



# DIABETES TECHNOLOGY SOCIETY

## DTM 2018

18TH ANNUAL DIABETES TECHNOLOGY MEETING AGENDA

### THURSDAY, NOVEMBER 8, 2018

07:00 *Continental Breakfast*

## Workshop A: Adherence to Treatment

### Panel 1: Technology for Determining Adherence

08:00 **Moderators**

Koji Sode, PhD

University of North Carolina at Chapel Hill, Chapel Hill, North Carolina

Bithika Thompson, MD

Mayo Clinic, Scottsdale, Arizona

08:05 **Developing a Technology Enabled Model to Support Medication Taking Behaviors**

Deborah Greenwood, PhD, RN, BC-ADM, CDE, SAADE

Deborah Greenwood Consulting, Sacramento, California

08:20 **Hardware – Smart Pens**

Jane Seley, DNP, MPH, MSN, GNP, BC-ADM, CDE, CDTC, FAAN

New York Presbyterian / Weill Cornell Medicine, New York, New York

08:35 **Advances in BGM Logbooks and Apps**

David Ahn, MD

Mary & Dick Allen Diabetes Center at Hoag, Newport Beach, California

08:50 **A New User Experience for Determining Insulin Pump Adherence**

Kimberly Driscoll, PhD

University of Colorado Barbara Davis Center for Diabetes, Aurora, Colorado

09:05 **Q & A**

09:35 **Break**

### Panel 2: Technology for Increasing Adherence

09:55 **Moderators**

Gabriel Bitton, PhD

Insuline Medical, Petah Tikva, Israel

Sammy Choi, MD

Womack Army Medical Center, Fort Bragg, North Carolina

10:00 **Software Reminder Apps**

Mark Clements, MD, PhD

Children's Mercy Hospital, Kansas City, Missouri

10:15 **The Need for Increased Adherence to Diabetes Therapy**

Nisha Subramanian, MBA

McKinsey & Company, Summit, New Jersey

10:30 **Connected Insulin Pens**

Jennal Johnson, FNP, MS

Eli Lilly, Indianapolis, Indiana

10:45 **Innovative Strategies to Improve Adherence to Diabetes Treatment**

Eda Cengiz, MD

Yale University, New Haven, Connecticut

11:00 **Q & A**

11:30 **End of workshop/Lunch**

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07:00 *Continental Breakfast*

## Workshop B: Diabetes Technology in the Hospital

### Panel 1: New Uses for Established Hardware

- 08:00 **Moderators**  
Nestoras Mathioudakis, MD  
Johns Hopkins University, Baltimore, Maryland  
Garry Steil, PhD  
Boston Children's Hospital, Boston, Massachusetts
- 08:05 **Regulation of Hospital BGM Accuracy**  
Leslie Landree, PhD  
FDA, Silver Spring, Maryland
- 08:20 **Accuracy of BG Testing in the Hospital**  
William Clarke, PhD, MBA, DABCC  
Johns Hopkins University, Baltimore, Maryland
- 08:35 **Capillary POC BG Testing in the ICU**  
Mark Rice, MD  
Vanderbilt University, Nashville, Tennessee
- 08:50 **Insulin Pumps in the Hospital**  
Curtiss B. Cook, MD  
Mayo Clinic, Scottsdale, Arizona
- 09:05 **Q & A**
- 09:35 **Break**

### Panel 2: Novel Technologies

- 09:55 **Moderators**  
Geoff Chase, PhD  
University of Canterbury, Christchurch, New Zealand  
Greg Garcia, BS  
Healthcare Sector Coordinating Council, Washington, DC
- 10:00 **CGM in the Hospital**  
Elias Spanakis, MD  
University of Maryland, Baltimore, Maryland
- 10:15 **Artificial Pancreas in the Hospital**  
Roman Hovorka, PhD  
University of Cambridge, Cambridge, United Kingdom
- 10:30 **Threat Modeling in Medical Devices and Networks**  
Michael Taborn, BSEE  
Intel Corporation, Phoenix, Arizona
- 10:45 **Maintaining Privacy of Diabetes Data in the Hospital**  
Tim West, BS  
GuidePoint Security, St. Louis, Missouri
- 11:00 **Q & A**
- 11:30 **End of workshop/Lunch**

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THURSDAY, NOVEMBER 8, 2018

## Workshop C: The Future of Self-Monitoring of Blood Glucose (SMBG)

### Panel 1: Maximizing Technology

- 12:30 **Moderators**  
Heather C. Kuiper, PhD  
Centers for Disease Control and Prevention, Atlanta, Georgia  
Rosemary Oshinsky, MSN, RN, CDE  
Sibley Memorial Hospital, Johns Hopkins University, Washington, DC
- 12:35 **Extracting Maximum Value from SMBG**  
Timothy S. Bailey, MD, FACE  
AMCR Institute, Escondido, California
- 12:50 **Point of Care Blood Glucose Testing in the Hospital**  
Deanna Bogner, MT (ASCP)  
Baptist Health System, San Antonio, Texas
- 13:05 **The Relationship Between A1C and Blood Glucose Values**  
Robert Cohen, MD  
University of Cincinnati, Cincinnati, Ohio
- 13:20 **Safe Disposal of Needles and Blood Waste**  
Ed Krisiunas, MPH  
WNWN International, Burlington, Connecticut
- 13:35 **Q & A**
- 14:05 **Break**

### Panel 2: Emerging Trends

- 14:25 **Moderators**  
Robert Burk, MD  
Albert Einstein College of Medicine, Bronx, New York  
Kong Chen, PhD MSCI  
NIDDK/National Institutes of Health, Bethesda, Maryland
- 14:30 **New Technologies to Detect and Eliminate Interferences**  
Corinne Fantz, PhD, DABCC, FACB  
Roche Diagnostics, Indianapolis, Indiana
- 14:45 **Digitalization and Analytics in Diabetes**  
Martin Lange, MBA  
Ascensia, Basel, Switzerland
- 15:00 **Encouraging Adherence**  
Susana Patton, PhD, CDE  
University of Kansas, Kansas City, Kansas
- 15:15 **Noninvasive Glucose Monitoring**  
Ishan Barman, PhD  
Johns Hopkins University, Baltimore, Maryland
- 15:30 **Q & A**
- 16:05 **End of workshop**
- 16:15–18:30 **Poster Session Night One, Startup Showcase, and Inauguration of the 18<sup>th</sup> Annual Diabetes Technology Meeting**
- 18:30–20:00 **Posters remain on display for viewing**

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THURSDAY, NOVEMBER 8, 2018

## Workshop D: Novel Hardware

### Panel 1: Implanted Sensors

- 12:30 **Moderators**  
Alexander Fleming, MD  
Kinexum, Harpers Ferry, West Virginia  
Jisun Yi, MD  
FDA, Silver Spring, Maryland
- 12:35 **Barriers to Implanted Optical Glucose Sensors**  
Mark Arnold, PhD  
University of Iowa, Iowa City, Iowa
- 12:47 **A Long-Term Implanted Sensor; Sustaining the Benefits of CGM**  
William Markle, MBA  
GlySens, San Diego, California
- 12:59 **Fully Implantable Intraperitoneal Artificial Pancreas**  
Chris Hanson, MS  
Theranova, San Francisco, California
- 13:11 **Recent Advances with a Needle-Implantable CGM Platform**  
Fotios Papadimitrakopoulos, PhD  
University of Connecticut, Storrs, Connecticut
- 13:23 **An Implanted Osmotic Sensor**  
Andreas Pfützner, MD, PhD  
Lifecare AS, Bergen, Norway
- 13:35 **Q & A**
- 14:05 **Break**

### Panel 2: Insulin Pumps

- 14:25 **Moderator**  
Robert Gabbay, MD, PhD  
Joslin Diabetes Center, Harvard University, Boston, Massachusetts
- 14:30 **Debate: Optimal Glycemic Control in Type I Diabetes: Insulin Pumps vs. MDI**  
Roy Beck, MD, PhD  
Jaeb Center for Health Research, Tampa, Florida  
John Pickup, MD, PhD  
King's College London School of Medicine, London, United Kingdom
- 15:10 **A Novel Digital Tubeless Patch Pump Diabetes Management System**  
Aiman Abdel-Malek, PhD  
Insulet Corporation, San Diego, California
- 15:25 **A Novel Patch Pump**  
Ian Welsford, PhD  
EOFlow, San Jose, California
- 15:40 **Navigating a Sticky Situation: Overcoming Skin Reactions to Adhesives for Insulin Pumps**  
Del Lawson, PhD  
3M Medical Materials & Technologies, Maplewood, Minnesota
- 15:55 **Q & A**
- 16:05 **End of workshop**
- 16:15–18:30 **Poster Session Night One, Startup Showcase, and Inauguration of the 18<sup>th</sup> Annual Diabetes Technology Meeting**
- 18:30–20:00 **Posters remain on display for viewing**

# DTM 2018

18TH ANNUAL DIABETES TECHNOLOGY MEETING AGENDA

FRIDAY, NOVEMBER 9, 2018

07:00 **Continental Breakfast**

## Session 1: Healthcare Information Technology

08:00 **Welcome/Opening Remarks**

David Klonoff, MD, FACP, FRCP (Edin), Fellow AIMBE  
Mills-Peninsula Medical Center, San Mateo, California  
University of California, San Francisco, San Francisco, California

08:05 **Keynote: Changing Times at the FDA**

Jeffrey Shuren, MD, JD  
FDA, Silver Spring, Maryland

08:30 **Moderators**

Andrew Bremer, MD, PhD  
NIDDK/National Institutes of Health, Bethesda, Maryland  
Dorian Liepmann, PhD  
University of California, Berkeley, Berkeley, California

08:30 **Artificial Intelligence**

Tom Lawry, BS  
Microsoft, Redmond, Washington

08:50 **Blockchain in Healthcare: The Case for Pragmatic Innovation**

Ron Ribitzky, MD  
R&D Ribitzky, Newtown, Massachusetts

## Session 2: CGM-Based Outcome Metrics

9:10 **Moderators**

Guillermo Arreaza-Rubin, MD  
NIDDK/National Institutes of Health, Bethesda, Maryland  
David Klonoff, MD, FACP, FRCP (Edin), Fellow AIMBE  
Mills-Peninsula Medical Center, San Mateo, California  
University of California, San Francisco, San Francisco, California

9:10 **Panel Discussion**

**Why Estimating A1C from Mean Glucose Data Can Be Both Misleading and Important**

Richard Bergenstal, MD  
International Diabetes Center, St. Louis Park, Minnesota

**Metrics of Average Glycemia and Glucose Variability**

Boris Kovatchev, PhD  
UVA Center for Diabetes Technology, Charlottesville, Virginia

**Validation of Glucose Metrics as Outcome Measures for Clinical Trials**

Roy Beck, MD, PhD  
Jaeb Center for Health Research, Tampa, Florida

**How FDA Looks at New Endpoints and in Particular at New Endpoints to Replace or Supplement A1C**

Courtney Lias, PhD  
FDA, Silver Spring, Maryland

**Selecting Outcome Measures for Clinical Trials**

David Maahs, MD, PhD  
Stanford University, Palo Alto, California

10:50 **End of session/Break**

# DTM 2018

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FRIDAY, NOVEMBER 9, 2018

## Session 3: Regulation of Diabetes Technology

- 11:15 **Moderators**  
Alberto Gutierrez, PhD  
NDA Partners LLC, Bethesda, Maryland  
Dominique Shelton Leipzig, JD  
Perkins Coie, Los Angeles, California
- 11:15 **CGM-Based Decision Support for MDI Patients**  
Marc Breton, PhD  
UVA Center for Diabetes Technology, Charlottesville, Virginia
- 11:30 **Insulin Dose Calculators and Diabetes Apps**  
Naomi Schwartz, BS  
FDA, Silver Spring, Maryland
- 11:40 **Interoperable Continuous Glucose Monitoring Systems**  
Alain Silk, PhD  
FDA, Silver Spring, Maryland
- 11:50 **The FDA Pre-Certification Program for Software as a Medical Device**  
Bradley Merrill Thompson, JD  
Epstein Becker & Green, P.C., Washington, DC
- 12:05 **Panel Discussion**
- 12:20 ***End of session/Lunch***

# DTM 2018

18TH ANNUAL DIABETES TECHNOLOGY MEETING AGENDA

FRIDAY, NOVEMBER 9, 2018

## Session 4: Artificial Pancreas in Type 1

- 13:20 **Moderators**  
Jeffrey Joseph, DO  
Thomas Jefferson University, Philadelphia, Pennsylvania  
Moshe Phillip, MD  
Schneider Children's Medical Center, Petah Tikva, Israel
- 13:20 **Artificial Pancreas Award**
- 13:25 **The NIH Vision**  
Guillermo Arreaza-Rubin, MD  
NIDDK/National Institutes of Health, Bethesda, Maryland
- 13:37 **The JDRF Vision**  
Daniel Finan, PhD  
JDRF, New York, New York
- 13:49 **The International Diabetes Closed Loop Trial**  
Stacey Anderson, MD  
UVA Center for Diabetes Technology, Charlottesville, Virginia
- 14:01 **Prevention of Post-Bariatric Hypoglycemia: Design and Clinical Evaluation of a Smart Rescue System**  
Eyal Dassau, PhD  
Harvard University, Cambridge, Massachusetts
- 14:13 **Stretching Break**
- 14:18 **A Tubeless Hybrid Closed Loop System**  
Trang Ly, MBBS, FRACP, PhD  
Insulet Corporation, Billerica, Massachusetts
- 14:30 **Artificial Pancreas in Children**  
Eric Renard, MD, PhD  
Montpellier University Hospital, Montpellier, France
- 14:42 **Q & A**
- 15:05 **End of session/Break**

## Session 5: CEO Discussion: Artificial Pancreas in Type 2

- 15:30 **Moderator**  
David Kerr, MD, FRCPE  
Sansum Diabetes Research Institute, Santa Barbara, California
- 15:30 **Is There a Market for the Artificial Pancreas in Type 2 Diabetes Patients?**  
Jeffrey Brewer, BA  
CEO, Bigfoot Biomedical, Milpitas, California  
Marcel Gmuender, JD  
Global Head of Roche Diabetes Care, Basel, Switzerland  
Hooman Hakami, BBA  
Executive Vice President and Group President, Medtronic Diabetes, Northridge, California  
Patrick Sullivan, MBA  
President and CEO, Insulet Corporation, Billerica, Massachusetts
- 16:30–18:30 **Poster Session Night Two and Startup Showcase**
- 18:30–20:00 **Posters remain on display for viewing**

# DTM 2018

18TH ANNUAL DIABETES TECHNOLOGY MEETING AGENDA

**SATURDAY, NOVEMBER 10, 2018**

07:00 *Continental Breakfast*

## **Session 6: Novel Insulins**

08:00 **Moderators**

Gerald Grodsky, PhD

University of California, San Francisco, San Francisco, California

John Nolan, MD

European Diabetes Forum, Dublin, Ireland

08:05 **Recap of First Day and Presentation of Student Award**

08:10 **Gold Prize Student Presentation**

**Activity Detection and Activity Level Categorization in Free-Living Subjects with Type 1 Diabetes**

Divya Choudhary

Harvard University, Cambridge, Massachusetts

08:25 **Is Ultra Rapid-Acting Insulin Needed?**

Bruce Bode, MD, FACE

Atlanta Diabetes Associates, Atlanta, Georgia

08:45 **Inhaled and Oral Insulins**

Lutz Heinemann, PhD

Science & Co., Düsseldorf, Germany

09:05 **New Drugs in the Pipeline**

Eric Zijlstra, PhD

Profil, Neuss, Germany

09:25 **Light-Induced Insulin Therapy**

Simon H. Friedman, PhD

University of Missouri, Kansas City, Missouri

09:45 **Q&A**

10:05 *End of session/Break*



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**SATURDAY, NOVEMBER 10, 2018**

## Session 7: Digital Diabetes Data Science

- 10:30 **Moderators**  
Jorge Bondia, PhD  
Universitat Politecnica de Valencia, Valencia, Spain  
Andrea Facchinetti, PhD  
University of Padova, Padova, Italy
- 10:30 **Diabetes Data Science – Linking Electronic Health Records and Real-Time Monitoring**  
Boris Kovatchev, PhD  
UVA Center for Diabetes Technology, Charlottesville, Virginia
- 10:50 **A Clinician’s Perspective on Diabetes Data Science**  
Moshe Phillip, MD  
Schneider Children’s Medical Center, Petah Tikva, Israel
- 11:10 **NIH Initiatives in Diabetes Data Science**  
Andrew Bremer, MD, PhD  
NIDDK/National Institutes of Health, Bethesda, Maryland
- 11:30 **The Type 2 Diabetes Knowledge Portal**  
Noel Burt, BS  
Broad Institute, Cambridge, Massachusetts
- 11:50 **Q & A**
- 12:10 **End of session/Lunch**

## Session 8: Hot Topics in Diabetes Technology

- 13:10 **Moderators**  
Andreas Pfützner, MD, PhD  
Lifecare AS, Bergen, Norway  
Victor Schneider, MD  
NASA, Washington, DC
- 13:15 **Cellular Therapy**  
Matthias Hebrok, PhD  
University of California, San Francisco, San Francisco, California
- 13:35 **Relationship Between Hypoglycemia and Cardiac Arrhythmias**  
Simon Heller, MD  
The University of Sheffield, Sheffield, United Kingdom
- 13:55 **Q & A**
- 14:05 **End of session**

# DTM 2018

18TH ANNUAL DIABETES TECHNOLOGY MEETING AGENDA

SATURDAY, NOVEMBER 10, 2018

## Session 9: Infusion Sets

- 14:05 **Moderators**  
Andrea Bell-Vlasov, PhD  
FDA, Silver Spring, Maryland  
Ulrike Klueh, PhD  
Wayne State University, Detroit, Michigan
- 14:05 **The Achilles Heel of Insulin Infusion**  
Lutz Heinemann, PhD  
Science & Co., Düsseldorf, Germany
- 14:20 **Robust, Reliable Infusion Technology for Automated Delivery Systems**  
Matthias Heschel, PhD  
Convatec, Copenhagen, Denmark
- 14:30 **Development of an Advanced Continuous Subcutaneous Insulin Infusion (CSII) Catheter with Extended Duration of Use and More Reliable Insulin Delivery**  
Jeffrey Joseph, DO  
Thomas Jefferson University, Philadelphia, Pennsylvania
- 14:40 **Novel Technology for Insulin Infusion**  
Bob Cargill, PhD  
Pacific Diabetes Technology, Portland, Oregon
- 14:50 **Intraperitoneal Insulin Infusion**  
Eric Renard, MD, PhD  
Montpellier University Hospital, Montpellier, France
- 15:05 **Q & A**
- 15:15 **End of session/Break**

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**SATURDAY, NOVEMBER 10, 2018**

## **Session 10: Technology to Improve Accuracy of Needle Sensor CGMs**

- 15:40 **Moderators**  
Jesper Fleischer, PhD  
Aarhus University, Aarhus, Denmark  
John Pickup, MD, PhD  
King's College London School of Medicine, London, United Kingdom
- 15:40 **Performance of a Next Generation CGM System**  
Marc Taub, PhD  
Abbott Diabetes Care, Alameda, California
- 15:52 **CGM Accuracy and Next Generation Devices**  
Peter Simpson, PhD  
Dexcom, San Diego, California
- 16:04 **Leveraging Real-Time Diagnostics to Improve Sensor Accuracy and Minimize User Burden**  
Andrea Varsavsky, PhD  
Medtronic Diabetes, Los Angeles, California
- 16:16 **A New Needle Sensor**  
Mihailo Rebec, PhD  
WaveForm Technologies, Wilsonville, Oregon
- 16:28 **Q & A**

## **Session 11: Live Demonstration**

- 16:40 **Moderator**  
John Pickup, MD, PhD  
King's College London School of Medicine, London, United Kingdom
- 16:40 **An Automated AI Detection System for Diabetic Retinopathy**  
Michael Abramoff, MD, PhD  
IDx-DR  
University of Iowa, Iowa City, Iowa
- 17:00 **End of session/Adjourn**