WORKSHOP A: DIGITAL HEALTH TOOLS

PANEL 1: INTERACTIVE APPS FOR BEHAVIORAL CHANGE

Can apps modify behavior?

8:00  Moderators
William Polonsky, PhD
Behavioral Diabetes Institute, San Diego, California, USA
Michelle L. Litchman, PhD, FNP-BC, FAANP, FADCES, FAAN
The University of Utah College of Nursing, Salt Lake City, Utah, USA

Panelists
Andrew Farmer, DM, FRCGP
Nuffield Department of Primary Care Health Sciences, University of Oxford, Oxford, United Kingdom
Felix Lee, MPharm, MSc, MBA
Sanofi, Bridgewater, New Jersey, USA
David T. Ahn, MD
Mary & Dick Allen Diabetes Center, Hoag Memorial Hospital Presbyterian, Newport Beach, California, USA

9:40  Break

PANEL 2: TELEHEALTH AND COACHING

How to apply coaching to improve diabetes outcomes?

9:55  Moderators
Warris Bokhari, MBBS
Amazon, Seattle, Washington, USA
David Kerr, MBChB, DM, FRCP, FRCPE
Sutter Health, Santa Barbara, California, USA

Panelists
Wei-An (Andy) Lee, DO
Los Angeles General Medical Center, Los Angeles, California, USA
Anand K. Iyer, PhD, MBA
Welldoc, Inc., Columbia, Maryland, USA
Sacha Uelmen, RDN, CDCES
Association of Diabetes Care & Education Specialists, Chicago, Illinois, USA

11:30  Lunch
WORKSHOP B: METRICS FOR ASSESSING GLYCEMIA AND COMPLICATIONS

PANEL 1: ANALYTICAL AND CLINICAL CGM METRICS

What are the latest metrics for CGM?

12:30 Moderators
Guillermo Umpierrez, MD
Emory University School of Medicine, Atlanta, Georgia, USA
Eda Cengiz, MD, MHS, FAAP
University of California, San Francisco, School of Medicine, San Francisco, California, USA

12:35 The Glycemia Risk Index
David Klonoff, MD, FACP, FRCP (Edin), Fellow AIMBE
Mills-Peninsula Medical Center, San Mateo, California, USA

12:50 Update on Time in Range
Richard M. Bergenstal, MD
International Diabetes Center, HealthPartners Institute, Minneapolis, Minnesota, USA

13:05 Tight Time in Range
Viral N. Shah, MD
Barbara Davis Center for Diabetes, University of Colorado, Aurora, Colorado, USA

13:20 Continuous Glucose Deviation Interval and Variability Analysis (CG-DIVA)
Manuel Eichenlaub, PhD
Institut für Diabetes-Technologie, Forschungs- und Entwicklungsgesellschaft mbH an der Universität Ulm, Ulm, Germany

13:35 Glycemic Ratio for Critically Ill People
James S. Krinsley, MD
Division of Critical Care, Stamford Hospital, Columbia University College of Physicians and Surgeons, Stamford, Connecticut, USA

13:50 Q&A / Panel Discussion

14:10 Break
PANEL 2: SENSORS FOR DIAGNOSING COMPLICATIONS IN DIABETES

How can technology identify complications of diabetes?

14:25  **Moderators**
Michael J. McShane, PhD  
Department of Biomedical Engineering, Texas A&M University, College Station, Texas, USA  
Andjela Drincic, MD  
Department of Diabetes, Endocrinology, and Metabolism, University of Nebraska Medical Center, Omaha, Nebraska, USA

14:30  **External Eye Screening as an Adjunct to Retinal Screening**
Jorge A. Cuadros, OD, PhD  
Herbert Wertheim School of Optometry and Vision Science, University of California, Berkeley, Berkeley, California, USA

14:45  **Monitoring Exercise for Precision Diabetes**
Michael C. Riddell, PhD  
Department of Kinesiology & Health Science, Muscle Health Research Centre, York University, Toronto, ON, Canada

15:00  **A Multimodal Sensor Panel for Diabetes**
Gerard L. Coté, PhD  
Department of Biomedical Engineering, Texas A&M University, College Station, Texas, USA

15:15  **IEEE 2621: The Diabetes Device Cybersecurity Standard**
Ted Osinski  
Institute of Electrical and Electronics Engineers, Piscataway, New Jersey, USA

15:30  **Racial-Ethnic Disparities in Wearable Diabetes Devices**
Devin W. Steenkamp, MBChB  
Boston University Chobanian & Avedisian School of Medicine, Boston, Massachusetts, USA

15:45  **Q&A / Panel Discussion**

16:05  **Adjourn**
8:00  **Introduction**  
David Klonoff, MD, FACP, FRCP (Edin), Fellow AIMBE  
Mills-Peninsula Medical Center, San Mateo, California, USA

8:05  **iCoDE 1 and 2**  
Juan Espinoza, MD, FAAP  
Ann & Robert H. Lurie Children’s Hospital of Chicago, Chicago, Illinois, USA

8:25  **Q&A**

**SESSION 1: DIABETES DATA SCIENCE**

8:30  **Moderators**  
William T. Cefalu, MD  
Division of Diabetes, Endocrinology, & Metabolic Diseases, National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health, Bethesda, Maryland, USA  
John C. Pickup, MA, DPhil, FRCPath  
King’s College London School of Medicine, London, UK

8:35  **Panelist**  
Eirik Årsand, PhD  
UiT Arctic University of Norway, Tromsø, Norway

8:35  **Overview of Diabetes Data Science**  
Boris Kovatchev, PhD  
University of Virginia, Charlottesville, Virginia, USA

8:55  **Precision Monitoring in Diabetes**  
Norbert Hermanns, PhD  
Research Institute of the Diabetes Academy Mergentheim (FIDAM), Bad Mergentheim, Germany

9:15  **Digital Twinning Technologies in Type 1 Diabetes**  
Andrea Facchinetti, PhD  
Department of Information Engineering, University of Padova, Padova, Italy

9:35  **Q&A / Panel Discussion**

**SESSION 2: NOVEL INDICATIONS FOR CGM**

*How can people without diabetes benefit from CGM?*

9:50  **Moderators**  
Julia K. Mader, MD  
Division of Endocrinology and Diabetology, Department of Internal Medicine, Medical University of Graz, Austria  
Kong Y. Chen, PhD  
National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, Maryland, USA

9:55  **CGM in People without Diabetes**  
Tracey L. McLaughlin, MD, MS  
Stanford University School of Medicine, Stanford, California, USA
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<th>Time</th>
<th>Session Title</th>
<th>Speaker(s)</th>
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<tr>
<td>10:10</td>
<td>CGM in Pregnancy</td>
<td>Stephanie A. Fisher, MD, MPH Northwest University Feinberg School of Medicine, Chicago, Illinois, USA</td>
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<tr>
<td>10:25</td>
<td>CGM in Kidney Disease</td>
<td>Connie M. Rhee, MD, MSc VA Greater Los Angeles Healthcare System, Los Angeles, California, USA and David Geffen School of Medicine, Los Angeles, California, USA</td>
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<td>10:40</td>
<td>The Use of CGM in the Hospital</td>
<td>Kathleen M. Dungan, MD, MPH The Ohio State University, Columbus, Ohio, USA</td>
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<td>10:55</td>
<td>Q&amp;A / Panel Discussion</td>
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<td>11:10</td>
<td>Break</td>
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**SESSION 3: REGULATION OF DIABETES DEVICES AND DRUGS**

What are new trends in FDA regulation of diabetes devices and drugs?

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<th>Time</th>
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<th>Speaker(s)</th>
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<tr>
<td>11:25</td>
<td>Moderators</td>
<td>Alberto Gutierrez, PhD NDA Partners LLC, Bethesda, Maryland, USA</td>
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<td>Naomi Schwartz, MS Medcrypt, Inc., San Diego, California, USA</td>
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<td>11:30</td>
<td>Update in Digital Health Regulation</td>
<td>Matthew C. Diamond, MD, PhD Center for Devices and Radiological Health, United States Food and Drug Administration, Silver Spring, Maryland, USA</td>
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<td>11:40</td>
<td>Medical Device Cybersecurity</td>
<td>Jessica Wilkerson, JD Center for Devices and Radiological Health, United States Food and Drug Administration, Silver Spring, Maryland, USA</td>
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<td>11:50</td>
<td>Regulatory Considerations for Comparator Glucose Technology</td>
<td>Deanna Bousalis, PhD Center for Devices and Radiological Health, United States Food and Drug Administration, Silver Spring, Maryland, USA</td>
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<td>12:00</td>
<td>Regulation of Diabetes Drugs</td>
<td>Zan Fleming, MD Kinexum, Harpers Ferry, West Virginia, USA</td>
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<td>12:15</td>
<td>Q&amp;A / Panel Discussion</td>
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<td>12:30</td>
<td>Lunch</td>
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SESSION 4: PUMP TECHNOLOGY

What are the challenges to building a commercially successful insulin pump?

13:00  Moderators
Robert A. Gabbay, MD, PhD
American Diabetes Association, Arlington, Virginia, USA
Douglas Muchmore, MD
La Jolla Endo, LLC, La Jolla, California, USA

13:05  Advances in Infusion Sets
Sarnath Chattaraj, PhD
Medtronic Diabetes, Northridge, California, USA

13:15  Advances in Infusion Set Needles and Cannulas
Jeffrey Joseph, DO
Jefferson Artificial Pancreas Center, Sidney Kimmel Medical College of Thomas Jefferson University, Philadelphia, Pennsylvania, USA

13:25  Combining Glucose Monitoring and Insulin Infusion in an Integrated Device: Challenges and Solutions
Lutz Heinemann, PhD
Science Consulting in Diabetes, Düsseldorf, Germany

13:35  Determining Flow Rate from an Insulin Pump
Ralph Ziegler, MD
Diabetes Clinic for Children and Adolescents, Muenster, Germany

13:45  Last Things First – the Importance of Design for Manufacturability
Michael Schoemaker, PhD
Pharmasens AG, Biel, Switzerland

13:55  Q&A / Panel Discussion

SESSION 5: BLOOD GLUCOSE MONITORING TECHNOLOGY

What is the role of BGM in various parts of the world?

14:10  Moderators
Hubert W. Vesper, PhD
Centers for Disease Control and Prevention, Atlanta, Georgia, USA
Halis K. Aktürk, MD
Barbara Davis Center for Diabetes, University of Colorado, Aurora, Colorado, USA

14:15  Reference Comparators for BG Sensor Testing
Timothy S. Bailey, MD, FACE, CPI
AMCR Institute, Escondido, California, USA

14:25  Interfering Substances
Andreas Pfützner, MD, PhD
Pfützner Science and Health Institute, Mainz, Germany

14:40  Platforms to Present Glucose Data
Mark A. Clements, MD, PhD, CPI, FAAP
Children’s Mercy Hospitals & Clinics, Kansas City, Missouri, USA
14:55  The Role of BGM in Today’s World
Yong Mong Bee, MBBS, MRCP(UK), FRCP Edin
Department of Endocrinology, Singapore General Hospital, Singapore

15:10  Q&A / Panel Discussion

15:20  Break

SESSION 6: EMERGING AID TECHNOLOGY

What are the features of a successful AID algorithm?

15:35  Moderators
Jeffrey Joseph, DO
Jefferson Artificial Pancreas Center, Sidney Kimmel Medical College of Thomas Jefferson University, Philadelphia, Pennsylvania, USA
Carol Levy, MD, CDCES
Division of Endocrinology, Diabetes, and Metabolism, Icahn School of Medicine at Mount Sinai, New York City, New York, USA

15:40  Bihormonal Systems: Automating Both Insulin and Glucagon Delivery
Steven J. Russell, MD, PhD
Massachusetts General Hospital Diabetes Research Center, Boston, Massachusetts, USA

15:50  The Loop Algorithm
Rayhan A. Lal, MD
Stanford University, Stanford, California, USA

16:00  AID systems. Are we there yet? A clinician’s perspective.
David N. O’Neal, MD, FRACP, FRCP (Edin)
University of Melbourne, Melbourne, VIC, Australia

16:10  Improving the Performance of an AID system with SGLT2i
Ahmad Haidar, PhD
McGill University, Quebec, Canada

16:20  Personal Patient Experience with Loop
Patient 1

16:25  Personal Patient Experience with Loop
Patient 2

16:30  Q&A / Panel Discussion

16:45  Adjourn
SESSION 7: DRUGS FOR DIABETES

Which new drugs or indications for diabetes look promising?

8:00  Moderators
Mohammed E. Al Sofiani, MBBS, MSc
King Saud University, Riyadh, Saudi Arabia / Johns Hopkins University, Baltimore, Maryland, USA
Signe Schmidt, MD, PhD
Steno Diabetes Center Copenhagen (SDCC), Copenhagen, Denmark

8:05  Gold Student Award Winner: DR-CIB: an Algorithm for the Preventive Administration of Corrective Insulin Boluses in Type 1 Diabetes based on Dynamic Risk Concept and Patient-Specific Timing
Elisa Pellizzari, MSc
University of Padova, Padova, Italy

8:20  Tirzepatide / Semaglutide for Obesity and T2DM
Eric Zijlstra, PhD
Profil, Neuss, Germany

8:35  Weekly Insulin for Type 1 and Type 2 Diabetes
Ronald Goldenberg, MD, FRCPC, FACE
LMC Diabetes & Endocrinology, Concord, Ontario, Canada

8:50  Inhaled Insulin
Alfonso Galderisi, MD, PhD
Yale University, New Haven, Connecticut, USA

9:05  Tzield/Teplizumab - Why and for Whom?
Stephen E. Gitelman, MD
Division of Endocrinology, Department of Pediatrics, University of California, San Francisco, San Francisco, California, USA

9:20  Q&A / Panel Discussion

SESSION 8: ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

What is the role of AI/ML in diabetes management?

9:35  Moderators
Boris Kovatchev, PhD
University of Virginia, Charlottesville, Virginia, USA
Riccardo Bellazzi, PhD
Università di Pavia, Pavia, Italy

9:40  Bridge to Artificial Intelligence
Xujing Wang, PhD
Division of Diabetes, Endocrinology, & Metabolic Diseases, National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health, Bethesda, Maryland, USA

9:55  Consensus Guidelines for Using Artificial Intelligence and Machine Learning to Improve Glucose Management in Diabetes: Best Practices, Pitfalls and Opportunities
Peter G. Jacobs, PhD
Oregon Health & Science University, Portland, Oregon, USA
10:10  Uncertainty-aware Nocturnal Hypoglycemia Prediction in People with Type 1 Diabetes on Multiple Daily Injections  
Clara Mosquera-Lopez, PhD  
Oregon Health & Science University, Portland, Oregon, USA

10:25  Artificial Intelligence for Treating Diabetes  
Moshe Phillip, MD  
Schneider Children's Medical Center of Israel, Petah Tikva, Israel

10:40  Q&A / Panel Discussion

10:55  Break

SESSION 9: NOVEL ANALYTES FOR DIABETES  
What should be measured for diabetes besides blood glucose?

11:15  Moderators  
Guillermo Arreaza-Rubín, MD  
Division of Diabetes, Endocrinology, and Metabolic Diseases, National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health, Bethesda, Maryland, USA  
Alan H.B. Wu, PhD  
University of California, San Francisco, San Francisco, CA, USA

11:20  Noninvasive Glucose Monitoring - When Will It Arrive?  
Mark A. Arnold, PhD  
The University of Iowa, Iowa City, Iowa, USA

11:35  Continuous Ketone Monitoring  
Shridhara Alva, PhD  
Abbott Diabetes Care, Alameda, California, USA

11:50  Biomarkers Screening for Asymptomatic Heart Failure  
Ambarish Pandey, MD  
UT Southwestern Medical Center, Dallas, Texas, USA

12:05  Q&A / Panel Discussion

12:20  Lunch

SESSION 10: NEW TECHNOLOGY DEVELOPMENTS IN COMMERCIAL CGMS  
What is new in CGM technology?

12:50  Moderators  
Nestoras Mathioudakis, MD, MHS  
Johns Hopkins University School of Medicine, Baltimore, Maryland, USA  
Elias K. Spanakis, MD  
Baltimore VA Medical Center and School of Medicine, University of Maryland, Baltimore, Maryland, USA

12:55  Abbott Technology  
Anila Bindal, MD  
Abbott Diabetes Care, Alameda, California, USA
13:07  **Dexcom Technology**  
Danny Cherňavvsky, MD  
Dexcom, Inc., San Diego, California, USA

13:19  **Medtronic Technology**  
Robert Vigersky, MD  
Medtronic, Washington, D.C., USA; Uniformed Services University of the Health Sciences, Bethesda, Maryland, USA

13:31  **Senseonics Technology**  
Hari Sree, PhD  
Senseonics Inc., Germantown, Maryland, USA

13:43  **Pacific Diabetes Technologies**  
Thomas Seidl, PhD  
Pacific Diabetes Technologies, Portland, Oregon, USA

13:55  **Q&A / Panel Discussion**

### SESSION 11: SKIN PHYSIOLOGY

**How does diabetes affect skin health?**

14:10  **Moderators**  
Gerald R. Sydorak, MD, FACS  
Seton Medical Center, Daly City, California, USA
Bijan Najafi, PhD, MSc  
Baylor College of Medicine, Houston, Texas, USA

14:15  **Device Induced Inflammation**  
Ulrike Klueh, PhD  
Department of Biomedical Engineering, Integrative Biosciences Center, Wayne State University, Detroit, Michigan, USA

14:30  **Identifying and Preventing Lipohypertrophy**  
Jane Jeffrie Seley, DNP, MPH, MSN, GNP, BC-ADM, CDCES  
Weill Cornell Medicine, Division of Endocrinology, Diabetes & Metabolism, New York City, New York, USA

14:45  **Effects of Infusion Pumps**  
Jannet Svensson, MD, PhD  
Steno Diabetes Center Copenhagen, Herlev, Denmark

14:55  **Glycemic and Geriatric Challenges: Understanding Wound Healing Dynamics in Frail Diabetic Patients**  
Bijan Najafi, PhD, MSc  
Baylor College of Medicine, Houston, Texas, USA

15:05  **Q&A / Panel Discussion**

15:20  **Break**
SESSION 12: HOT TOPICS

What are promising new technologies for diabetes?

15:40  Moderators
Umesh Masharani, MB, BS
University of California, San Francisco, San Francisco, California, USA
Geoff Chase, PhD
University of Canterbury, Christchurch, New Zealand

15:45  How Can Technology Improve Patient Adherence to Offloading?
Bijan Najafi, PhD, MSc
Baylor College of Medicine, Houston, Texas, USA

15:55  Peritoneal Insulin Delivery
Diane J. Burgess, PhD
University of Connecticut, Storrs, Connecticut, USA

16:05  Machine Learning for Multiple Sensor Datastreams and Explainable AI
Ali Cinar, PhD
Illinois Institute of Technology, Chicago, Illinois, USA

16:15  Green Diabetes
Ed Krisiunas, MLS(ASCP), MPH
WNWN International, Burlington, Connecticut, USA

16:25  Q&A / Panel Discussion

SESSION 13: LIVE DEMONSTRATION

What is a new carbohydrate dispensing product for diabetes?

16:40  Moderators
Dorian Liepmann, PhD
University of California, Berkeley, Berkeley, California, USA
Jane Jeffrie Seley, DNP, MPH, MSN, GNP, BC-ADM, CDCES
Weill Cornell Medicine, Division of Endocrinology, Diabetes & Metabolism, New York City, New York, USA

16:45  House of Carbs - Personalized Carbohydrate Dispenser for People with Diabetes
Eirik Årsand, PhD
UiT Arctic University of Norway, Tromsø, Norway
Pietro Randine
UiT Arctic University of Norway, Tromsø, Norway

17:00  Closing Statement and Adjourn
David Klonoff, MD, FACP, FRCP (Edin), Fellow AIMBE
Mills-Peninsula Medical Center, San Mateo, California, USA