

# 11<sup>th</sup> Annual Diabetes Technology Meeting

## Burlingame, California, October 27 – 29, 2011

### AGENDA

Thursday, October 27, 2011

#### PRE-MEETING WORKSHOPS

#### WORKSHOP A: INVESTMENT OPPORTUNITIES IN DIABETES TECHNOLOGY

##### Panel 1: Insulin Delivery Technology

- 08:00      **Moderators:**  
*John Ryan, MBA*  
*Onset Ventures, Menlo Park, California*
- Ross Jaffe, MD*  
*Versant Venture Management, Menlo Park, California*
- 08:10      **Investment Opportunities in Insulin Delivery**  
*Barry Ginsberg, MD, PhD*  
*Diabetes Technology Consultants, Wyckoff, New Jersey*
- 08:20      **Today's Insulin Pumps–Tomorrow's Artificial Pancreas**  
*John Walsh, PA, CDE*  
*Advanced Metabolic Care + Research, Escondido, California*
- 08:30      **Insulin Pump Investing: Opportunities and Lessons Learned**  
*Dan Galles, MBA*  
*HLM Venture Partners, San Francisco, California*
- 08:40      **Panel Discussion**

##### Panel 2: Obesity Technology

- 09:05      **Medical Therapy for Obesity**  
*Marc Reitman, MD, PhD*  
*National Institutes of Health, Bethesda, Maryland*
- 09:15      **Surgery to Treat Type 2 Diabetes and Morbid Obesity**  
*L. Albert Wetter, MD*  
*Mills-Peninsula Medical Center, Burlingame, California*

- 09:25      **Investment Opportunities in Obesity Technology**  
*Corey Mulloy, MBA*  
*Highland Capital Partners, Menlo Park, California*
- 09:35      **Panel Discussion**
- 10:00      **Break**

### **Panel 3: Social Media**

- 10:25      **Medicine and the New Media**  
*David Kerr, MD, FRCPE*  
*Bournemouth Diabetes and Endocrine Centre, Bournemouth, England*
- 10:35      **The Consumer Health Revolution**  
*John de Souza, MBA, MS*  
*MedHelp, San Francisco, California*
- 10:45      **Social Media and Diabetes**  
*Ross Jaffe, MD*  
*Versant Ventures, Menlo Park, California*
- 10:55      **Panel Discussion**
- 11:30      **End of Workshop / Lunch**

## **WORKSHOP B: IMPLANTED SENSORS—PHYSIOLOGICAL CONSIDERATIONS**

### **Panel 1: Academic**

- 08:00      **Moderators:**  
*Natalie Wisniewski, PhD*  
*Medical Device Consultancy, San Francisco, California*
- Fotios Papadimitrakopoulos, PhD*  
*University of Connecticut, Storrs, Connecticut*
- 08:05      **Microcirculatory Considerations in Glucose Monitoring:  
Impact of Stem Cell Modification**  
*Bruce Klitzman, PhD*  
*Duke University Medical Center, Durham, North Carolina*

08:20      **Design Constraints for Sensor Engineers: Understanding the  
In Vivo Environment**  
*Natalie Wisniewski, PhD*  
*Medical Device Consultancy, San Francisco, California*

08:35      **The Effect of Diabetes on the Skin Blood Flow Response  
to Environmental Stressors**  
*Jerrold Petrofsky, PhD*  
*Loma Linda University, Loma Linda, California*

08:50      **Effects of Implantation on Glucose Sensor Performance**  
*Jeffrey Joseph, DO*  
*Thomas Jefferson University, Philadelphia, Pennsylvania*

09:05      **Panel Discussion**

09:35      **Break**

## **Panel 2: Industry**

10:00      **Moderators:**  
*Gerold Grodsky, PhD*  
*University of California, San Francisco, San Francisco, California*  
  
*Julia Mader, MD*  
*Medical University Graz, Graz, Austria*

10:05      **The Impact of Physiological Time Lag on Continuous Glucose  
Monitoring Devices**  
*D. Barry Keenan, PhD*  
*Medtronic Diabetes, Northridge, California*

10:17      **Insights into Interstitial Fluid Glucose from Five Generations of  
DexCom Continuous Glucose Monitoring Systems**  
*Thomas Peyser, PhD*  
*DexCom Inc., San Diego, California*

10:29      **Fully Implantable Radio-Frequency-Powered Fluorescence-Based  
Glucose Sensor**  
*Todd Whitehurst, MD*  
*Sensors for Medicine and Science, Inc., Germantown, Maryland*

10:41      **Subcutaneously Implanted Glucose Sensors: Requirements and  
Challenges for Performance in the Interstitial Fluid Compartment**  
*Francesco Valgimigli, PhD*  
*A. Menarini Diagnostics, Florence, Italy*

- 10:53      **Panel Discussion**
- 11:30      **End of Workshop / Lunch**

## **WORKSHOP C: NEW DEVELOPMENTS IN SELF-MONITORING OF BLOOD GLUCOSE**

### **Panel 1: Academic**

- 12:30      **Moderators:**  
*Koji Sode, DrEng*  
*Tokyo University of Agriculture and Technology, Tokyo, Japan*
- Darrell Wilson, MD*  
*Stanford University School of Medicine, Stanford, California*
- 12:35      **Fluorescence Lifetime-Based Glucose Sensing with a Glucose/Galactose-Binding Protein**  
*John Pickup, MD, PhD*  
*King's College London School of Medicine, London, England*
- 12:50      **Determining Blood Glucose Meter Accuracy**  
*James Nichols, PhD, DABCC, FACB*  
*Baystate Health, Springfield, Massachusetts*
- 13:05      **Food and Drug Administration Perspectives for Self-Monitoring of Blood Glucose**  
*Courtney Harper, PhD*  
*U.S. Food and Drug Administration, Silver Spring, Maryland*
- 13:20      **Role of Self-Monitoring of Blood Glucose in Non-Insulin-Treated Type 2 Diabetes**  
*David Klonoff, MD, FACP*  
*Mills-Peninsula Health Services, San Mateo, California*  
*University of California, San Francisco, San Francisco, California*
- 13:35      **Panel Discussion**
- 14:15      **Break**

### **Panel 2: Industry**

- 14:40      **Moderators:**  
*Kari Nerhus, MS*  
*University of Bergen, Bergen, Norway*

*W. Kenneth Ward, MD  
Oregon Health and Science University, Portland, Oregon*

- 14:45     **Self-Monitoring of Blood Glucose is a Medically Meaningful Intervention**  
*Matthias Axel Schweitzer, MD, MBA  
Roche Diagnostics GmbH, Mannheim, Germany*
- 14:57     **Clinical Characterization of a Novel, High-Performance System for Self-Monitoring of Blood Glucose**  
*David Simmons, MD  
Bayer HealthCare LLC, Tarrytown, New York*
- 15:09     **Pattern Recognition: Enabling Insight and Action through Blood Glucose Monitoring**  
*Praveen Raja, PhD  
LifeScan, Inc., Milpitas, California*
- 15:21     **Self-Powered Sensors for Extended Continuous Glucose Measurements**  
*Ben Feldman, PhD  
Abbott Diabetes Care, Alameda, California*
- 15:33     **Panel Discussion**
- 16:00     **End of Workshop**
- 16:05     **Poster Session (until 18:30)**

## **WORKSHOP D: DIABETES TECHNOLOGY IN THE HOSPITAL**

### **Panel 1: Strategies and Continuous Glucose Monitoring**

- 12:30     **Moderators:**  
*Guillermo Arreaza-Rubín, MD  
National Institutes of Health, Bethesda, Maryland*
- Boris Draznin, MD, PhD  
University of Colorado, Aurora, Colorado*
- 12:35     **Glycemic Control in the Intensive Care Unit**  
*Michael Gropper, MD, PhD, FCCP  
University of California, San Francisco, San Francisco, California*

12:50      **Transitioning Care from the Intensive Care Unit to the Ward**  
*Umesh Masharani, MD*  
*University of California, San Francisco, San Francisco, California*

13:05      **Accuracy and Reliability of Continuous Glucose Monitoring  
in Critically Ill Adult Patients**  
*Ulrike Holzinger, MD*  
*Medical University of Vienna, Vienna, Austria*

13:20      **Inpatient Continuous Glucose Monitoring for Children**  
*Michael Agus, MD*  
*Children's Hospital Boston, Boston, Massachusetts*

13:35      **Panel Discussion**

14:05      **Break**

## **Panel 2: Software and Pump Therapy**

14:30      **Moderators:**  
*Klaus Levin, MD, PhD*  
*Odense University Hospital, Svendborg, Denmark*  
  
*Robert Tanenberg, MD*  
*East Carolina University, Greenville, North Carolina*

14:35      **Software for Managing Diabetes in the Hospital**  
*Robert Rushakoff, MD*  
*University of San Francisco, San Francisco, California*

14:50      **The GlucoCare Intensive Glycemic Control System: A Software-  
Based Decision Support System Designed to Enhance Clinical  
Trials in Intensive Glycemic Control**  
*Michael Marvin, MD, FACS*  
*Pronia Medical Systems LLC, Louisville, Kentucky*

15:05      **Data Management in Hospitalized Diabetes Patients:  
Innovative Monitoring Solutions**  
*Denise Zito, BS, MT(ASCP)SI*  
*Medical Automation Systems Inc., Charlottesville, Virginia*

15:20      **Applications of Continuous Subcutaneous Insulin Infusion  
in Nontraditional Settings: Review of Inpatient and Surgical Data**  
*Curtiss Cook, MD, FACP*  
*Mayo Clinic College of Medicine, Scottsdale, Arizona*

- 15:35 **Panel Discussion**
- 16:00 **End of Workshop**
- 16:05 **Poster Session (until 18:30)**

**Friday, October 28, 2011**

**SESSION 1: INFORMATION TECHNOLOGY**

- 08:00 **Opening Remarks**  
*Eric Sampson, PhD*  
*Centers for Disease Control, Atlanta, Georgia*
- 08:05 **Moderators:**  
*Charles Peterson, MD*  
*U.S. Army, Telemedicine and Advanced Technology Research,*  
*Fort Detrick, Maryland*
- Jan Wojcicki, PhD, DSc*  
*Institute of Biocybernetics, Warsaw, Poland*
- 08:10 **How Can Clinical Data Repositories in Health Care Information Exchange Solutions Support Managing and Improving Diabetes Care?**  
*John Hatem, MSN, RN*  
*Oracle, Redwood City, California*
- 08:25 **Diabetes Care Management and the Cloud: What's Taking So Long?**  
*Zach Little, BS*  
*Microsoft, Seattle, Washington*
- 08:40 **Care Innovations Guide Engages and Empowers Patients**  
*Marcus Grindstaff, BS*  
*Intel-GE Care Innovations, Roseville, California*
- 08:55 **Panel Discussion**
- 09:30 **Break**

**SESSION 2: DECISION SUPPORT SOFTWARE**

- 09:50      **Moderators:**  
*Carol Herman, RN*  
*US Food and Drug Administration, Silver Spring, Maryland*
- Elena Hernando Pérez, PhD*  
*Universidad Politécnica de Madrid, Madrid, Spain*
- 09:55      **Diabetes Technology Society Leadership Award**
- 10:00      **Food and Drug Administration: An Office of *In Vitro* Diagnostic Device Evaluation and Safety Perspective**  
*Courtney Harper, PhD*  
*U.S. Food and Drug Administration, Silver Spring, Maryland*
- 10:15      **Hospital Devices: An FDA Perspective on Insulin Dose Calculators**  
*Charles Zimlik, PhD*  
*U.S. Food and Drug Administration, Silver Spring, Maryland*
- 10:30      **A Clinical Perspective of Decision Support Software Embedded into Insulin Pumps**  
*Bruce Bode, MD, FACE*  
*Atlanta Diabetes Associates, Atlanta, Georgia*
- 10:45      **Interim Safety Results and Experiences from Clinical Use of the Glucosafe System in the Intensive Care Unit**  
*Ulrike Pielmeier, PhD*  
*Aalborg University, Aalborg, Denmark*
- 11:00      **Panel Discussion**
- 11:30      **Lunch**

### **SESSION 3: ARTIFICIAL PANCREAS: SCIENTIFIC**

- 12:30      **Moderator:**  
*Jeffrey Joseph, DO*  
*Thomas Jefferson University, Philadelphia, Pennsylvania*
- 12:35      **Artificial Pancreas Award**
- 12:40      **Food and Drug Administration Guidance on**

## **Artificial Pancreas Systems**

*Charles Zimlik, PhD*

*U.S. Food and Drug Administration, Silver Spring, Maryland*

- 12:55     **AP@home: Will We Bring the Artificial Pancreas Home?**  
*Lutz Heinemann, PhD*  
*Profil Institute for Metabolic Research, Neuss, Germany*
- 13:10     **Model Predictive Control for Closed-Loop Insulin Delivery**  
*Roman Hovorka, PhD*  
*University of Cambridge, Cambridge, England*
- 13:25     **Proportional-Integral-Derivative Approach versus Model Predictive Control: The Case for Proportional Integral Derivative**  
*Garry Steil, PhD*  
*Children's Hospital Boston, Boston, Massachusetts*
- 13:40     **Panel Discussion**
- 14:20     **Break**

## **SESSION 4: ARTIFICIAL PANCREAS: CLINICAL**

- 14:45     **Moderator:**  
*J. Geoffrey Chase, PhD*  
*University of Canterbury, Christchurch, New Zealand*
- 14:50     **Artificial Pancreas: Clinical Approaches**  
*Bruce Buckingham, MD*  
*Stanford University, Stanford, California*
- 15:05     **Artificial Pancreas: Clinical Approaches**  
*Howard Zisser, MD*  
*Sansum Diabetes Research Institute, Santa Barbara, California*
- 15:20     **Artificial Pancreas: Technology and Clinical Trials**  
*Boris Kovatchev, PhD*  
*University of Virginia, Charlottesville, Virginia*
- 15:35     **Panel Discussion**
- 16:00     **Adjourn**

16:05 **Poster Session** (until 18:30)

**Saturday, October 29, 2011**

**SESSION 5: TECHNOLOGIES FOR METABOLIC MONITORING**

- 08:00 **Moderators:**  
*Dorian Liepmann, PhD*  
*University of California, Berkeley, Berkeley, California*
- Athanassios Sambanis, PhD*  
*Georgia Institute of Technology, Atlanta, Georgia*
- 08:05 **Exhaled Gas Analysis as a Novel Technology for Metabolic Monitoring in Diabetes**  
*Pietro Galassetti, MD, PhD*  
*University of California, Irvine, Irvine, California*
- 08:20 **An Engineered Alternative Design to Self-Monitoring of Blood Glucose**  
*Jeffrey LaBelle, PhD*  
*Arizona State University, Tempe, Arizona*
- 08:35 **New Technologies for Improved Performance in Blood Glucose Monitoring**  
*Richard Stadterman, MA, MBA*  
*Bayer HealthCare LLC, Tarrytown, New York*
- 08:50 **Performance of Wearable Raman Spectrometer for Noninvasive Glucose Measurement**  
*Rudy Hofmeister, PhD*  
*C8 MediSensors, San Jose, California*
- 09:05 **Panel Discussion**
- 09:30 **Break**

## SESSION 6: HYPOGLYCEMIA DETECTION

- 10:05      **Moderators:**  
*B. Wayne Bequette, PhD*  
*Rensselaer Polytechnic Institute, Troy, New York*  
*Lutz Heinemann, PhD*  
*Profil Institute for Metabolic Research, Neuss, Germany*
- 10:10      **Veo: A Sensor-Augmented Pump with Low Glucose Suspend**  
*Francine Kaufman, MD*  
*Medtronic Diabetes, Northridge, California*
- 10:25      **The Brain Is a Biosensor for Hypoglycemia**  
*Henning Beck-Nielsen, MD, DMSc*  
*Odense University Hospital, Odense, Denmark*
- 10:40      **Juvenile Diabetes Research Foundation (JDRF)  
Student Research Award**
- 10:45      **Presentation by JDRF Student Research Award Winner**
- 11:00      **Panel Discussion**
- 11:30      **Lunch**

## SESSION 7: NEW INSULINS AND INSULIN DELIVERY METHODS

- 12:30      **Moderators:**  
*Michael Weiss, MD, PhD*  
*Case Western Reserve University School of Medicine, Cleveland, Ohio*  
  
*Howard Zisser, MD*  
*Sansum Diabetes Research Institute, Santa Barbara, California*
- 12:35      **Features of Insulin Pens from an Engineering and  
Consumer Perspective**  
*Andreas Pfützner, MD, PhD*  
*IKFE GmbH, Mainz, Germany*
- 12:50      **What's Hot: Accelerating Insulin Absorption and Action by  
Infusion-Site Warming**  
*William Tamborlane, MD*  
*Yale University Medical School, New Haven, Connecticut*

- 13:05      **Transdermal Delivery of Insulin and Exenatide**  
*Alan Smith, PhD*  
*Altea Therapeutics, Atlanta, Georgia*
- 13:20      **High-Affinity Partial Agonist Insulin Receptor Antibodies Stimulate Insulin Activity and Improve Glycemic Control**  
*Patrick Scannon, MD, PhD*  
*XOMA, Berkeley, California*
- 13:35      **Technosphere Insulin: Development of a Second Generation Inhaler and Titration Optimization**  
*Robert Baughman, PharmD, PhD*  
*MannKind Corp., Valencia, California*
- 13:50      **Panel Discussion**
- 14:15      **Break**

## **SESSION 8: LIVE DEMONSTRATION**

- 14:40      **Moderator:**  
*John Pickup, MD, PhD*  
*Guy's Hospital, London, England*
- 14:45      **Detecting Excessive Glycemic Variability**  
*Cynthia Marling, PhD*  
*Ohio University, Athens, Ohio*
- Frank Schwartz, MD, FACE*  
*Ohio University, Athens, Ohio*
- 15:00      **Real-Time and Ongoing Blood Glucose Management System**  
*Dov Moran, BS*  
*Technion Israel Institute of Technology, Haifa, Israel*
- 15:15      **The Diabetes Assistant: A Portable Artificial Pancreas System Based on an Android Cell Phone**  
*Patrick Keith-Hynes, PhD*  
*University of Virginia, Charlottesville, Virginia*

- 15:30      **The Portable Glucose Control System: Towards an Automated,  
Closed-Loop Control System**  
*Michael Kremliovsky, PhD*  
*Medtronic Diabetes, Northridge, California*
- 15:45      **Panel Discussion**
- 16:00      **End of Meeting**