OPPORTUNITIES FOR RESEARCH SUPPORTED BY THE SPECIAL STATUTORY FUNDING PROGRAM FOR TYPE 1 DIABETES RESEARCH: A WORKSHOP OF THE DMICC
April 26-27, 2017
5635 Fishers Ln., Conference Room, Rockville, MD 20852

AGENDA

APRIL 26

8:00-8:10 am  Welcome and Introduction
Dr. Griffin Rodgers, Director, NIDDK

8:10-8:30 am  Overview of the Special Statutory Funding Program for Type 1 Diabetes Research
Dr. Judith Fradkin, Director, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK

TOPIC 1: AUTOIMMUNE ETIOLOGY, CLINICAL TRIALS, AND EPIDEMIOLOGY

Primary Discussants: Dr. Robert Eckel, Dr. Mark Espeland, Dr. Peter Gregersen, Dr. Jonathan Himmelfarb, Dr. Georgeanna Klingensmith, Dr. Rudolph Leibel, Dr. Megan Levings, Dr. R. John Looney, Dr. James Meigs, Dr. Trevor Orchard, Dr. Elizabeth Selvin, and Dr. Matthias von Herrath.

8:30-8:40 am  Current Efforts in Autoimmune Etiology, Clinical Trials, and Epidemiology
Dr. Judith Fradkin, Director, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK

8:40-8:55 am  Proposal 1-1: Mechanisms Underlying the Contribution of Type 1 Diabetes Disease-associated Variants
Dr. Beena Akolkar, Senior Advisor, Immunopathogenesis and Genetics of Diabetes, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK
Primary discussants: Dr. Gregersen, Dr. Leibel

8:55-9:15 am  Proposal 1-2: Incidence of Type 1 Diabetes among Young Adults: Diabetes in Young Adults (DIYA) Study
Dr. Sharon Saydah, CDR USPHS, Senior Scientist, Division of Diabetes Translation, Centers for Disease Control and Prevention
Primary discussants: Dr. Meigs, Dr. Orchard, Dr. Selvin

9:15-9:45 am  Proposal 1-3: The Environmental Determinants of Diabetes in the Young (TEDDY)
• Proposal 1-3a: Continued Follow-up of TEDDY Subjects
• Proposal 1-3b: Assessments of Toxins and Other Environmental Factors in TEDDY Subjects
Dr. Beena Akolkar, Senior Advisor, Immunopathogenesis and Genetics of Diabetes, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK
Primary discussants: Dr. Espeland, Dr. Meigs, Dr. von Herrath

9:45-10:00 am  BREAK
10:00-10:30 am  Proposal 1-5: Type 1 Diabetes TrialNet  
Dr. Lisa Spain, Program Director, Immunobiology of Type 1 Diabetes and Autoimmune Endocrine Diseases, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK  
Primary discussants: Dr. Eckel, Dr. Espeland, Dr. Looney

10:30-11:00 am  Proposal 1-6: Immune Tolerance Network (ITN)  
Dr. James McNamara, Chief, Autoimmunity and Mucosal Immunology Branch, Division of Allergy, Immunology, & Transplantation, NIAID  
Primary discussants: Dr. Eckel, Dr. Espeland, Dr. Looney

11:00-11:15 am  Proposal 1-7: Immune System Engineering for Targeted Tolerance in Type 1 Diabetes  
Dr. Lisa Spain, Program Director, Immunobiology of Type 1 Diabetes and Autoimmune Endocrine Diseases, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK  
Primary discussants: Dr. Levings, Dr. Looney, Dr. von Herrath

11:15-11:30 am  Proposal 1-8: The Characterization and Discovery of Novel Autoantigens in Type 1 Diabetes  
Dr. Salvatore Sechi, Program Director, Proteomics and Systems Biology, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK  
Primary discussants: Dr. Gregersen, Dr. von Herrath

11:30-11:45 pm  Proposal 1-9: Mass Spectrometric Assays for the Reliable and Reproducible Detection of Proteins/Peptides of Importance in Type 1 Diabetes Research  
Dr. Salvatore Sechi, Program Director, Proteomics and Systems Biology, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK  
Primary discussants: Dr. Leibel, Dr. Levings

11:45 am-12:30 pm  LUNCH

12:30-12:45 pm  Proposal 1-10: Research Using Subjects from Selected Type 1 Diabetes Clinical Studies  
Dr. Lisa Spain, Program Director, Immunobiology of Type 1 Diabetes and Autoimmune Endocrine Diseases, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK  
Primary discussants: Dr. Eckel, Dr. Klingensmith, Dr. Selvin

12:45-1:10 pm  TOPIC 1 PANEL DISCUSSION (led by primary discussants)

TOPIC 2: BETA CELLS: ASSESSMENT AND THERAPIES

Primary Discussants: Dr. Mark Espeland, Dr. Michael German, Dr. Peter Gregersen, Dr. Jonathan Himmelfarb, Dr. Rudolph Leibel, Dr. Megan Levings, Dr. R. John Looney, Dr. Vincent Poitout, Dr. Robert Sherwin, Dr. Matthias von Herrath, and Dr. Joseph Wolfsdorf.

1:10-1:20 pm  Current Efforts in Beta Cell Assessment and Therapy  
Dr. Judith Fradkin, Director, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK
1:20-1:40 pm  Proposal 2-1:  Pre-Clinical and Clinical Evaluation of Novel Cell Replacement Therapies for Type 1 Diabetes
Dr. Thomas Eggerman, Program Director, Clinical Islet Transplantation Trials, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK
Dr. Nancy Bridges, Chief, Transplantation Branch, Division of Allergy, Immunology, & Transplantation, NIAID
Primary discussants: Dr. German, Dr. Levings, Dr. Wolfsdorf

1:40-1:55 pm  Proposal 2-2:  Development of New Technologies and Bioengineering Solutions for the Advancement of Cell Replacement Therapies for Type 1 Diabetes
Dr. Guillermo Arreaza, Program Director, Clinical Immunology of Diabetes, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK
Primary discussants: Dr. Poitout, Dr. Sherwin

1:55-2:15 pm  Proposal 2-3:  Nonhuman Primate Transplantation Tolerance Cooperative Study Group (NHPCSG)
Dr. Kristy Kraemer, Section Chief, Transplantation Basic Sciences, Division of Allergy, Immunology, & Transplantation, NIAID
Primary discussants: Dr. Levings, Dr. Sherwin, Dr. von Herrath

2:15-2:30pm  Proposal 2-4:  High-resolution Exploration of the Human Islet Tissue Environment
Dr. Olivier Blondel, Program Director, Endocrine Systems Biology, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK
Primary discussants: Dr. German, Dr. Poitout

2:30-2:40pm  BREAK

2:40-2:50pm  Overview of the Human Islet Research Network (HIRN)
Dr. Olivier Blondel, Program Director, Endocrine Systems Biology, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK

2:50-3:10pm  Proposal 2-5:  HIRN Consortium on Human Islet Biomimetics (CHIB)
Dr. Sheryl Sato, Program Director, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK
Primary discussants: Dr. Himmelfarb, Dr. Poitout

3:10-3:30pm  Proposal 2-6:  HIRN Consortium on Modeling Autoimmune Interactions (CMAI)
Dr. Kristin Abraham, Senior Advisor, Model Systems and Resources, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK
Primary discussants: Dr. Gregersen, Dr. Looney, Dr. Poitout

3:30-3:50pm  Proposal 2-7:  HIRN Consortium on Targeting and Regeneration (CTAR)
Dr. Olivier Blondel, Program Director, Endocrine Systems Biology, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK
Primary discussants: Dr. German, Dr. Poitout

3:50-4:10pm  Proposal 2-8:  HIRN Human Pancreas Analysis Program (HPAP)
Dr. Olivier Blondel, Program Director, Endocrine Systems Biology, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK
Primary discussants: Dr. German, Dr. Leibel
TOPIC 2 PANEL DISCUSSION (led by primary discussants)

5:15-5:45pm DAY ONE CLOSING DISCUSSION (led by Dr. Fradkin)

APRIL 27

TOPIC 3: DIABETES COMPLICATIONS

Primary Discussants: Dr. John Buse, Dr. Nigel Calcutt, Dr. Robert Eckel, Dr. Mark Espeland, Dr. Thomas Gardner, Dr. Jonathan Himmelfarb, Dr. James Meigs, Dr. Trevor Orchard, and Dr. Elizabeth Seaquist.

8:00-8:10 am Current Efforts in Diabetes Complications
Dr. Judith Fradkin, Director, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK

8:10-8:25am Proposal 3-1: The Impact of Type 1 Diabetes Mellitus on the Skeleton
Dr. Saul Malozowski, Program Director, Endocrinology and Physiology, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK
Primary discussants: Dr. Buse, Dr. Seaquist

8:25-8:55am Proposal 3-2: Diabetic Retinopathy Clinical Research Network (DRCR.net)
- Proposal 3-2a: Continuation of DRCR.net
  Dr. Frederick Ferris, III, M.D., Clinical Director, Division of Intramural Research, NEI
- Proposal 3-2b: DRCR.net Evaluation of Fenofibrate for Prevention of Diabetic Retinopathy Worsening
  Dr. Emily Chew, Deputy Director, Division of Epidemiology & Clinical Applications, NEI
Primary discussants: Dr. Buse, Dr. Eckel

8:55-9:10am Proposal 3-3: Periodontitis and Oral Wound Healing in Type 1 Diabetes
Dr. Jane Atkinson, Director, Center for Clinical Research, NIDCR
Primary discussants: Dr. Calcutt, Dr. Meigs, Dr. Orchard

Dr. Aaron Pawlyk, Program Director, Diabetes and Endocrine Disease Translational Research, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK
Primary discussants: Dr. Calcutt, Dr. Gardner, Dr. Himmelfarb
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| 9:25-9:40am  | Proposal 3-5: Establishing a Cohort to Clarify Risk and Protective Factors for Neurocognitive Complications of Pediatric and Adolescent Type 1 Diabetes  
Dr. Luke Stoeckel, Program Director, Cognitive and Clinical Neuroscience of Obesity and Diabetes, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK  
**Primary discussants:** Dr. Espeland, Dr. Orchard, Dr. Seaquist |
| 9:40-9:55am  | Proposal 3-6: Development of Tissue Chip and Organoid Models for the Study of Kidney and Urological Complications of Type 1 Diabetes  
Dr. Daniel Gossett, Program Director, Division of Kidney, Urologic, & Hematologic Diseases, NIDDK  
**Primary discussants:** Dr. Calcutt, Dr. Himmelfarb |
| 9:55-10:15am | TOPIC 3 PANEL DISCUSSION (led by primary discussants)                 |
| 10:15-10:30am| BREAK                                                                 |

**TOPIC 4: CLINICAL MANAGEMENT**

*Primary Discussants: Dr. Korey Hood, Dr. David Marrero, Dr. Deborah Wiebe.*

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| 10:30-10:40am| Current Efforts in Clinical Management  
Dr. Judith Fradkin, Director, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK |
| 10:40-10:55am| Proposal 4-1: Impact of the Use of Glucose Monitoring and Control Technologies on Health Outcomes and Quality of Life in Older Adults with Type 1 Diabetes  
Dr. Guillermo Arreaza, Program Director, Clinical Immunology of Diabetes, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK  
**Primary discussants:** Dr. Hood, Dr. Marrero, Dr. Wiebe |
| 10:55-11:10am| Proposal 4-2: Patient Reported Outcomes in Type 1 Diabetes Research and Practice  
Dr. Christine Hunter, Program Director, Behavioral Research, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK  
**Primary discussants:** Dr. Hood, Dr. Marrero, Dr. Wiebe |
| 11:10-11:25am| Proposal 4-3: Understanding Needs and Identifying Research Opportunities to Improve Treatment and Self-Management for Adults Living with Type 1 Diabetes  
Dr. Christine Hunter, Program Director, Behavioral Research, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK  
**Primary discussants:** Dr. Hood, Dr. Marrero, Dr. Wiebe |
| 11:25-11:40am| TOPIC 4 PANEL DISCUSSION (led by primary discussants)                 |
| 11:40am-12:00pm| LUNCH                                                               |

**TOPIC 5: ARTIFICIAL PANCREAS**
Primary Discussants: Dr. John Buse, Dr. Georgeanna Klingensmith, Dr. Korey Hood, Dr. David Marrero, Dr. Robert Sherwin, Dr. Deborah Wiebe, and Dr. Joseph Wolfsdorf.

12:20-12:30pm Current Artificial Pancreas Efforts  
Dr. Judith Fradkin, Director, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK

12:30-12:45pm Proposal 5-1: Advanced Clinical Trials to Test Artificial Pancreas Device Systems in Type 1 Diabetes  
Dr. Guillermo Arreaza, Program Director, Clinical Immunology of Diabetes, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK  
Primary discussants: Dr. Buse, Dr. Wolfsdorf

12:45-1:00pm Proposal 5-2: Clinical, Behavioral and Physiological Studies of Closed-loop Systems  
Dr. Guillermo Arreaza, Program Director, Clinical Immunology of Diabetes, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK  
Primary discussants: Dr. Buse, Dr. Klingensmith, Dr. Wiebe

1:00-1:15 pm Proposal 5-3: Development and Integration of Novel Components for Open- and Closed-loop Hormone Delivery for Type 1 Diabetes Therapy  
Dr. Guillermo Arreaza, Program Director, Clinical Immunology of Diabetes, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK  
Primary discussants: Dr. Hood, Dr. Marrero, Dr. Wolfsdorf

1:15-1:30pm Proposal 5-4: Support for SBIR Research to Develop New Therapeutics and Monitoring Closed-Loop Automated Technologies for Type 1 Diabetes  
Dr. Guillermo Arreaza, Program Director, Clinical Immunology of Diabetes, Division of Diabetes, Endocrinology, & Metabolic Diseases, NIDDK  
Primary discussants: Dr. Hood, Dr. Sherwin, Dr. Wolfsdorf

1:30-1:45 pm TOPIC 5 PANEL DISCUSSION (led by primary discussants)

1:45- 2:00 pm Patient Perspective  
Ms. Ellen Leake, Vice Chairman, International Board of Directors, JDRF; NIDDK Council Member

2:00-3:00 pm CLOSING DISCUSSION (led by Dr. Fradkin)