Sunday, November 11, 2007

7:15 AM  
Bus Pickup at Sofitel

7:45 AM – 8:25 AM  
Registration and Breakfast

8:25 AM – 8:30 AM  
Welcome: Opening Remarks  
Brian Smith, MSBE

8:30 AM – 9:10 AM  
Keynote Address 1: Timothy Schallert, PhD  
“Use–Dependent Plasticity After Injury: What Animal Models Teach Us About Neurorehabilitation”

9:10 AM – 9:30 AM  
Keynote Discussion  
Moderator: Sam CK Lee, PhD, PT – University of Delaware – Newark, DE, USA

SESSION 1
9:30 AM – 10:30 AM  
Free Papers – Gait Assist and Posture  
Moderator: Carole Tucker, PhD, PT, Shriners Hospitals for Children – Philadelphia, PA USA

9:30 AM – 9:40 AM  
Abstract #101 Neuroprosthetic and Neurotherapeutic Effects of Implanted Electrical Stimulation for Ambulation After Incomplete SCI  
Stephanie Bailey, BSE – Cleveland Department of Veterans Affairs Medical Center – Cleveland, OH, USA

9:40 AM – 9:50 AM  
Abstract #102 FES–Induced Gains in Coordination and Gait Components  
Janis Daly, PhD – Cleveland VA Hospital – Cleveland, OH, USA

9:50 AM – 10:00 AM  
Discussion

10:00 AM – 10:10 AM  
Abstract #103 Plantar– and Dorsi–Flexor FES in Conjunction with Fast Treadmill Training: Effects on Post–Stroke Walking Patterns  
Trisha Kesar, MSPT – University of Delaware – Newark, DE, USA

10:10 AM – 10:20 AM  
Abstract #104 Using FES for Foot Drop Strengthens Cortico–Spinal Connections  
Richard B. Stein, DPhil – University of Alberta – Edmonton, Alberta, Canada

10:20 AM – 10:30 AM  
Discussion

10:30 AM – 10:45 AM  
Break
Sunday, November 11, 2007 (continued)

SESSION 2
10:45 AM – 12:00 PM  Free Papers – Health and Fitness
Moderator: Therese Johnston, PT, PhD, MBA – Shriners Hospital for Children – Philadelphia, PA, USA

10:45 AM – 10:55 AM  Abstract #201 Oxygen Uptake During FES Treadmill Walking: Case Study
Milos Popovic, PhD – Lyndhurst Center, Toronto Rehabilitation – Toronto, Ontario, Canada

10:55 AM – 11:05 AM  Abstract #202 The Skeletal Biomechanics of Pressure Ulcer Prevention by Muscle Activation
Hilton Kaplan, MD, PhD Candidate – University of Southern California – Los Angeles, CA, USA

Daniel R. Moroz, Undergraduate Student – University of Alberta – Edmonton, Alberta, Canada

11:15 AM – 11:30 AM  Discussion

11:30 AM – 11:40 AM  Abstract #204 Monitoring Muscle Metabolic indexes by Time–Domain Near infrared Spectroscopy During Knee Flex–Extension Induced by Functional Electrical Stimulation
Simona Ferrante, PhD. – Politecnico di Milano – Milan, Italy

11:40 AM – 11:50 AM  Abstract #205 Preserving Bone Health After Acute Spinal Cord Injury: Differential Responses to a Neuromuscular Electrical Stimulation Intervention
Alison Lichy, MPT, NCS – National Rehabilitation Hospital – Washington, DC

11:50 AM – 12:00 PM  Discussion

12:00 PM – 1:00 PM  Lunch (6th Floor) and Poster Viewing (9th Floor)
<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
</tr>
</thead>
</table>
| 1:00 PM – 1:40 PM | **Keynote Address 2: Reggie Edgerton, PhD**  
“Strategies to Regain Motor Function with Technologies Designed to Capitalize On Intrinsic Physiological Properties of the Neuromotor System” |
| 1:40 PM – 2:00 PM | **Keynote Discussion**  
Moderator: Sam CK Lee, PhD, PT – University of Delaware – Newark, DE, USA |
| **SESSION 3** | **Free Papers – Gait Assist and Posture**  
Moderator: Edelle Field–Fote, PhD–Univ of Miami–Miami, FL, USA |
| 2:00 PM – 2:10 PM | **Abstract #301 Automatic Control of Standing Balance Using Functional Electrical Stimulation Following Spinal Cord Injury**  
Raviraj Nataraj, MS – Louis Stokes Cleveland VAMC – Cleveland, OH, USA |
| 2:10 PM – 2:20 PM | **Abstract #302 Implanted Electrical Stimulation of the Trunk for Seated Postural Stability and Functional Mobility After Cervical SCI**  
Ronald Triolo, PhD – Case Western Reserve University – Cleveland, OH, USA |
| 2:20 PM – 2:30 PM | **Discussion** |
| 2:30 PM – 2:40 PM | **Abstract #303 Walking by Complete Thoracic–Level SCI Patients Via FES: Present Status and System Improvements**  
Daniel Graupe, PhD – University of Illinois – Chicago, IL, USA |
| 2:40 PM – 2:50 PM | **Abstract #304 Restoring Standing After Spinal Cord Injury Using Intraspinal Microstimulation**  
B. Lau, PhD – University of Alberta – Edmonton, Alberta, Canada |
| 2:50 PM – 3:00 PM | **Discussion** |
| 3:00 PM – 4:15 PM | **Poster Session 1 and Exhibit Viewing**  
Special Interest Group Meetings |
| 4:15 PM | **Adjourn – Bus to Sofitel** |
| 6:00 PM – 8:00 PM | **Welcome Reception**  
Shuttle service provided between the Sofitel Hotel and The College of Physicians of Philadelphia, Mutter Museum |


Monday, November 12, 2007

7:15 AM  
Bus Pickup at Sofitel

7:15 AM – 8:25 AM  
Registration and Breakfast

8:25 AM – 8:30 AM  
Conference Announcements and Logistics  
Brian Smith, MSBE

8:30 AM – 9:10 AM  
**Keynote Address 3: Craig McDonald, MD**  
“Lower Extremity Functional Electrical Stimulation for Health and Fitness in SCI”

9:10 AM – 9:30 AM  
**Keynote Discussion**  
Moderator: Randal R. Betz, MD – Shriners Hospitals for Children – Philadelphia, PA

**SESSION 4**  
9:30 AM – 10:35 AM  
**Free Papers – Clinical Transfer**  
Moderator: Paul Taylor, PhD – Salisbury District Hospital – Salisbury, Wiltshire, UK

9:30 AM – 9:40 AM  
**Abstract #401** *Surface Electrical Stimulation of Gluteal Muscles Reduces Sitting Pressure in Wheelchair Users With A Spinal Cord Injury*  
Thomas Janssen, PhD – VU University – The Netherlands

9:40 AM – 9:50 AM  
**Abstract #402** *Long-Term Outcomes of Implantable Functional Electrical Stimulation for Young People With C5 Spinal Cord Injury*  
Brian Smith, MSBE – Shriners Hospitals for Children – Philadelphia, PA, USA

9:50 AM – 10:00 AM  
**Abstract #403** *The Application of Functional Electrical Stimulation (FES) in Occupational Therapy for the Rehabilitation of Upper Limb Function of Patients With Stroke: A Preliminary Study*  
Raymond Tong, PhD – Hong Kong Polytechnic University – Hong Kong

10:00 AM – 10:15 AM  
Discussion
Monday, November 12, 2007 (continued)

10:15 AM – 10:25 AM  Abstract #404 Integration of Neuromuscular Electrical Stimulation Approaches into Clinical Practice
Dave Hutchinson, PT, Doctoral Candidate, MS, ECS – Shriners Hospitals for Children – Philadelphia, PA, USA

10:25 AM – 10:35 AM  Abstract #405 FESAiR: Integration of Functional Electrical Stimulation with Physiotherapy Practice
Maura Whittaker BScPT, MBA – GF Strong Rehabilitation Center – Vancouver, BC, Canada

10:35 AM – 10:45 AM  Discussion

10:45 AM – 11:00 AM  Break

SESSION 5
11:00 AM – 12:35 PM  Free Papers – Upper Extremity
Moderator: Kevin Kilgore, PhD – Case Western Reserve University – Cleveland, OH, USA

11:00 AM – 11:10 AM  Abstract #501 A Neuroprosthesis for Restoring Arm and Hand Function Via Functional Electrical Stimulation Following High Cervical Spinal Cord Injury
Robert F. Kirsch, PhD – Cleveland FES Center – Cleveland, OH, USA

11:10 AM – 11:20 AM  Abstract #502 Selective Finger and Wrist Activation Using Multi-Channel Transcutaneous Electrical Stimulation Electrodes
Thierry Keller, Dr.sc Techn. – ETH Zurich – Zurich, Switzerland

11:20 AM – 11:30 AM  Abstract #503 Design of Surface Electrode Array Applied for Hand Functional Electrical Stimulation in the Variation of Forearm Gesture
Shan–Ting HSU, Master – National Taiwan University – Taipei, Taiwan

11:30 AM – 11:45 AM  Discussion

11:45 AM – 11:55 PM  Abstract #504 Prediction of Distal Arm Posture From Shoulder Posture During Three–Dimensional Reaching
Rahul Kaliki, BS Biomedical Engineering – University of Southern California – Los Angeles, CA, USA
Monday, November 12, 2007 (continued)

11:55 PM – 12:05 PM  Abstract #505 Post–Stroke Arm Rehabilitation Using 5–7 Implanted Microstimulators: Implantation Procedures, Safety and Efficacy
Ross Davis, MD – AE Mann Foundation – Santa Clarita, CA, USA

12:05 PM – 12:15 PM  Abstract #506 A Clinical Study Using Implantable Microstimulators to Facilitate Recovery of Upper Limb Function in Hemiparesis: Preliminary Therapeutic Outcomes
Jane H. Burridge, PhD – University of Southampton – Southampton, UK

12:15 PM – 12:30 PM  Discussion

12:30 PM  Adjourn – AFTERNOON OFF
Bus to Sofitel Hotel and Historic District
Tuesday, November 13, 2007

7:15 AM  Bus Pickup at Sofitel

7:45 AM – 8:25 AM  Registration and Breakfast

8:25 AM – 8:30 AM  Conference Announcements and Logistics
Brian Smith, MSBE

8:30 AM – 9:10 AM  Keynote Address 4: Hugh Herr, PhD
“The Importance of Neuromechanical Limb Models in the Design of Leg Prostheses and Orthoses”

9:10 AM – 9:30 AM  Keynote Discussion
Moderator: Carole Tucker, PhD, PT – Shriners Hospitals for Children – Philadelphia, PA, USA

SESSION 6
9:30 AM – 11:00 AM  Free Papers – Control Techniques
Moderator: Henrick Golee, PhD – University of Glasgow – Glasgow, Scotland, UK

9:30 AM – 9:40 AM  Abstract #601 Novel FES System to Stimulate Both Dorsi– and Plantar–Flexor Muscles During Stroke Gait
Ramu Perumal, PhD – University of Delaware – Newark, DE, USA

Tongjin Song, PhD – University of Sydney – Sydney, Australia

9:50 AM – 10:00 AM  Discussion

10:00 AM – 10:10 AM  Abstract #603 EEG–Triggered Neuromuscular Stimulation Therapy for Hemiplegia of the Hand Due to Chronic Stroke
Abiramai Muralidharan, MS – Case Western Reserve University – Cleveland, OH, USA

10:10 AM – 10:20 AM  Abstract #604 Using Electrocorticographic Signals to Identify Arm Movements
Cesar Marquez Chin, B.Sc. Eng., PhD Candidate – Rehabilitation Engineering Laboratory, Toronto Rehabilitation – Toronto, Ontario, Canada
Tuesday, November 13, 2007 (continued)

10:20 AM – 10:30 AM  
**Abstract #605** Toward An Animal Model of a BMI Driven Lumbar Stepping Prosthesis for Spinal Cord Injury  
Ubong Ime Udoekwere, MS – Drexel University – Philadelphia, PA, USA

10:30 AM – 10:45 AM  
Discussion

10:45 AM – 11:00 AM  
Break

**SESSION 7**  
**11:00 AM – 12:00 PM**  
**Free Papers – Bladder Management/ Neuromodulation**  
Moderator: Randal R. Betz, MD - Shriners Hospitals for Children - Philadelphia, PA, USA

11:00 AM – 11:10 AM  
**Abstract #701** A New Method to Extract Afferent Bladder Activities From Sacral Neural Roots: Acute Experiments in Dogs  
Mohamad Sawan, PhD – Ecole Polytechnique de Montreal – Montreal, Canada

11:10 AM – 11:20 AM  
**Abstract #702** Functional Reinnervation of the Canine Urinary Bladder  
Michael Ruggieri, PhD – Temple University – Philadelphia, PA, USA

11:20 AM – 11:30 AM  
Discussion

11:30 AM – 11:40 AM  
**Abstract #703** High–Frequency Blockade of the Pudendal Nerve Using a Transcutaneously Coupled Stimulator in a Chronically Implanted Cat  
Robert A. Gaunt, B.Eng. – University of Alberta – Edmonton, Alberta, Canada

11:40 AM – 11:50 PM  
**Abstract #704** Chronic High–Frequency Nerve Block with an Implanted Waveform Generator  
Kevin Kilgore, PhD – Case Western Reserve University – Cleveland, OH, USA

11:50 PM – 12:00 PM  
Discussion

12:00 PM – 1:00 PM  
**Lunch** (6th Floor) and **Poster Viewing** (9th Floor)  
BOD Follow–Up Meeting (Board Room, 9th Floor)
Tuesday, November 13, 2007 (continued)

SESSION 8
1:00 PM – 2:30 PM  Free Papers – Cycling and Rowing
Moderator: Ken Hunt, PhD – University of Glasgow – Glasgow, Scotland, UK

1:00 PM – 1:10 PM  Abstract #801 Functional Magnetic Stimulation Propelled Cycling of Paretic Patients (Comparison of FES With FMS)
Johann Szecsi, MD – University of Munich – Munich, Germany

1:10 PM – 1:20 PM  Abstract #802 Lower Leg Joint Power Output During Progressive Resistance Cycling in SCI Subjects: The Influence of Stimulation Intensity
Pouran Faghri, MD, MS FACSM – University of Connecticut – Storrs, CT, USA

1:20 PM – 1:30 PM  Abstract #803 The Feasibility of Using Functional Electrical Stimulation Assisted Cycling in Children With Cerebral Palsy
Ann M. Tokay, PT, DPT – Shriners Hospitals for Children – Philadelphia, PA, USA

1:30 PM – 1:45 PM  Discussion

1:45 PM – 1:55 PM  Abstract #804 A Comparison Between FES–Rowing and Upper Body Exercise for Cardiovascular Exercise in Spinal Cord Injury
Dries Martijn Hettinga, PhD – Brunel University – Uxbridge, UK

1:55 PM – 2:05 PM  Abstract #805 Musculoskeletal Effects of Cycling and/or Electrical Stimulation in Pediatric SCI
Richard Lauer, PhD – Shriners Hospitals for Children – Philadelphia, PA, USA

2:05 PM – 2:15 PM  Abstract #806 Cardiovascular and Respiratory Effects of FES Cycling in Pediatric SCI
Therese E. Johnston, PT, PhD, MBA – Shriners Hospitals for Children – Philadelphia, PA, USA

2:15 PM – 2:30 PM  Discussion

2:30 PM – 3:45 PM  Poster Session 2 and Exhibit Viewing
Special Interest Group Meetings

3:45 PM  Adjourn – Bus to Sofitel

6:30 PM – 10:00 PM  Conference Dinner (Sofitel Philadelphia)
Wednesday, November 14, 2007

7:15 AM  
Bus Pickup at Sofitel

7:45 AM – 8:25 AM  
Registration and Breakfast

8:25 AM – 8:30 AM  
Conference Announcements and Logistics  
Brian Smith, MSBE

SESSION 9  
8:30 AM – 9:45 AM  
Free Papers – *Stimulation and Sensor Technology*  
Moderator: Richard Lauer, PhD – Shriners Hospital for Children – Philadelphia, PA

8:30 AM – 8:40 AM  
Abstract #901 *Development of an Implantable Networked Neuroprosthesis*  
Kevin Kilgore, PhD – Case Western Reserve University – Cleveland, OH, USA

8:40 AM – 8:50 AM  
Abstract #902 *A High–Resolution Electrode Array System for Drop Foot Correction*  
Miguel Hernandez Silveira, BSc – University of Surrey – Guildford, UK

8:50 AM – 9:00 AM  
Abstract #903 *Corrosion Resistance of Stainless Steel Nerve Cuff Electrodes in the Neurostep FES System*  
Stuart F. Cogan, ScD – EIC Laboratories, Inc. – Norwood, MA, USA

9:00 AM – 9:15 AM  
Discussion

9:15 AM – 9:25 AM  
Abstract #904 *Matrix Cuff Electrodes for Fibre and Fascicle Selective Peripheral Nerve Recording and Stimulation*  
Martin Schuettler, PhD – University of Freiburg – Germany

9:25 AM – 9:35 AM  
Abstract #905 *Effects of Surface Electrical Stimulation of Suprathyroid Muscles on the Movements of the Hyo–Laryngeal Complex*  
Sang–Jun Kim, MD – Seoul National University – Seoul, Korea

9:35 AM – 9:45 AM  
Break

9:45 AM – 10:00 AM  
Discussion
Wednesday, November 14, 2007 (continued)

SESSION 10
10:00 AM – 11:15 AM  Free Papers – Modeling
Moderator: Ramu Perumal, PhD – University of Delaware – Newark, DE, USA

10:00 AM – 10:10 AM  Abstract #1001 Dynamic Computer Optimization for Standing Balance and Control of Postural Sway After Spinal Cord Injury
Musa L. Audu, PhD – Case Western Reserve University – Cleveland, OH, USA

10:10 AM – 10:20 AM  Abstract #1002 Experimental Identification of Skeletal Muscle Biomechanical Parameters With Sigma–Point Kalman Filter
Mitsuhiro Hayashibe, PhD – LIRMM – Montpellier, France

10:20 AM – 10:30 AM  Abstract #1003 Modeling of Limb Movements to Compute and Transfer Stimulation Trains to Spinal Motoneuron Pools
Jozsef Laczko, PhD – Semmelweis University Department of Biomechanics – Budapest, Hungary

10:30 AM – 10:45 AM  Discussion

10:45 AM – 10:55 AM  Abstract #1004 Understanding the Mechanisms and Sites of Action of Intraspinal Microstimulation
Vivian K. Mushahwar, PhD – Centre for Neuroscience, University of Alberta – Alberta, Edmonton, CAN

10:55 AM – 11:05 AM  Abstract #1005 Predicting the Effect of Muscle Length on Fatigue During Electrically Stimulated Isometric Contractions
Susan Marion, PhD – University of California – Davis, CA

11:05 AM – 11:15 AM  Discussion

11:15 AM – 12:00 PM  General Membership Meeting
Closing Remarks

12:00 PM  Adjourn – Bus to Sofitel
Poster Session 1

Poster 1–1  An Evaluation of the Muscle Recruitment Properties of Intraspinal Microstimulation
Jeremy Bamford, MSc – University of Alberta – Edmonton, Alberta, Canada

Poster 1–2  Assessment of Neurochemical Changes Induced by Spinal Cord Injury Using Magnetic Resonance Spectroscopy
Daniel Patrick Hallihan BSc – University of Alberta – Edmonton, Alberta, Canada

Poster 1–3  Electrical Stimulation of Cutaneous Afferent Nerves to Modify Locomotor Cycle in the Spinal Cat
Karen Ollivier–Lanvin, PhD – Drexel University College of Medicine – Philadelphia, PA, USA

Poster 1–4  Assessment of Paraplegic Gait: Angles, Flexion / Extension Ratio, Peak Moment and Six–Minute Walking Test
Alberto Cliquet Jr., Professor – UNICAMP Faculty of Medical Sciences – Campinas, Brazil

Anirban Dutta, MS – Case Western Reserve University – Cleveland, OH, USA

Poster 1–6  Stimulating the Quadriceps With Four–Contact Nerve–Cuff Electrodes to Improve Standing After Spinal Cord Injury: A Case Study
Lee Fisher, BS – Case Western Reserve University – Cleveland, OH, USA

Poster 1–7  Selection of an Optimal Muscle Set for A 16–Channel Standing Functional Electrical Stimulation System
Stephen John Gartman, BS – Case Western Reserve Univ – Cleveland, OH, USA

Poster 1–8  A Kinematic Study of the Sway of Upper Limb Through Normal Gait and Drop Foot
Shih–Ching Chen, PhD – Taipei Medical University and Hospital – Taipei, Taiwan

Poster 1–9  Community Support for FES
Louise Annette Miller, MBA – University of Alberta – Edmonton, Alberta, Canada

Poster 1–10 A Pilot Study on the Electrical Stimulation for the Abdomen
Misa Sasaki, RPT, MS – Tohoku University – Sendai, Japan

Poster 1–11 Evaluation of Fitness Effect on Paraplegic Patient Using the Akita Fes–Rowing Machine
Masaaki Takeshima, MD – Akita University – Akita, Japan
### Poster Session 1

**Poster 1–12**  
*Neural Networks Identification of Electrical Stimulation Model Based On Hammerstein*  
Raymond Tong, PhD – Hong Kong Polytechnic University – Hong Kong

**Poster 1–13**  
*A Proportional Derivative FES Controller for Planar Arm Movement*  
Kathleen M. Jagodnik, MS – Case Western Reserve Univ – Cleveland, OH, USA

**Poster 1–14**  
*A Selectivity Measure for Transcutaneous Electrodes*  
Andreas Kuhn, MSc – ETH Zurich, Automatic Control Lab – Zurich, Switzerland

**Poster 1–15**  
*Ramped Amplitude Waveforms in Mammalian High Frequency Nerve Block*  
Niloy Bhadra, PhD – Case Western Reserve University – Cleveland, OH, USA

**Poster 1–16**  
*Clinical Effects of Sacral Surface Electrical Stimulation for Dysmenorrheal Analyzing by Self–Assessed Visual Analogue Scale*  
Takahide Ogura, PhD – Tohoku University School of Medicine – Sendai, Japan

**Poster 1–17**  
*High Frequency Conduction Block of Sensory Nerves*  
Emily Anna Lahowetz, BS – Case Western Reserve University – Cleveland, OH, USA

**Poster 1–18**  
*Effect of Muscle Fatigue by Laser Irradiation in Rat Skeletal Muscle – Preliminary Study*  
Akiko Misawa, MD – Akita University School of Medicine – Akita, Japan

**Poster 1–19**  
*The Effects of Dermatomal Electric Stimulation to the Finger Flexors and Extensors in Chronic Hemiplegia*  
Young-Hee Lee, PhD – Yonsei University Wonju College of Medicine – Wonju, Korea

**Poster 1–20**  
*A Comparison of the Effect of Programs of Lower Extremity Cycling and Electrical Stimulation On Spasticity As Measured by Isokinetic Dynamometry in Children With Spinal Cord Injury*  
Samuel R. Pierce, PhD – Shriners Hospitals for Children – Philadelphia, PA, USA

**Poster 1–21**  
*Combination Therapy of Botulinum Toxin Type A With Therapeutic Electrical Stimulation for Chronic Spastic Upper Limb Paralysis*  
Kazunori Seki, MD, PhD – Department of Restorative Neuromuscular Rehabilitation – Sendai, Japan

**Poster 1–22**  
*EMG Triggered Rehabilitation of Complex Movements – Biofeedback/Stimulation System Stiwell Med4*  
Monika Rakos, PhD, Dipl. Ing. – Otto Bock Healthcare Products GmbH – Vienna, Austria
Poster Session 1

Poster 1–23  Mechanical Behavior of Implantable Cables  
John J. Lewandowski, PhD – Case Western Reserve Univ – Cleveland, OH, USA

Poster 1–24  An Implanted Microinjectable Stimulator for Muscle Excitation Suitable for Pediatric Applications: An Evaluation Using A Canine Model  
Brian Smith, MSBE – Shriners Hospital for Children – Philadelphia, PA, USA

Poster 1–25  Study of Functional Electrical Stimulation by Using Slip and Force Sensors for Grasping  
Shih-Ching Chen, PhD – Taipei Medical University and Hospital – Taipei, Taiwan

Poster 1–26  An Intramuscular Bipolar Mes Electrode for Implantable Systems  
William Memberg, MS – Cleveland FES Center – Cleveland, OH, USA

Poster 1–27  An Implanted Device for Hand Opening Following Stroke  
Paul Taylor, PhD – Salisbury District Hospital – Salisbury, Wiltshire, UK

Poster 1–28  Measurement of the Right and Left Crank Torque to Improve the Rehabilitative Effects of FES Cycling on Stroke Patients  
Emilia Ambrosini – Politecnico di Milano – Milan, Italy
12th Annual International Functional Electrical Stimulation Society Conference
Shriners Hospital for Children, Philadelphia PA
November 10–14, 2007

Poster Session 2

Poster 2–1  Restoration of Blink Symmetry Following Unilateral Facial Paralysis
Nicholas Sachs, PhD – University of Southern California, Doheny Eye Institute – Los Angeles, CA, USA

Poster 2–2  Characterization and Optimization of the Stimulus Router System, A Novel Neuroprostheses
Liu Shi Gan, BSc – University of Alberta – Edmonton, Alberta, Canada

Poster 2–3  Optimal Patterns Synthesis Approach for Knee Motion Under FES
Mourad Benoussaad, MSc – LIRMM – Montpellier, France

Poster 2–4  FES Assisted Swing Through Gait Using Accelerometer and Neural Network
Toshiki Matsunaga – Akita University – Akita, Japan

Poster 2–5  Analysis tool for Sensory Feedback of Neural Signals
Thilo Krueger – University of Freiburg – Freiburg, Germany

Poster 2–6  Effect of Data Quality in Neural Telemetry Systems on Spike Rate
Douglas Michael Ackermann, MS – Case Western Reserve Univ – Cleveland, OH, USA

Poster 2–7  Selective Control of Leg Muscle Activation Patterns and Ankle Forces Using A Multi–Chambered Stimulation Cuff Implanted on the Sciatic Nerve
Geoffrey Thor Desmoulin, MSc – Simon Fraser University – Burnaby, BC, Canada

Poster 2–8  Out–of–the–Saddle FES–Cycling by Paraplegics
Johann Szecsi, MD – University of Munich – Munich, Germany

Poster 2–9  FES Rowing After SCI: Health Sport and Recreation
Dries Hettinga, PhD – Brunel University – Uxbridge, UK

Poster 2–10  Development of FES–Rowing Machine With Quadriceps Stimulation and Energy Storing Device
Sina Sareh, MSc – University of Sheffield – United Kingdom

Calum McRae, PhD – Shriners Hospitals for Children – Philadelphia, PA, USA

Poster 2–14  Quadriceps Oxygenation During Steady State FES–Rowing in Persons With SCI
Dries Martijn Hettinga, PhD – Brunel University – United Kingdom

Poster 2–15  An Investigation of the Effects of Using Different Numbers of Stimulation Channels on Muscle Perfusion During FES–Rowing
Sarah Wightman, BSc (Hons) – Oxford Brookes University – Wheatley, UK
Poster Session 2

Poster 2–16  Effects of Voluntary Breathing on Force Responses to Electrical Stimulation (ES) of Finger Extensors: A Pilot Study
Sheng Li, MD, PhD – University of Montana – Missoula, MT, USA

Poster 2–17  Can Iterative Learning Control (ILC) Mediated by Functional Electrical Stimulation (FES) Be Used in the Re–Education of Upper Limb Function Post Stroke?
Ann Marie Hughes, MSc, BSc – University of Southampton – Southampton, UK

Poster 2–18  Implanted Myoelectric Control Methods for Hand Grasp
Kevin Kilgore, PhD – Case Western Reserve University – Cleveland, OH, USA

Poster 2–19  Implementation of a Wireless Wearable Controller for an Upper Extremity Neuroprosthesis
Christa Wheeler, MS – Case Western Reserve University – Cleveland, OH, USA

Poster 2–20  Functional Results Following Implantation of an Upper Extremity Neuroprosthesis Utilizing Myoelectric Control
Anne Bryden, OTR/L – Case Western Reserve University – Cleveland, OH, USA

Poster 2–21  Post–Stroke Upper Extremity Rehabilitation Using 5–7 Implanted Microstimulators: Thresholds and Orthotic Effects
Jane H. Burridge, PhD – University of Southampton – Southampton, UK

Poster 2–22  A Novel FES Treatment for Recovery of Hand Function in Hemiplegia
Jayme S. Knutson, PhD – Case Western Reserve University – Cleveland, OH, USA

Poster 2–23  The Combined Effect of Dynamic Splinting & Neuromuscular ES in Reducing Wrist and Elbow Contractures in Children With Cerebral Palsy: A Pilot Study
Neil Postans, PhD – RJ&AH Orthopaedic Hospital – Oswestry, Shropshire, UK

Young Hee Lee, PhD – Wonju College of Medicine – Republic of Korea

Poster 2–25  Use of an Upper Limb FES Device for a Drinking Task: 2 Case Studies
Sibylle B. Thies, PhD – Salford University – Greater Manchester, UK

Poster 2–26  Advanced Neuroprosthesis to Restore Trunk, Shoulder, Elbow and Hand Function in C5/C6 Spinal Cord Injury
Juan Gabriel Hancapie, MSc – Case Western Reserve Univ – Cleveland, OH, USA

Poster 2–27  Peripheral Nerve Interface System for Controlling and Sensing in Artificial Limbs
Joe Schulman – AE Mann Foundation – Santa Clarita, CA, USA