Hills, CA, United States*

#### **Biomechanical Evaluation Of Rotator Cuff Tear Progression And The Influence Of Parascapular Muscle Loading**

Extended Abstract. BioMed2009-83138

-**Joo Han Oh**, *Seoul National University College of Medicine, Seoul, Korea (Republic)*

## **Monday, June 8, 2009**

### **TRACK 1 Cardiovascular**

Track Chair: **Shiva Sharareh**, *Finite Medical Inc, Laguna Niguel, CA, United States*

Track Sponsor: **Syprosoft Engineering, Irvine, CA**

#### **Session 1-6: Stents - 2**

Room: **Oak Creek**

**10:40 am - 12:00 pm**

Session Chair: **Walt Baxter**, *Medtronic Cardiac Rhythm Management, Santa Ana, CA, United States*

#### **Materials and Design Considerations in Endovascular Treatments of Ischemic Stroke and Cerebral Aneurysms**

Invited Speaker. BioMed2009-83142

-**Sanjay Shrivastava**, *ev3, Inc., Irvine, CA, United States*

#### **A Revolution in Cardiac Care: 22 years after the Palmaz-Schatz Stent**

Invited Speaker. BioMed2009-83131

-**Richard Schatz**, *Scripps Clinic, La Jolla, CA, United States*

### **TRACK 5 Advanced Technology**

Track Chair: **Joon You**, *ISS, Inc., Irvine, CA, United States*

#### **Session 5-6: Advanced Tech 1**

Room: **Quail Hill**

**10:40 am - 12:00 pm**

Session Chair: **Joon You**, *ISS, Inc., Irvine, CA, United States*

#### **Acupuncture and its Role in Heart Health**

Invited Speaker. BioMed2009-83135

-**John Longhurst**, *University of California, Irvine, Irvine, CA, United States*

#### **Medisens: Listen to What Your Body Has to Say**

Invited Speaker. BioMed2009-83136

-**Majid Sarrafzadeh**, *University of California, Los Angeles, Los Angeles, CA, United States*

#### **LUNCH:**

**12:00 pm – 1:00 pm**

Room: **Salon D**

#### **KEYNOTE: Current and Future Trends in Facial Aesthetics**

-**Robert Grant**, *Allergen Medical, Irvine, CA, United States*

**LUNCH SPONSOR: Stradling Yocca Carlson & Rauth**

### **TRACK 2 Orthopedics**

Track Chair: **Thay Lee**, *University of California Irvine, Irvine, CA, United States*

#### **Session 2-6: Joint Arthroplasty**

Room: **Woodbridge**

**1:00 pm - 2:15 pm**

Session Chair: **Ranjan Gupta**, *University of California, Irvine, Irvine, CA, United States*

#### **Shoulder Arthroplasty: Current State Of Affairs And Future Directions**

Extended Abstract. BioMed2009-83070

-**Ranjan Gupta**, *University of California, Irvine, Irvine, CA, United States*

## **Monday, June 8, 2009**

### **Polycentric versus Single Axis Sagittal Femoral Geometry and Paradoxical Anterior Translation in Total Knee Implants**

**Extended Abstract.** BioMed2009-83011

-*John Williams, University of Memphis, Memphis, TN, United States*

### **3D Reconstruction of a Knee Joint Using CT Images for Designing Customized Medical Implants**

**Oral Presentation Only.** BioMed2009-83102

-*Sudesh Sivarasu, VIT University, Vellore, Tamil Nadu, India, Sam Prasanna, VIT University, Vellore, Tamil Nadu, India, Lazar Mathew, VIT University, Vellore, Tamil Nadu, India*

### **Biomechanical Effects Of Kneeling With Posterior Cruciate Retaining And Posterior Cruciate Substituting Total Knee Arthroplasty**

**Poster.** BioMed2009-83069

-*Jason Hofer, University of California, Irvine, Irvine, CA, United States, Ryuichi Gejo, Michelle McGarry, VA Long Beach HCS, Long Beach, CA, United States, Thay Lee, University of California Irvine, Irvine, CA, United States*

## **TRACK 1 Cardiovascular**

Track Chair: **Shiva Sharareh**, *Finite Medical Inc, Laguna Niguel, CA, United States*

**Track Sponsor: Syprosoft Engineering, Irvine, CA**

### **Session 1-2: Valves - 1**

**Room: Oak Creek**

**1:00 pm - 2:20 pm**

Session Chair: **Hengchu Cao**, *Edwards Lifesciences, Irvine, CA, United States*

### **Opportunities and Challenges in Designing Balloon Catheters**

**Invited Speaker.** BioMed2009-83137

-*Eric Mabry, Irvine, CA, United States*

### **The Biomedical Device Engineer: Renaissance Man or Oxymoron?**

**Invited Speaker.** BioMed2009-83143

-*Francis Duhay, Edwards Lifesciences, Irvine, CA, United States*

## **TRACK 5 Advanced Technology**

Track Chair: **Joon You**, *ISS, Inc., Irvine, CA, United States*

### **Session 5-1: Dermatology**

**Room: Quail Hill**

**1:00 pm - 2:20 pm**

Session Chair: **Joon You**, *ISS, Inc., Irvine, CA, United States*

### **Applications of Optical Coherence Tomography in Dermatology**

**Invited Speaker,** BioMed2009-146

-*Hyle Park, University of California, Riverside, Riverside, CA, United States*

### **Lasers in Dermatology**

**Invited Speaker.** BioMed2009-83108

-*Kristen M. Kelly, Univ. California, Irvine, Irvine, CA, United States*

## **Monday, June 8, 2009**

### **TRACK 2 Orthopedics**

Track Chair: **Thay Lee**, *University of California Irvine, Irvine, CA, United States*

**Session: 2-4: Sports: Soft Tissue Fixation and Implant Development**  
**Room: Woodbridge** **2:30 pm - 5:00 pm**

Session Chair: **Erik Van der Burg**, *Ross Creek Medical*

#### **Soft Tissue Fixation And Implant Development**

**Extended Abstract.** BioMed2009-83071

-*Erik Van der Burg, Ross Creek Medical*

#### **Soft Tissue Fixation And Implant Development: Intellectual Property**

**Extended Abstract.** BioMed2009-83075

-*Sabing Lee, Knobbe, Martens, Olson & Bear, LLP, Irvine, CA, United States*

#### **Soft Tissue Fixation And Implant Development: Venture Capital**

**Extended Abstract.** BioMed2009-83072

-*Evan Norton, Onset Ventures, Menlo Park, CA, United States*

#### **Soft Tissue Fixation And Implant Development: Development**

**Extended Abstract.** BioMed2009-83076

-*Todd Miller, Stryker Joint Preservation, San Jose, CA, United States*

#### **Soft Tissue Fixation And Implant Development: Regulatory**

**Extended Abstract.** BioMed2009-83074

-*Michael Kolber, Paracor Medical, Sunnyvale, CA, United States*

#### **Soft Tissue Fixation And Implant Development: Marketing/Commercialization**

**Extended Abstract.** BioMed2009-83073

-*John Tighe, Peak Surgical, Palo Alto, CA, United States*

### **TRACK 1 Cardiovascular**

Track Chair: **Shiva Sharareh**, *Finite Medical Inc, Laguna Niguel, CA, United States*

**Track Sponsor: Syprosoft Engineering, Irvine, CA**

**Session: 1-5: Valves - 2**

**Room: Oak Creek**

**2:35 pm - 3:55 pm**

Session Chair: **Hengchu Cao**, *Edwards Lifesciences, Irvine, CA*

#### **Image Guided Surgery With Applications To Structural Heart Disease And Aortic Pathology. State Of The Art.**

**Invited Speaker.** BioMed2009-83120

-*Jacques Kpodonu, Hoag Memorial Presbyterian Hospital, Newport Beach, CA, United States*

#### **Micardia Dynaplasty System For Treatment Of Mitral Valve Disease**

**Invited Speaker.** BioMed2009-83121

-*Samuel Shaolian, MiCardia, Irvine, CA, United States*

## **Monday, June 8, 2009**

### **TRACK 5 Advanced Technology**

Track Chair: **Joon You**, *ISS, Inc., Irvine, CA, United States*

#### **Session 5-2: Advanced Tech 2**

**Room: Quail Hill**

**2:35 pm - 3:55 pm**

Session Chair: **Joon You**, *ISS, Inc., Irvine, CA, United States*

#### **Stents in the Eye**

**Invited Speaker.** BioMed2009-83134

-**Hal Heitzmann**, *Glaukos Corporation, Laguna Hills, CA, United States*

#### **Cerebral And Somatic Oximetry – Monitoring And Diagnostics**

**Invited Speaker,** BioMed2009-83147

**Joon You**, *ISS, Inc., Irvine, CA, United States*

#### **Finite Medical Inc and its involvement in Medical Device Industry**

**Invited Speaker,** BioMed2009-83148

**Shiva Sharareh**, *Finite Medical Inc, Laguna Niguel, CA, United States*

### **TRACK 1 Cardiovascular**

Track Chair: **Shiva Sharareh**, *Finite Medical Inc, Laguna Niguel, CA, United States*

**Track Sponsor: Syprosoft Engineering, Irvine, CA**

#### **Session 1-7: Cardiovascular - Technical Papers 1**

**Room: Oak Creek**

**4:00 pm - 5:00 pm**

Session Chair: **Hengchu Cao**, *Edwards Lifesciences, Irvine, CA, United States*

#### **Optimization of Intravascular Shear Stress and Oxidative Stress Assessment in Vivo**

**Extended Abstract.** BioMed2009-83022

-**Lisong Ai, Tzung K. Hsiai**, *University of Southern California, Los Angeles, CA, United States*

#### **Self-expandable Thin Film Nitinol Endografts for Vascular Repair: Manufacturing and Short-Term Results in Swine**

**Extended Abstract.** BioMed2009-83048

-**Youngjae Chun**, *University of California, Los Angeles, Los Angeles, CA, United States*, **Daniel Levi**, *Pediatric Cardiology, Mattel Children's Hospital, UCLA, Los Angeles, CA, United States*, **KP Mohanchandra**, **Gregory Carman**, *University of California, Los Angeles, Los Angeles, CA, United States*

#### **Novel Heart Valve Design Methodology Utilizing Virtual Optimization**

**Oral Presentation Only.** BioMed2009-83007

-**Melissa Denton**, *Medtronic Heart Valves, Santa Ana, CA, United States*, **Steven Ford**, *Altair Engineering, Irvine, CA, United States*

## **Monday, June 8, 2009**

### **TRACK 5 Advanced Technology**

Track Chair: **Joon You**, *ISS, Inc., Irvine, CA, United States*

#### **Session 5-7: Advanced Technology - Technical Papers 1**

Room: **Quail Hill**

**4:00 pm - 5:00 pm**

Session Chair: **Joon You**, *ISS, Inc., Irvine, CA, United States*

#### **Analysis of Electrode Degradation Through the Use of Synthetic Tissue Analog**

**Extended Abstract.** BioMed2009-83004

*-Mason Webster, Derek Herbert, Peter Pascoal, Justin Smith, Stryker Endoscopy, San Jose, CA, United States*

#### **Advanced Technologies for Diabetes Care and Management Solutions**

**Oral Presentation Only.** BioMed2009-83046

*-Zach Olson, National Instruments, Lake Forest, CA, United States*

#### **Biomedical Applications of On-chip Optofluidic Microscopy**

**Oral Presentation Only.** BioMed2009-83133

*-Lap Man Lee, Xiquan Cui, Sean Pang, Ying Min Wang, Changhuei Yang, California Institute of Technology, Pasadena, CA, United States*

**RECEPTION/POSTERS/EXHIBITS:**

**5:00 pm – 7:00 pm**

**Salon E, Salon E Foyer**

## **Tuesday, June 9, 2009**

**Registration & Continental Breakfast**  
Room: Salon E Foyer

**7:30 am - 8:00 am**

### **TRACK 10 Plenary**

**10-2–Plenary & Opening Remarks**  
Room: Salon D - General Session

**8:00 am - 9:00 am**

**New Advances in Cardiac Arrhythmia**  
*-Kalyanam Shivkumar, UCLA, Los Angeles, CA, United States*

### **TRACK 2 Orthopedics**

Track Chair: **Thay Lee**, *University of California Irvine, Irvine, CA, United States*

**Session 2-9: Ethics in Medicine and Science**  
Room: Woodbridge

**9:00 am - 10:00 am**

Session Chair: **Charles Rosen**, *UCI, Irvine, CA, United States*

#### **Ethics in Orthopaedics**

**Invited Speaker.** BioMed2009-83139  
*-Charles Rosen, UCI, Irvine, CA, United States*

#### **Ethics in Medicine & Science**

**Invited Speaker.** BioMed2009-83140  
*-Zeev Kain, UC Irvine, Irvine, CA, United States*

### **TRACK 1 Cardiovascular**

Track Chair: **Shiva Sharareh**, *Finite Medical Inc, Laguna Niguel, CA, United States*  
**Track Sponsor: Syprosoft Engineering, Irvine, CA**

**Session 1-1: Electrophysiology - 1**  
Room: Oak Creek

**9:00 am - 10:20 am**

Session Chair: **Shiva Sharareh**, *Finite Medical Inc, Laguna Niguel, CA, United States*

#### **Innovations in Catheter-Based Treatment for Atrial Fibrillation**

**Invited Speaker.** BioMed2009-83106  
*-Peter Chen, St. Jude Medical Company, Irvine, CA, United States*

#### **Mechanisms of Ventricular Tachycardia and Ventricular Fibrillation**

**Invited Speaker.** BioMed2009-83118  
*-Subramaniam Krishnan, UC Irvine, Irvine, CA, United States*

## **Tuesday, June 9, 2009**

### **TRACK 7 Diabetes**

Track Chair: **Asad Zaidi**, *Epinex Diagnostics, Irvine, CA, United States*

Track Sponsor: **Integrinum, Tustin, CA**

#### **Session 7-1: Diabetes - 1**

Room: **Quail Hill**

**9:00 am - 10:20 am**

Session Chair: **Asad Zaidi**, *Epinex Diagnostics, Irvine, CA, United States*

#### **Diabetes and Medical Devices**

Invited Speaker. BioMed2009-83145

-**Vernon Roohk**, *American Immuno Tech, Huntington Beach, CA, United States*

#### **Behavioral Programs**

Invited Speaker. BioMed2009-83112

-**Allison Hickey**, *American Diabetes Association of Orange County, Santa Ana, CA, United States*

### **TRACK 2 Orthopedics**

Track Chair: **Thay Lee**, *University of California Irvine, Irvine, CA, United States*

#### **Session 2-7: Spine**

Room: **Woodbridge**

**10:00 am - 12:00 pm**

Session Chair: **Nitin Bhatia**, *University of California, Irvine, Irvine, CA, United States*

#### **Spinal Surgery And Implants**

Extended Abstract. BioMed2009-83077

-**Nitin Bhatia**, *University of California, Irvine, Irvine, CA, United States*

#### **Current Technology In Spine And Spinal Implant Evaluation: Robotic Testing**

Extended Abstract. BioMed2009-83078

-**J Marcus Hollis**, *Blue Bay Research Inc., Navarre, FL, United States*, **Thay Lee**, *University of California Irvine, Irvine, CA, United States*

#### **Segmental Stiffness Achieved by Three Types of Instrumented Fixation for Unstable Lumbar Spondylolytic Motion Segments**

Extended Abstract. BioMed2009-83015

-**Ferris M. Pfeiffer**, *Pfeiffer Engineering, LLC, Boonville, MO, United States*, **Theodore J. Choma**, **Santaram Vallurupalli**, **Irene H. Mannering**, *University of Missouri, Columbia, MO, United States*

#### **Biomechanical Evaluation Of An Expandable Cage In Single Segment Posterior Lumbar Interbody Fusion**

Extended Abstract. BioMed2009-83047

-**Nitin Bhatia**, *University of California, Irvine, Irvine, CA, United States*, **Kenneth Lee**, **Christopher Bui**, **George Whaba**, **Allyson Estess**, **Mario Luna**, *VA Long Beach HCS, Long Beach, CA, United States*, **Thay Lee**, *University of California Irvine, Irvine, CA, United States*

#### **Evaluation of Three Bioactive Cements used to Increase Fixation Strength of Pedicle Screws in Osteoporotic Bone**

Presentation Only. BioMed2009-83013

-**Ferris M. Pfeiffer**, *Pfeiffer Engineering, LLC, Boonville, MO, United States*, **Theodore J. Choma**, **William L. Carson**, **Nicole P. Waters**, *University of Missouri, Columbia, MO, United States*

## **Tuesday, June 9, 2009**

### **Comparison Of Cervical Spine Fixation Devices**

**Extended Abstract.** BioMed2009-83059

-**J Marcus Hollis**, *Blue Bay Research Inc., Navarre, FL, United States*, **Viorel Raducan**, *Texas Tech Physicians Orthopaedics, Lubbock, TX, United States*

### **TRACK 1 Cardiovascular**

Track Chair: **Shiva Sharareh**, *Finite Medical Inc, Laguna Niguel, CA, United States*

**Track Sponsor: Syprosoft Engineering, Irvine, CA**

#### **Session 1-4: Electrophysiology - 2**

**Room: Oak Creek**

**10:40 am - 12:00 pm**

Session Chair: **Shiva Sharareh**, *Finite Medical, Laguna Niguel, CA, United States*

**Speaker TBA**

### **Assessment Of RF Cardiac Tissue Ablation Parameters With Optical Spectroscopy**

**Invited Speaker.** BioMed2009-83050

-**Stavros Demos**, *Lawrence Livermore National Laboratory, Livermore, CA, United States*, **Shiva Sharareh**, *Finite Medical Inc, Laguna Niguel, CA, United States*

**LUNCH:**

**12:00 pm – 1:00 pm**

**Room: Terrace Court**

### **TRACK 7 Diabetes**

Track Chair: **Asad Zaidi**, *Epinex Diagnostics, Irvine, United States*

**Track Sponsor: Integrium, Tustin, CA**

#### **Session 7-2: Diabetes - 2**

**Room: Quail Hill**

**10:40 am - 12:00 pm**

Session Chair: **Asad Zaidi**, *Epinex Diagnostics, Irvine, CA, United States*

### **Device & Technology**

**Invited Speaker.** BioMed2009-83111

-**Robert Case**, *Robert Case & Associates, Inc., Chicago, IL, United States*

### **New Tests on the Horizon**

**Invited Speaker.** BioMed2009-83109

-**Asad Zaidi**, *Epinex Diagnostics, Irvine, CA, United States*

## **Tuesday, June 9, 2009**

### **TRACK 2 Orthopedics**

Track Chair: **Thay Lee**, *University of California Irvine, Irvine, CA, United States*

#### **Session 2-5: Trauma**

Room: **Woodbridge**

**1:00 pm - 2:15 pm**

Session Chair: **Greg Rafijah**, *University of California Irvine, Irvine, CA, United States*

#### **Four Corner Intercarpal Arthrodesis**

**Extended Abstract.** BioMed2009-83095

-**Gregory Rafijah**, *University of California Irvine, Irvine, CA, United States*

#### **Activities Of Daily Living And Implant Design: Evaluation Of A Femoral Fracture Fixed Plate Implant During Bicycle Pedaling**

**Extended Abstract.** BioMed2009-83038

-**David Wagner, Alejandro Vallejo**, *Ozen Engineering, Sunnyvale, CA, United States*

#### **External Fixation Of Distal Radius Fractures**

**Extended Abstract.** BioMed2009-83096

-**David Slutsky**, *Harbor-UCLA Medical Center, South Bay Hand Center, Torrance, CA, United States*

#### **Fixation Of Distal Humerus Fractures: Principles And Biomechanics**

**Extended Abstract.** BioMed2009-83065

-**Charalampos Zalavras, Michael Vercillo**, *University of Southern California, Los Angeles, CA, United States*, **Bong Jae Jun**, *Long Beach VA HCS, Long Beach, CA, United States*, **Karimdad Otarodifard**, *VA Long Beach HCS, Long Beach, CA, United States*, **John Itamura**, *University of Southern California, Los Angeles, CA, United States*, **Thay Lee**, *University of California Irvine, Irvine, CA, United States*

### **TRACK 5 Advanced Technology**

Track Chair: **Joon You**, *ISS, Inc., Irvine, CA, United States*

#### **Session 5-4: Legal and Regulatory Issues**

Room: **Oak Creek**

**1:00 pm - 2:20 pm**

Session Chair: **Joon You**, *ISS, Inc., Irvine, CA, United States*

#### **Biocompatibility Considerations for Medical Device Manufacturing Regarding ISO 10993 and MHLW guidelines**

**Oral Presentation Only.** BioMed2009-83130

-**Laurence Lister**, *Toxikon, Bedford, MA, United States*

#### **Retinal implants open the shutters on blindness - recent innovations.**

**Oral Presentation Only.** BioMed2009-83100

-**Richard Hendriks**, *Nerac, Tolland, CT, United States*

#### **Strengthening A Patent Portfolio by Smart Patent Procurement**

**Extended Abstract.** BioMed2009-83008

-**Les Bookoff, Dinesh Melwani**, *Finnegan, Henderson, Farabow, Garrett & Dunner, LLP, Washington, DC, United States*

## **Tuesday, June 9, 2009**

### **TRACK 9 Stem Cell**

Track Chair: **Mahsa Rouhanizadeh**, USC, Los Angeles, CA, United States

#### **Session 9-1: Stem Cell - 1**

**Room: Quail Hill**

**1:00 pm - 2:20 pm**

Session Chair: **Mahsa Rouhanizadeh**, USC, Los Angeles, CA, United States

#### **Kidney Progenitor Cells Isolated Form Amniotic Fluid**

**Invited Speaker.** BioMed2009-83114

-**Laura Perin**, USC, Los Angeles, CA, United States

#### **Stem/Progenitor Cell Therapies for Lung Disease**

**Invited Speaker.** BioMed2009-83115

-**David Warburton**, USC, Los Angeles, CA, United States

### **TRACK 2 Orthopedics**

Track Chair: **Thay Lee**, University of California Irvine, Irvine, CA, United States

#### **Session 2-3: Sports: Knee Arthroscopy**

**Room: Woodbridge**

**2:30 pm - 3:45 pm**

Session Chair: **Orr Limpisvasti**, Kerlan Jobe Orthopaedic Clinic, Los Angeles, CA, United States

#### **Arthroscopy And Ligament Reconstruction In The Knee**

**Extended Abstract.** BioMed2009-83081

-**Orr Limpisvasti**, Kerlan Jobe Orthopaedic Clinic, Los Angeles, CA, United States

#### **Treatment Of Meniscal Injuries In The Knee**

**Extended Abstract.** BioMed2009-83079

-**Kevin Kaplan**, Jacksonville Orthopaedic Institute, Jacksonville, FL, United States

#### **Treatment Of Articular Cartilage Injuries In The Knee**

**Extended Abstract.** BioMed2009-83083

-**Tony Wanich**, Kerlan-Jobe Orthopaedic Clinic, Los Angeles, CA, United States

#### **Developing Surgical Solutions: Bringing Ideas To Market**

**Oral Presentation Only.** BioMed2009-83082

-**Shari Scott**, Arthrex Inc, Naples, CA, United States, **Thay Lee**, University of California Irvine, Irvine, CA, United States

### **TRACK 5 Advanced Technology**

Track Chair: **Joon You**, ISS, Inc., Irvine, CA, United States

#### **Session: 5-8: Advanced Technology - Technical Papers 2**

**Room: Oak Creek**

**2:40 pm - 5:00 pm**

Session Chair: **Joon You**, ISS, Inc., Irvine, CA, United States

#### **A Novel Piezo-Driven Micro-Jet Injection System For Transdermal Drug Delivery**

**Extended Abstract.** BioMed2009-83020

-**Kai Chen**, Hangzhou Dianzi University, Hangzhou, Zhejiang, China

## **Tuesday, June 9, 2009**

### **Advanced Surface Mechanical Testing of Materials for Medical Applications**

**Extended Abstract.** BioMed2009-83032

*-Ethel Poiré, EP Laboratories, Inc., Irvine, CA, United States*

### **Design of a Portable Renal Replacement System Through Modeling and Experiment**

**Extended Abstract.** BioMed2009-83036

*-Jeffrey Olson, Jason Weaver, Yong Yang, David Ku, David Rosen, Georgia Institute of Technology, Atlanta, GA, United States*

### **Graphical System Design: Accelerating Medical Device Design, Prototyping, and Testing**

**Oral Presentation Only.** BioMed2009-83045

*-Zach Olson, National Instruments, Lake Forest, CA, United States*

### **Paraffin Actuated Micromirror for Endoscopic OCT**

**Extended Abstract.** BioMed2009-83051

*-Jessica A. Ayers, University of California, Irvine, Aliso Viejo, CA, United States, William C. Tang, Zhongping Chen, University of California Irvine, Irvine, CA, United States*

### **Volumetric Image Alignment Utilizing Particle Swarm Optimization**

**Extended Abstract.** BioMed2009-83084

*-Li-Chang Cheng, Joerg Meyer, University of California, Irvine, Irvine, CA, United States*

## **TRACK 9 Stem Cell**

Track Chair: **Mahsa Rouhanizadeh**, USC, Los Angeles, CA, United States

### **Session 9-2: Stem Cell - 2**

**Room: Quail Hill**

**2:40 pm - 5:00 pm**

Session Chair: **Mahsa Rouhanizadeh**, USC, Los Angeles, CA, United States

### **Amniotic Fluid Stem Cells: A Novel Modality in Cell Therapy for Acute and Chronic Renal Failure**

**Invited Speaker.** BioMed2009-83116

*-Roger de Filippo, USC, Los Angeles, CA, United States*

### **Bladder Tissue Engineering Derived from Stem Cells**

**Invited Speaker.** BioMed2009-83117

*-Chester Koh, USC, Los Angeles, CA, United States*

## **TRACK 2 Orthopedics**

Track Chair: **Thay Lee**, University of California Irvine, Irvine, CA, United States

### **Session 2-8: Medical Legal**

**Room: Woodbridge**

**4:00 pm - 5:00 pm**

Session Chair: **Mark Gomez**, Biomechanics Advanced, Encinitas, CA, United States

### **Periprosthetic Of The Femur And Acetabulum- An Emerging Problem**

**Oral Presentation Only.** BioMed2009-83080

*-Michael Muldoon, Sharp Memorial Hospital, San Diego, CA, United States, Thay Lee, University of California Irvine, Irvine, CA, United States*

**Determining The Failure Potential Of Total Hip Arthroplasty In Frontal Motor Vehicle Impacts: An Interdisciplinary Approach**

**Extended Abstract.** BioMed2009-83057

-*Mark Gomez, Biomechanics Advanced, Encinitas, CA, United States*

**Occupant Extremity Loading In Frontal Motor Vehicle Impacts: Prediction Of Potential Orthopedic Implant Failure**

**Extended Abstract.** BioMed2009-83064

-*Timothy Long, Darleen Bajgrowicz, Accident Research and Biomechanics, Valencia, CA, United States*

## **Posters**

**Room: Salon E**

**Orocecal transit time and small intestinal bacterial overgrowth in diabetic patients with hypertension**

**Poster.** BioMed2009-83019

-*SV Rana, A Bhansali, S.K. Bhadada, S. Sharma, J Sharma, K Singh, Postgraduate Institute of Medical Education and Research, Chandigarh, Chandigarh, UT, India*

**Pulmonary Delivery of Isoproterenol Aerosol Generated with Silicon-Based MHz Ultrasonic Nozzles**

**Poster.** BioMed2009-83035

-*Chen S. Tsai, Rong W. Mao, David Mukai, Shih K. Lin, Archie F Wilson, Ning Wang, University of California, Irvine, Irvine, CA, United States*

**Development of a Novel Micro-Manipulation Device and Its Simulation Using COMSOL**

**Extended Abstract.** BioMed2009-83086

-*Hsiu-hung Chen, Dayong Gao, University of Washington, Seattle, WA, United States*

**Comprehensive Epilepsy Early Warning System & Seizure Alarm**

**Extended Abstract.** BioMed2009-83042

-*Neeraj Singh, Tata Motors, Saharanpur, India, Ravindra Singh, Institute of Medical Science, BHU, INDIA, Saharanpur, India*

**Quantitative Measurements of Cryobiological Characteristics of Mouse Dendritic Cells and Its Evaluation Using Commercialized Coulter Counter**

**Extended Abstract.** BioMed2009-83067

-*Hsiu-hung Chen, Dayong Gao, University of Washington, Seattle, WA, United States*

**6R Manipulator Robotic Arm for a Power Wheelchair Used by BCI Unit**

**Presentation Only.** BioMed2009-83034

-*Christine King, Graham Walker, Reza Jazar, Manhattan College, Riverdale, NY, United States*

**Comparison of a Fixed Height and Self Adjusting Height Intervertebral Spacer**

**Presentation Only.** BioMed2009-83030

-*Antonio Valdevit, Stevens Institute of Technology, Hoboken, NJ, United States, Mike Kvitnitsky, Cardo Medical, Clifton, NJ, United States, Siva Thangam, Stevens Institute of Technology, Hoboken, NJ, United States*

**A Knotless Dual Row Loop Rotator Cuff Repair: Does It Hold Up To A Transosseous Equivalent Repair?**

Poster. BioMed2009-83062

-**Ted Schlegel**, **Karimdad Otarodifard**, VA Long Beach HCS, Long Beach, CA, United States, **Richard Hawkins**, Steadman Hawkins Clinic of the Carolinas, Spartanburg, SC, United States, **Thomas Vangsness**, University of Southern California, Los Angeles, CA, United States, **Christopher Bui**, **Michelle McGarry**, VA Long Beach HCS, Long Beach, CA, United States, **Thay Lee**, University of California Irvine, Irvine, CA, United States

**Biomechanical Comparison Of Supplementary Anterior Cruciate Ligament Soft Tissue Graft Tibial Fixation**

Presentation Only. BioMed2009-83055

-**Karimdad Otarodifard**, VA Long Beach HCS, Long Beach, CA, United States, **John Lee**, University of Southern California, Los Angeles, CA, United States, **Bong Jae Jun**, Long Beach VA HCS, Long Beach, CA, United States, **Michelle McGarry**, VA Long Beach HCS, Long Beach, CA, United States, **George R Hatch**, University of Southern California, Los Angeles, CA, United States, **Thay Lee**, University of California Irvine, Irvine, CA, United States

**Biomechanical Analysis Of Locked Vs. Unlocked Periarticular Plates For Lateral Tibial Plateau Fractures**

Presentation Only. BioMed2009-83063

-**Amy Steinhoff**, University of California, Irvine, Irvine, CA, United States, **David Zamorano**, **Christopher Bui**, **Michelle McGarry**, VA Long Beach HCS, Long Beach, CA, United States, **Thay Lee**, University of California Irvine, Irvine, CA, United States

**Improving Pre-Operative Evaluation and Surgical Planning of Spine Deformity Surgeries using 3D Printing**

Poster. BioMed2009-83014

-**Ferris M. Pfeiffer**, Pfeiffer Engineering, LLC, Boonville, MO, United States

**Biomechanical Evaluation Of Short-Segment Posterior Instrumentation With Crosslinks In An Unstable Human Burst Fracture Model**

Poster. BioMed2009-83066

-**George Wahba**, University of California, Irvine, Irvine, CA, United States, **Nitin Bhatia**, **Thay Lee**, University of California Irvine, Irvine, CA, United States

**Classification of EOG signal for Human Computer Interactions Using neural networks**

Poster. BioMed2009-83105

-**Aminollah Golrou**, azad university of mashhad, mashhad, Iran

**Evaluation Of A Gas Driven Lower Limb Orthosis**

Poster. BioMed2009-83125

-**Chih Jen Huang**, National Tsing Hua University (R.O.C.), Hsinchu, Taiwan, **Dein Shaw**, PME, National Tsing Hua University, Hsin Chu, Taiwan, Taiwan

**Development of Nanocomposite Hydrogels for Novel Wound Dressings**

Poster. BioMed2009-83124

-**Toru Takehisa**, **Dr. Kazutoshi Haraguchi**, Kawamura Institute of Chemical Research, Sakura, Chiba, Chiba, Japan

**Biomechanical Comparison Of Trans-Sacral And Triangular Osteosynthesis In A Vertically Unstable Pelvic Fracture Model**

Extended Abstract. BioMed2009-83068

-**David Zamorano**, **Kyong Min**, **George Wahba**, University of California, Irvine, Irvine, CA, United States, **Nitin Bhatia**, **Ivan Garcia**, Harbor-UCLA Medical Center, Torrance, CA, United States, **Thay Lee**, University of California Irvine, Irvine, CA, United States

**Lumbar Disc Replacement Failures: Review Of 29 Patients And Rationale For Revision  
Extended Abstract.** BioMed2009-83060

-**Charles Rosen**, UCI, Irvine, CA, United States, **Douglas Kiestler**, University of California Irvine, Orange, CA, United States, **Thay Lee**, University of California Irvine, Irvine, CA, United States

**Finite Element Analysis of TMJ Implant**

Poster. BioMed2009-83052

-**Ajay Kashi**, **Subrata Saha**, **Amit Roy Chowdhury**, SUNY Downstate Medical Center, Brooklyn, NY, United States

**Bend Error Evaluation of Pressure Sensor: Measurements vs. Simulations**

Poster. BioMed2009-83141

-**Arshad Alfoqaha**, Medtronic Inc, Mounds View, MN, United States

**Comparison Of A Technique Using A New Percutaneous Osteosynthesis Arthroscopic View  
Device With Conventional Open Surgery For Displaced Patella Fractures**

Poster. BioMed2009-83123


-**Daniel Luna-Pizarro**, Tecnologia y Diseño Industrial (TDI), Guadalajara, Jalisco, Zapopan Jalisco, Mexico, Mexico

**Single Screw vs. Double Screw Device for Femur Bone Fracture**


Poster. BioMed2009-83132

-**J. E. Ondrake**, **K.C. Lifer**, Ohio Northern University, Ada, OH, United States, **S.P. Haman**, Orthopaedic Institute of Ohio, Lima, OH, United States, **J.E. Marquart**, **Hui Shen**, Ohio Northern University, Ada, OH, United States


## PLENARY SPEAKER

|   |  |
|---|--|
|  | <p><b>Monday, June 8, 2009</b><br/>8:05 am – 9:00 am</p> <p>Dr. Stuart Green, University of California Irvine, Irvine, CA, United States</p> <p><b><i>Advances in Medical Technology: Lessons from the Burgess Shale</i></b></p>   |
|   | <p>Dr. Green received his undergraduate degree from Lafayette College and his medical doctorate degree from New York Medical College. He completed his surgical internship and residency in Orthopaedic Surgery at the Hospital for Joint Diseases in New York. Dr. Green completed fellowship training in Infectious Diseases at the University of California, San Diego. He currently serves as a Clinical Professor in the Department of Orthopaedic Surgery at the University of California, Irvine.</p> <p>Dr. Green is the Deputy Editor for Clinical Orthopaedics and Related Research; he has served as the Associate Editor for the Journal of Orthopaedic Trauma, the Associate Editor for Advances in Orthopaedic Surgery, and the Associate Editor for Techniques in Orthopaedics. Dr. Green has been appointed a member of the Ethics Committee of the American Academy of Orthopaedic Surgeons (2007).</p> <p>Dr. Green is an orthopaedic surgeon whose subspecialty interest deals with post-trauma limb reconstruction, including non-unions, malunions, shortening and post-trauma infections of bones and joints. During the past 25 years, Dr. Green has lectured and published extensively on matters dealing with his area of expertise. He was the first American to visit Dr. G.A. Ilizarov in Kurgan, Russia and was instrumental in introducing the Ilizarov method of reconstructive surgery to the world's orthopaedic surgeons. Dr. Green is also actively engaged in research at two of UC Irvine's biomedical research labs. At the Biomechanic Lab at the Long Beach Veteran's Hospital, Dr. Green works with Thay Q. Lee, Ph.D. on problems related to the biomechanics of external skeletal fixation and internal fixation devices. In conjunction with Vincent Caiozzo Ph.D., Dr. Green studies the effect limb lengthening has on muscle tissue with the goal of the reducing the complication associated with limb elongation.</p> |

## PLENARY SPEAKER




|   |   |
|---|---|
|  | <p><b>Tuesday, June 9, 2009</b><br/>8:05 am – 9:00 am</p> <p>Kalyanam Shivkumar, M.D., Ph.D., UCLA, Los Angeles, CA, United States</p> <p><b><i>New Advances in Cardiac Arrhythmia</i></b></p>  |
|   | <p>Dr. Kalyanam Shivkumar received his medical degree from the University of Madras, India in 1991 and his PhD from UCLA in 2000. He completed his cardiology fellowship training at the University of California, Los Angeles, and upon completion of his training joined the faculty at University of Iowa as the Associate Director of Cardiac Electrophysiology. In 2002, he was recruited back to UCLA as the Director of the newly created UCLA Cardiac Arrhythmia Center at the David Geffen School of Medicine at UCLA. His field of specialization is interventional cardiac electrophysiology and he heads a group at UCLA that is involved in developing innovative techniques for the non-pharmacological management of cardiac arrhythmias.</p> <p>Dr. Shivkumar is certified by the American Board of Internal Medicine in the subspecialties of Cardiovascular Disease and Clinical Cardiac Electrophysiology. He holds memberships in several professional organizations, including the American Heart Association, American College of Cardiology and the Heart Rhythm Society.</p> <p>Dr. Shivkumar's clinical work deals with catheter ablation of complex arrhythmias and his research works deals with mechanisms of cardiac arrhythmias. He also serves as a peer reviewer for several clinical and basic journals in cardiology.</p> |

## LUNCHEON KEYNOTE SPEAKER




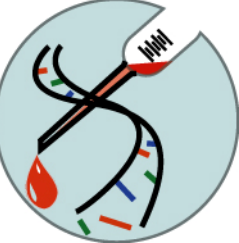
|   |   |
|---|---|
|  | <p><b>Monday, June 8, 2009</b><br/>12:00 pm – 1:00 pm</p> <p>Robert Grant, Allergan Medical, Irvine, CA, United States</p> <p><b><i>Current and Future Trends in Facial Aesthetics</i></b></p>  |
|   | <p>Mr. Robert E. Grant, 39, joined Allergan, Inc. as President of Allergan Medical in May of 2006. He played a central role in leading the merger integration following the \$3.2B acquisition of Inamed. Allergan Medical has worked to mainstream its products and technologies (BOTOX Cosmetic, Juvederm, Natrelle breast implants, and LAP-BAND) across the medical rejuvenation industry. Today, Allergan Medical leads the multi-billion dollar category by combining its unique Direct to Consumer (DTC) advertising expertise, professional marketing strategies and continuous innovation and research discovery.</p> <p>Previously Mr. Grant served as a Director, Chairman of the Board, President and CEO of BIOLASE Technology, Inc, a publicly traded Cosmetic Dentistry company (Irvine, CA). He originally joined BIOLASE Technology in 2003 as COO and CFO.</p> <p>From 1997 through 2003, Mr. Grant held many senior management positions at Lumenis, Inc, (Santa Clara, CA, formerly Coherent Medical Group), including EVP and General Manager of the Global Ophthalmic Surgical, Business, VP of Business Development and Managing Director of European Operations (based in Dieburg, Germany).</p> <p>Before 1997, Mr. Grant held several other management and leadership positions including General Manager, Australasia, Director of Marketing, Asia Pacific, and Country Manager, Japan, for such medical device manufacturers such as Sulzer Medica AG (Switzerland), and The Nucleus Group of Pacific Dunlop Ltd (Australia).</p> <p>Mr. Grant is an independent Board Director at Acufocus, Inc, a Carlyle Group and Versant Ventures-backed clinical stage ophthalmic device company. Additionally, He sits on the boards/advisory boards of the following organizations: University of California, Irvine (UCI) Henry Samueli School of Engineering (Biomedical Engineering Department), OCTANe (501-C3 non-profit entity) an economic development corporation for technology companies in Orange County, California), and the Young President's Organization (YPO/WPO) Southern California Chapter. Mr. Grant currently sits as an industry representative to the Corporate Leadership Council for the American Society of Plastic Surgeons and formerly in the same capacity to the American Academy of Ophthalmology.</p> <p>Mr. Grant holds a BA from Brigham Young University and an MBA (graduating with Honors) from Thunderbird, The American Graduate School of International Management. Additionally, he attended the Harvard Business School's advanced management President's Seminar. He has lived and worked in nine countries and speaks Japanese, French, Korean and German fluently.</p> |





## SPONSORS

|   |  |
|---|--|
| <p><b>Bronze Sponsor &amp; Exhibitor</b></p>          | <p>Since 1988, Acumed has focused its efforts on solving complicated fractures of the upper and lower extremities. Our products reflect commitment to innovation, quality and customer service. For more information, please visit our website: <a href="http://www.acumed.net">www.acumed.net</a></p>   |
| <p><b>Platinum Sponsor</b></p>  <p><b>Edwards</b></p> | <p>Edwards Lifesciences (NYSE: EW) is the global leader in the science of heart valves and hemodynamic monitoring, with more than five decades of experience in partnering with clinicians to develop life-saving innovations. Headquartered in Irvine, California, Edwards has more than 6,200 employees worldwide, selling medical technologies in nearly 100 countries with 2008 sales of \$1.24 billion. Edwards treats advanced cardiovascular disease with its market-leading heart valve therapies, and critical care and vascular technologies. Eighty-five percent of the company's sales come from brands with leading global market positions, including Carpentier-Edwards, Cosgrove-Edwards, Edwards SAPIEN, FloTrac, Fogarty, PERIMOUNT Magna and Swan-Ganz.</p> <p>For us, saving lives is not just a slogan – it's what we do. From developing devices that replace a diseased heart valve to creating new technologies that monitor vital signs in the critical care setting, we help ensure that patients regain, and even improve, their quality of life. For more information about Edwards Lifesciences, please visit <a href="http://www.edwards.com">www.edwards.com</a>.</p> |
| <p><b>Bronze Sponsor</b></p>                        | <p>Finnegan, Henderson, Farabow, Garrett &amp; Dunner, LLP, one of the world's largest intellectual property law firms, represents many of the key innovators in the medical device industry. From start-ups to established multinational corporations, Finnegan provides medical device companies with sophisticated legal representation in all aspects of patent, trademark, copyright, and trade secret law, including counseling, prosecution, licensing, and litigation. The firm also represents clients on IP issues related to international trade, portfolio management, the Internet, e-commerce, government contracts, antitrust, and unfair competition. For additional information, please visit <a href="http://www.finnegan.com">www.finnegan.com</a></p>  |
| <p><b>Diabetes Track Sponsor</b></p>                | <p>Integrium is a full-service CRO dedicated to the management of cardiovascular &amp; metabolic disease clinical trials. Our Cardiovascular Core Lab unit provides full ABPM services. Integrium also provides a comprehensive range of Medical Safety Services. We combine our focused clinical expertise with strong operational capabilities to deliver the highest level of customer care. Offices are located in Tustin, CA, Bedminster, NJ &amp; Johannesburg, South Africa. For more information, please visit: <a href="http://www.integrium.com">www.integrium.com</a></p>   |

|   |  |
|---|--|
| <p><b>Bronze Sponsor &amp; Exhibitor</b></p>                  | <p>NeuroMed Devices, Inc. is the world's foremost innovator of noninvasive neuromodulation devices. Its founder, Dr. Silverstone, is the inventor of numerous devices designed to treat conditions ranging from neurological viruses such as herpes to brain-based disorders such as Parkinsons Disease. Developing new products applying many of the numerous recently issued patents, NeuroMed Devices, Inc. is poised to offer the world an altogether new standard of care in treating some of the most destructive neurological conditions known to Man. For more information visit: <a href="http://www.neuromeddevices.com/">www.neuromeddevices.com/</a></p> |
| <p><b>Luncheon Sponsor—Monday, June 8<sup>th</sup></b></p>   | <p>For nearly 40 years, the law firm Stradling Yocca Carlson &amp; Rauth has built a solid reputation serving the needs of emerging growth companies throughout their corporate life cycles. From start-ups to publicly-traded corporations and international enterprises, Stradling provides legal counsel to management in a user-friendly way. With more than 100 lawyers strong, Stradling is the go-to legal source for business transactions and disputes. Stradling Yocca Carlson &amp; Rauth, supporting those who innovate the technologies of tomorrow. For more information, please visit: <a href="http://www.sycr.com">www.sycr.com</a></p>             |
| <p><b>Cardiovascular Track Sponsor &amp; Exhibitor</b></p>  | <p>Syprosoft Engineering provides a full range of research and development services, including software, electrical and mechanical engineering. As an extension of our clients' engineering department, we provide the critical skills and expertise at the right time to achieve product development goals. Medical device experience includes cardiovascular, surgical, radiology, oncology and diagnostic instruments. For further information visit: <a href="http://www.syprosoft.com">www.syprosoft.com</a></p>  |

## Exhibitors

|  |  |
|--|--|
|    | <p><b>Altair</b> empowers client innovation and decision-making through technology that optimizes the analysis, management and visualization of business and engineering information. Privately held with more than 1,300 employees, Altair has offices throughout North America, South America, Europe and Asia/Pacific. With a 20-year-plus track record for innovative product design and development, advanced engineering software and grid computing technologies, Altair has more than 3,800 corporate clients representing the automotive, aerospace, government and defense, and consumer products verticals. Altair also has a growing client presence in the life sciences, financial services and energy markets. For more information please visit: <a href="http://www.altair.com">www.altair.com</a></p>  |
|    | <p>Cardinal Intellectual Property (CIP) is a provider of intellectual property services and products. More specifically, CIP offers patent search related services to a wide range of industries including biomedical devices. CIP clients include companies, universities, law firms and individuals involved in developing and securing intellectual property. For more information please visit: <a href="http://www.cardinal-ip.com">www.cardinal-ip.com</a></p>   |
|   | <p><b>SIMULIA</b> is the Dassault Systemes brand that delivers a portfolio of realistic simulation solutions including the Abaqus product suite for Unified Finite Element Analysis, multiphysics solutions for insight into challenging engineering problems, and SIMULIA SLM for managing simulation data processes and intellectual property. For more information please visit: <a href="http://www.3ds.com">www.3ds.com</a></p>   |
|  | <p>Lab service provider specialized in surface mechanical testing at the nano and micro levels. Services include hardness, adhesion, scratch resistance, coefficient of friction, wear, ellipsometry and profilometry. For more information please visit: <a href="http://www.ep-labs.com">www.ep-labs.com</a></p>   |
|  | <p>Epinex Diagnostics, a development-stage company, specializes in the application of its expertise in medical diagnostics to target major deficiencies in the existing healthcare market by developing innovative rapid tests that include diabetes monitoring and diagnosis, rheumatoid arthritis, advanced glycation endproducts, and Down syndrome. Epinex Diagnostics was founded in 2002 by three pioneers in the biomedical device industry, with a combined experience of more than 70 years in biomedical engineering, product design and development, and medical device marketing. The Company's initial launch will be the G1A(tm) Rapid Diabetes Monitoring Index Test (the G1A(tm) test), a patent-pending rapid test to monitor type 2 diabetes, with the potential to become a diagnostic tool for diabetes. Epinex has achieved initial "proof of concept" and completed both handheld and desktop prototypes. For further information visit <a href="http://www.epinex.com">www.epinex.com</a></p> |

|   |   |
|---|---|
|   | <p>Ozen Engineering Inc. provides ANSYS software sales, training, and consulting services. Our finite element analysis and musculoskeletal simulation experts take pride in delivering accurate and dependable FEA, computational fluid dynamics (CFD) and integrated musculoskeletal solutions. We help clients worldwide accurately model products and processes for reliability and performance. For more information visit: <a href="http://www.ozeninc.com">www.ozeninc.com</a>.</p> |
|   | <p><b>Pacific BioLabs</b> is an independent laboratory with over 25 years experience providing cGMP/GLP testing services in biocompatibility, sterility assurance, microbiology and toxicology to our clients in the medical device, pharmaceutical industries. PBL is located in San Francisco, CA and is FDA registered, ISO 9001:2008 certified and AALAC accredited. For more information visit: <a href="http://www.pacificbiolabs.com">www.pacificbiolabs.com</a></p>               |
|   | <p>The Department of Bioengineering and Center for Bioengineering Research are recently established units at the University of California, Riverside. We offer B.S., M.S., and Ph.D. degrees and have facilities for advanced research in Biophotonics, drug discovery, high-throughput screening, and MEMS. For further information, please visit: <a href="http://www.bioeng.ucr.edu">www.bioeng.ucr.edu</a></p>  |
|  | <p>The University of Southern California Viterbi School of Engineering, ranked one of the top 10 engineering schools in the nation, enables professional engineers to earn their M.S. in biomedical engineering on-line. More than thirty other degree programs are available. For further information, visit: <a href="http://viterbi.usc.edu">http://viterbi.usc.edu</a>.</p>   |

### Supporting Organizations



## CONFERENCE ORGANIZERS

### Conference Co-Chairs

Professor Thay Lee  
*University of California Irvine*  
*Irvine, CA*

Shiva Sharareh, Ph.D.  
*Finite Medical*  
*Laguna Niguel, CA*

### Technical Program Chair

Joon You, Ph.D.  
*ISS, Inc.*  
*Irvine, CA*

### Conference Organizing Committee

Mona Amin, *Source Scientific*  
Sachin Budhabhatti, *Medtronic*  
Walt Baxter, *Medtronic Cardiac Rhythm Management*  
Hengchu Cao, *Edwards Lifesciences*  
Hsiu-Hung (Simon) Chen, *University of Washington*  
Senthil K. Eswaran, *Exponent*  
Tzung Hsiai, *University of Southern California*  
Abe Lee, *University of California Irvine*  
Joy Liu  
Goran Matijasevic, *University of California Irvine*  
Mahsa Rouhanizadeh, *University of Southern California*  
Lindsey VanSchoiack, *Rose-Hulman Institute of Technology*  
Suresh Wadhvani  
Teresa Wong, *Clinical Data Consultants*

**For further information contact:**

**ASME**  
**3 Park Avenue**  
**New York, NY 10016**  
[www.asme.org](http://www.asme.org)