

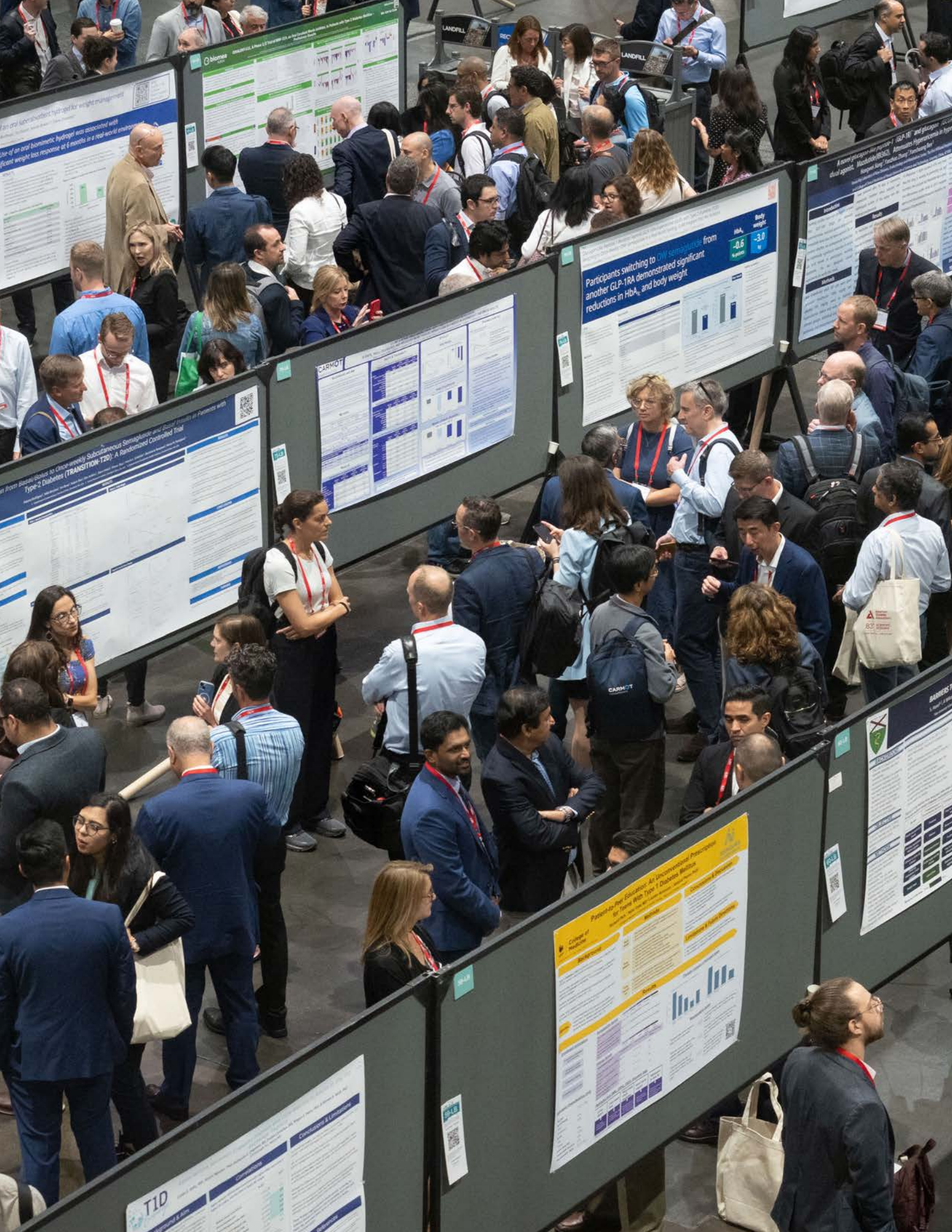


2024

# Research Report



American  
Diabetes  
Association®



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### **About the American Diabetes Association**

The mission of the American Diabetes Association® (ADA), founded in 1940, is to prevent and cure diabetes and to improve the lives of all people affected by diabetes. This chronic disease is one of the fastest growing in the world, with 136 million Americans living with diabetes or prediabetes and a new diagnosis occurring every 26 seconds.

In the face of this epidemic, our mission has never been clearer, and our vision of a life free of diabetes and all its burdens is more critical than ever before. Through advocacy, program development, and education, we aim to improve the quality of life for everyone affected by diabetes.

The moving force behind the work of the ADA is a network of more than 565,000 volunteers, their families and caregivers, a professional society of nearly 12,000 health care professionals, as well as nearly 350 staff members.

## A Message from ADA Leadership

Research is the cornerstone of advancing the mission of the American Diabetes Association® (ADA) to prevent and cure diabetes and to improve the lives of all people affected by diabetes. By leading innovative studies and funding cutting-edge science, we aim to prevent, treat, and ultimately cure diabetes on a global scale, fostering hope and delivering transformative breakthroughs.

Since the ADA started its Research Program in 1952, we have invested more than \$963 million in innovative studies. While we have made significant progress towards our mission, there is much left to discover about diabetes. By supporting the key aspects of research, including funding for early career investigators, fostering the next generation of leaders, and support for investigator-initiated research, we hope to uncover discoveries that will advance care and treatment for people living with diabetes.

One of the foundations of the ADA's research strategy is our Pathway to Stop Diabetes® (Pathway) program. The program seeks to identify a new generation of innovative scientists, physicians, and researchers and provide them with the financial support and professional mentorship they need to advance their diabetes research. In 2024, we provided Pathway grants to four new researchers, which you can read more about in this report. Since the inception of the program, we have provided grants to 43 extraordinary individuals who are dedicated to diabetes prevention and helping people with diabetes thrive.

We're thrilled to highlight the accomplishments of our brilliant researchers in our 2024 Research Report. Thank you for your ongoing support in our shared fight to someday end diabetes.



**Charles Henderson**  
Chief Executive Officer





## Research Overview

The ADA has a long reputation of engagement and support of landmark studies aimed at improving the treatment and prevention of diabetes.

While we have learned a lot, there is much left to discover about diabetes. The ADA remains committed to providing critical funding to support innovative scientific discovery that translates to better treatment, healthier lives, and eventual cures.

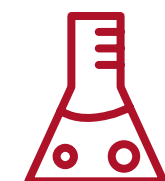
Today, our research strategy is more targeted than ever before. This approach is helping us make meaningful, actionable changes in specific areas that are highly relevant to those affected by diabetes. As research advancements provide fresh insights into the ever-changing diabetes landscape, we are prepared to respond with targeted research to address the needs within our communities and to improve the lives of those living with diabetes.

While we have a targeted approach to funding, we are also continuing to invest in our many career and training awards. Investing in early career researchers is crucial for addressing the rising prevalence of diabetes and reducing the number of individuals afflicted with the condition. By supporting these researchers at the outset of their careers, we empower them to delve into innovative studies, explore novel treatment approaches, and uncover preventive measures. The complex nature of diabetes demands fresh perspectives and innovative insights, which early career researchers are uniquely poised to provide. Their enthusiasm can pave the way for breakthroughs that not only enhance our understanding of diabetes, but also yield transformative strategies for its prevention and management. Investing in these emerging talents is an investment in a healthier future for generations to come.

Currently, the ADA Research Programs team manages a portfolio of



**193**  
ACTIVE AWARDS



**51**  
NEW PROJECTS  
that were funded in 2024

## A Fresh Narrative in Type 2 Diabetes Research

Similar to reading a book in a language we have only just begun to understand, the world of genetics continually unfurls new paths of knowledge for us to discover. For complex diseases with strong genetic components like type 2 diabetes, understanding the way genetic variations function and impact an individual's risk may help turn the page in diabetes management and improve the treatment and prevention of diabetes.

For Debora Rodrigues Sobreira, PhD, witnessing friends and family struggle with diabetes sparked a life-long curiosity about the genetic factors behind the disease. "Since early on in my career, I have been interested in the non-coding regions in the genome," she says. Genome-Wide Association Studies (GWAS) are research studies that scan the entire genome to find genetic variations linked to specific diseases or traits. This approach has identified over 700 independent genetic associations linked to type 2 diabetes, but it's still unclear what signals trigger these genes to activate. Dr. Sobreira is piecing together genetic signals and the development of type 2 diabetes to uncover novel genes, cellular pathways, and signaling mechanisms associated with the disease. By challenging conventional paradigms in GWAS and metabolic trait research, she is developing a platform to understand the underlying mechanisms behind these genetic variations.

Dr. Sobreira won her Pathway grant last year, allowing her to build a diverse team and pursue research rooted in creative thinking and novel experimental design. "I've used many different approaches, and both a computational approach and a functional assets approach are important in my research." She and her colleagues execute this multifaceted approach through the use of cutting-edge technologies like data science, single-cell analysis, disease modeling, induced pluripotent stem cells, and genetic screening. By integrating advanced methodologies, she hopes to translate discoveries into meaningful biological knowledge that can lead to innovative strategies in prevention and treatment.

The Pathway award has provided collaboration and mentoring opportunities that have enriched Dr. Sobreira's professional life. She is hopeful that her work will inspire others not only within diabetes, but across all fields of complex disease research. "Impact in research is a brick in a wall. I see myself putting in a brick that others can then build on to complete the whole picture." She implements this sentiment within her own lab through recruiting students from diverse backgrounds, educating them on scientific research and all its facets, helping them cultivate the skills needed to become future leaders in the field. Ultimately, Dr. Sobreira aspires to lay the groundwork for others to continue the story of genetics in diabetes and significantly impact type 2 diabetes clinical management for better outcomes, improved quality of life, and more personalized care.



**Debora Rodrigues Sobreira, PhD**

With [the ADA's] encouragement, I am able to consider more innovative research. A high-risk idea has the potential for a high reward.

— Debora Rodrigues Sobreira, PhD

These recently funded studies in our priority research areas aim to solve critical problems facing people with and at risk for diabetes.

## Targeting Precision Medicine for Improved Outcomes

While clinical guidelines recommend a tailored approach for type 2 diabetes pharmacological treatments, limitations exist in their ability to provide precise positive results for all patients. Dr. Aaron Leong realized early in his career as an endocrinologist that he wanted to explore a molecular explanation for the disparities in results being reported by clinics. Specifically, by understanding the underlying heterogeneity of molecular responses in treatments, this would allow for the development of more targeted strategies and improve patient care.

Dr. Leong aims to determine whether people's genetic profiles influence their response to sodium-glucose cotransporter-2 inhibitors (SGLT2i) that are typically prescribed for type 2 diabetes by looking at variants within the SLC5A2 gene. He is currently recruiting individuals with varied genetic predispositions for developing type 2 diabetes to allow for a wide range of responses and data. Another goal of his research is to use biobanks to assess whether the benefits of SGLT2i on glucose management, cardiovascular outcomes, and renal outcomes differ by people's genetic risk for developing diabetes-related complications.

Dr. Leong hopes these answers can help advance personalized patient care. "In terms of potential, we are at the beginning of how genetic information can be woven into clinical guidelines. We can get closer to helping a person who doesn't fall into the average. The sooner we can deliver the right treatment for a patient, the more engaged that patient will be in their care." With his ADA grant, he aspires to lay a foundation for trials across health care systems to identify patients most likely to benefit from SGLT2i therapy.



**Aaron Leong, MD, MSc**  
Massachusetts  
General Hospital

## Language as a Tool for Better Care

Words make a difference when managing diabetes. People with diabetes who experience, or even perceive stigmas around their disease are at an increased risk for distress, anxiety, and depression. Language can play a crucial role in either preventing or perpetuating these beliefs, affecting health-related outcomes for people living with diabetes.

The influence of the doctor-patient relationship on health outcomes has led Dr. Kevin Joiner to begin addressing the issues in language around type 2 diabetes through primary care professionals. His research aims to help primary care professionals minimize the use of diabetes-stigmatizing language in patient communication. He has developed a training module that models both strengths-based and stigmatizing language use in a video based on the ADA's language guidance. It aims to help practitioners evaluate their own interactions with patients.

Having recently finished recruitment and data collection, Dr. Joiner and his team have found promising preliminary results of the training module to change attitudes and increase perceived control in using non-stigmatizing language. Ultimately, Dr. Joiner hopes this data will support a future full-scaled randomized control trial of the training module in federally qualified health centers. "We talk about therapeutic inertia, and part of that is on health care providers to carefully consider the words they use. The way we talk to patients can be as important as the medication we are recommending."



**Kevin Joiner, PhD,  
APRN, ANP-BC**  
University of  
Michigan

## Empowering Change in Eating Disorder Care

Having begun her career in a treatment setting for adults who were navigating eating disorders, Dr. Rachel Goode recognized a lack of tools for developing a healthy long-term plan for engaging with food. According to a recent study, Black adults living with diabetes face up to six times higher risk of experiencing binge eating behaviors compared to other ethnic groups, so Dr. Goode has set out to explore and address this disparity.

Upon receiving an ADA grant, Dr. Goode described the first phase of her research as pulling up a chair, grabbing a cup of coffee, and really listening to the experiences of Black adults with diabetes. She aimed to better understand the socioecological pathways of type 2 diabetes, including restriction, binge, and emotional eating. The second phase is developing a solution within diabetes self-management education (DSME) that is both individually tailored and accessible.

Using her previous experience with appetite awareness training, she has partnered with Nourishly and Black Women's Health Imperative to create an app that helps participants learn to eat within their hunger signals and achieve their nutritional goals with a plated approach. Not only will the app provide access to dietician feedback to those living with type 2 diabetes, it will include sessions with coaches for diabetes self-management education.

Currently, Dr. Goode and her team are finalizing the app and plan to begin recruitment for testing in early 2025. "Historically, DSME has been a one-size-fits-all approach, but we are as different as we can be. I think we are moving into a nutrition precision approach in medicine, tailoring to what works for a specific person for improved glycemic targets."



**Rachel Goode, PhD,  
MPH, MSW**  
University of North  
Carolina at Chapel Hill

## Trusted Spaces as Gateways to Diabetes Prevention

Women often go to the salon as part of a scheduled routine to feel good about themselves and maintain their appearance. While in the stylist's chair, they tend to divulge details about the events, successes, and struggles in their lives. These forthright, organic conversations with trusted community members may be one key to unlocking more participation in diabetes prevention programs.

Despite Black women bearing a disproportionate burden of type 2 diabetes, screening and referral rates remain low. Dr. Kelly Palmer hopes to show how salon stylists are well positioned to facilitate diabetes risk screening and encourage Black women to enroll in diabetes prevention programs. In the first phase of the project, Dr. Palmer and her team evaluated both hairstylists and women who frequent salons to assess the perception of and readiness for a salon-based diabetes prevention referral program.

After the team completes concept mapping of salon readiness and receives feedback from hair salons about the intervention plan, they hope to pilot the program in a few salons in 2025. Dr. Palmer says, "People often look at communities that are struggling or have suboptimal outcomes from a very deficit-focused lens. I like to look at those communities and ask what is working in them." Through her research, she hopes to understand how to leverage those assets in the community to engage in health behavior and promotion while mitigating disparate rates of diabetes and diabetes-related complications for Black women.



**Kelly Palmer, PhD, MHS**  
University of  
Arizona

# 2024 New Grant Recipients

## Improving the Lives of Women with Diabetes Across the Lifespan

These researchers aim to better understand clinically significant sex differences to better inform diabetes prevention, diagnosis, and treatment strategies for women across the lifespan.



**Jacqueline Maya, MD**  
Massachusetts General Hospital



**Tracey McLaughlin, MD**  
Stanford University



**Guoying Wang, MD, PhD**  
Johns Hopkins University



**Mingyu Zhang, PhD**  
Beth Israel Deaconess Medical Center

## Supporting the Psychological and Emotional Needs of People with Diabetes

These researchers aim to deepen understanding of how to enhance all aspects of integrating mental health care into clinical settings for people with diabetes, with a particular focus on under-resourced families.



**Lily C. Chao, MD**  
Childrens Hospital Los Angeles



**Amanda M. Ziegler, PhD**  
University at Buffalo

## Tackling the Epidemic of Youth-Onset Type 2 Diabetes

These researchers aim to address key knowledge gaps in youth-onset type 2 diabetes to enhance understanding, advance prevention, improve treatment, and ultimately achieve remission for the rising number affected by this serious public health concern.



**Ryan Brady, MD**  
Cincinnati Children's Hospital Medical Center



**Emma Edmondson, MD**  
University of Pennsylvania



**Shylaja Srinivasan, MD**  
University of California, San Francisco

## Centers for Diabetes Translation Research

The ADA proudly partners with the Centers for Diabetes Translation Research (CDTR), a program funded by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) at the National Institutes of Health (NIH). The CDTR's aim is to improve the translation of research findings related to diabetes prevention, treatment, and health outcomes by supporting research across the translational spectrum. The ADA has supported the following researchers to advance discoveries in health disparities through highly specialized technical expertise, as well as support research resources to established and early-stage investigators. For more information about the CDTR program, please visit [diabetes-translation.org](https://diabetes-translation.org).



**Cherie Conley, PhD, MSN, MIS, MHS**  
University of Michigan



**Johanna Daily, MD, MS**  
Albert Einstein College of Medicine



**Jennie Davis, PhD, RDN**  
University of California, Davis



**Wenjun Fan, MD, PhD, MS**  
University of California, Irvine



**Erin Ferranti, PhD, MPH, RN, FAHA**  
Emory University



**Reagan L. Miller, PhD, MS**  
Colorado State University



**Ha Ngan Vu, PhD, MA**  
Northwestern University

## Impact of Diabetes Camps

In 2024, the ADA launched the Priority Research Agreement (PRA), a targeted funding mechanism that allows the Research Program team to directly invite investigators to address critical gaps in diabetes research. This mechanism aligns with the ADA's strategic priorities while focusing on research questions outside the scope of existing requests for applications (RFAs). This year, the PRA mechanism was used to support research aimed at better understanding the impact of diabetes camps on youth with type 1 diabetes and their caregivers.



**Kelsey Howard, PhD**  
Ann & Robert H. Lurie Children's Hospital of Chicago



## Funding the Next Generation of Leaders in Diabetes Research

Investing in postdoctoral fellowship awards is crucial for addressing the rising prevalence of diabetes and reducing the number of individuals afflicted by the condition. By supporting these researchers at the outset of their careers, we empower them to delve into innovative studies, explore novel treatment approaches, and uncover preventive measures. The complex nature of diabetes demands fresh perspectives and insights, which early career researchers are uniquely poised to provide. Their enthusiasm can pave the way for breakthroughs that not only enhance our understanding of diabetes, but also yield transformative strategies for its prevention and management. Investing in these emerging talents is an investment in a healthier future for generations to come.

In 2024, the ADA welcomed a record number of postdoctoral fellowship applications spanning a wider spectrum of diabetes research aiming to invigorate and diversify the pool of talent dedicated to advancing our understanding of diabetes. To review this pool of postdoctoral fellowship award applications, we solicited a group of 77 new and seasoned reviewers, many of them past ADA grantees themselves. All applicants who advanced to the review stage were provided with expert feedback on their submissions, regardless of whether they were chosen for an award, to encourage them to continue their pursuits.

We're thrilled with the results, which have added 29 postdoctoral fellows to the ADA's research portfolio. It's all part of the ADA's commitment to nurturing a pipeline of leaders in diabetes research and supporting them at every stage along the way.

### 2024 Postdoctoral Fellowship Awardees

**Sungho Bea, PhD**

Partners Healthcare System

**Jasmine Burrell, PhD**

Morehouse School of Medicine

**Zhe Cao, PhD**

Harvard University

**Srikanta Chowdhury, PhD**

Columbia University

**Karima Drareni, PhD**

University of Pennsylvania

**Xue Feng, PhD**

University of California, La Jolla

**Haipeng Fu, PhD**

University of California, La Jolla

**Ji Seul Han, PhD**

Harvard Medical School

**Qoua Her, PharmD**

University of North Carolina at Chapel Hill

**Lara Hernandez, PhD**

University of Texas Southwestern Medical Center at Dallas

**Injae Hwang, PhD**

University of Pennsylvania

**Fahmida Jahan, PhD**

Joslin Diabetes Center

**Ioannis Lempesis, MD, PhD**

Brigham and Women's Hospital

**Jin Li, PhD**

University of Michigan

**Ignacio Norambuena-Soto, PhD**

Beckman Research Institute of City of Hope

**Ana Pinto, PhD**

University of Colorado School of Medicine

**Kellen Rodrigues, MD, PhD**

Beth Israel Deaconess Medical Center

**Adam Salon, PhD**

Augusta University

**Heidi Schmidt, PhD**

David Geffen School of Medicine at University of California, Los Angeles

**Harshraj Shinde, PhD**

University of Kansas Medical Center

**Omprakash Singh, PhD**

University of Texas Southwestern Medical Center at Dallas

**Seunghwan Son, PhD**

University of California, La Jolla

**Jie Sun, PhD**

The Scripps Research Institute

**Wenxin Tong, PhD**

Duke University

**Amritha Trikkur Madom Seetharaman, PhD**

University of Tennessee

**Shirong Wang, PhD**

Joslin Diabetes Center

**Yijun Yang, MD, PhD**

University of Pennsylvania

**Giorgia Zanetti, PhD**

Columbia University

**Qiantao Zheng, PhD**

University of Michigan





The ADA's Pathway program was founded with a singular vision: To introduce a new generation of brilliant scientists to diabetes research. The ADA supports Pathway scientists for five to seven years, giving them the freedom to explore new ideas without the constraints of traditional project-based funding. Pathway awardees are selected by the ADA's Mentor Advisory Group - an esteemed group of eminent scientists from diabetes research and other fields who personify the core elements needed for exceptional science: rigorous thought processes, keen intellect, and the capacity for innovation, creativity, and productivity. In addition to the selection process, the mentors provide ongoing scientific and career advice to Pathway researchers throughout the duration of the awards, creating a challenging and collaborative environment in which transformative science can thrive.

Over the past decade, this initiative has successfully propelled 43 scientists into independent faculty positions, resulting in numerous inventions, patents, startups, and published manuscripts, showcasing its transformative impact on diabetes care.

## Decoding and Validating Interorgan Communication Proteins as New Therapeutic Targets in Diabetes

Secreted proteins play a vital role in how organs communicate and work together. When not working properly, these messengers may contribute to the development of diabetes and obesity. Dr. Iliia Droujinine plans to examine the largely unexplored role that proteins produced by the intestine play in interorgan communication. While intestine-secreted proteins have been historically difficult to identify, the Droujinine lab has established an inducible biotin-ligase (BirA\*G3) system to identify proteins that traffic and signal to distal organs.

Dr. Droujinine aims to demonstrate how imbalances in intestine-secreted proteins associated with type 2 diabetes affect fat formation, breakdown, and storage throughout the body - influencing metabolism, blood sugar levels, and inflammation. Better understanding of interorgan communication proteins can help develop the next generation of therapeutics to combat type 2 diabetes and its complications.



**Iliia Droujinine, MD, PhD**  
The Scripps  
Research Institute

## Preventing Type 2 Diabetes in Black Adult Women At Risk for Binge Eating Disorder

To build upon her research related to eating disorders in Black adults, Dr. Rachel Goode, was awarded a Pathway grant to focus some of her research specifically on Black women. With Black women having significantly higher rates of reported emotional eating in adolescence and the highest rates of obesity in the nation, Dr. Goode is exploring a new approach to lower type 2 diabetes risk for this population.

Dr. Goode is focused on adapting and translating an Appetite Awareness Diabetes Prevention Program (ATT + DPP) for Black adult women at risk for binge eating disorder and type 2 diabetes. After formative research to understand type 2 diabetes prevention needs among emergent adults, she hopes to develop a individualized approach that can be used to conduct a pilot feasibility study. By reducing binge eating, improving emotion regulation, and preventing weight gain in Black adult women, Dr. Goode hopes to establish a new pathway in diabetes prevention.



**Rachel Goode, PhD**  
University of North  
Carolina at Chapel Hill

## Optogenetic Stimulation of Thermogenic Adipose as a Novel Cell Therapy for Obesity and Metabolic Disease

Obesity and related conditions like diabetes are major health challenges. Current medications that promote satiety, like GLP-1 receptor agonists, are effective for initial weight loss but often cause side effects that reduce their effectiveness. Additionally, they don't address the challenge of keeping the weight off long term. Since there are no approved drugs to help the body burn more energy, sustained weight loss remains difficult.

Dr. David Merrick aims to ultimately develop an innovative treatment to help people maintain weight loss by increasing the body's ability to burn energy. His approach leverages the heat-generating properties of brown adipose tissue, also known as brown fat. Building on his team's discovery of diverse populations of adipose progenitors, he hopes to generate large quantities of clinical-grade, patient-derived brown fat cells outside of the body that are optimally amenable to autologous re-implantation. To promote thermogenic activity, the team is engineering these cells with a receptor that couples the absorption of light to the stimulation of brown fat thermogenesis. Dr. Merrick's pre-clinical research studies will evaluate if light-activated transplanted brown fat cells can burn energy and alleviate the metabolic consequences of obesity in animal models.



**David Merrick, MD, PhD**  
University of  
Pennsylvania

## Integration of a Trained Language Model To Improve Glycemic Control Through Increased Physical Activity: A Fully Digital My Heart Counts Smartphone App Randomized Trial

The introduction of smartphones and watches has allowed people to track their daily movement. For people with or at risk for type 2 diabetes, setting physical activity goals can mean improved success with glycemic targets. Dr. Daniel Seung Kim is advancing his work with the My Heart Counts app, which initially found that personalized e-coaching interventions increased step count by extending the app to link with electronic medical records to import laboratory data. With pre-trained artificial intelligence (AI), the app now delivers personalized e-coaching interventions based on the Stages of Change model.

Dr. Kim will assess the app's effectiveness in a randomized crossover trial that compares the daily AI-generated coaching interventions to reminders to reach 10,000 steps. He also aims to evaluate the efficacy of AI-generated prompts and chatbot capabilities to influence daily step counts, A1C levels, and weight management goals. Combining innovative digital health and AI, Dr. Kim hopes to improve short- and long-term physical activity maintenance in people with type 2 diabetes.



**Daniel Seung Kim, MD, PhD**  
Stanford University

# Pathway to Stop Diabetes® Award Winners

## 2014

**Michael Dennis, PhD**  
Pennsylvania State University  
*Hyperglycemia-Induced Translational Control of Gene Expression in the Retina*

**Kathleen Page, MD**  
University of Southern California  
*Neural Mechanisms in Maternal-Fetal Programming for Obesity and Diabetes*

**Stephen Parker, PhD**  
University of Michigan  
*Deconstructing Type 2 Diabetes Using Genome-Wide High-Density Multi-Tissue 'Omics' Profiling*

**Wolfgang Peti, PhD**  
University of Arizona  
*Pathways to a Cure: Novel, Innovative Insights into Insulin Signaling and Regulation using NMR Spectroscopy*

**Joshua Thaler, MD, PhD**  
University Washington  
*Modulating Glial-Neuronal Interactions to Treat Obesity and Diabetes*

## 2015

**Mayland Chang, PhD**  
University of Notre Dame  
*A Strategy to Accelerate Diabetic Wound Repair*

**Thomas Delong, PhD**  
University of Colorado Denver  
*The Role of Hybrid Insulin Peptides in the Development of Type 1 Diabetes*

**Zhen Ghu, PhD**  
University of California, Los Angeles  
*Bio-Inspired Synthetic Pathway for Closed-Loop Delivery of Insulin and Glucagon*

**Marie-France Hivert, MD**  
Harvard Pilgrim Health Care  
*Understanding Pathways of Fetal Metabolic Programming to Stop the Transgenerational Risk of Diabetes*

**Celine Riera, PhD**  
Cedars-Sinai Medical Center  
*Identification of Sensory Neural Circuits Controlling Metabolic Disorders*

**Stephanie Stanford, PhD**  
University of California, San Diego  
*PTPN22: Model Gene to Unravel the Interaction Between Genetics and Environment in T1D*

## 2016

**Daniel Ceradini, MD**  
New York University School of Medicine  
*Therapeutically targeting Keap1/Nrf2 dysfunction in diabetes*

**Zachary Knight, PhD**  
University of California, San Francisco  
*Reinvestigation of the arcuate feeding circuit*

**Andrew Scharenberg, MD**  
Seattle Children's Hospital  
*Regulatory T-cell stabilization via gene editing as novel therapy for Type 1 diabetes*

**Praveen Sethupathy, PhD**  
Cornell University  
*Systems approach to defining genetic regulation of intestinal physiology and gut microbiota in diet-induced obesity*

**Sui Wang, PhD**  
Stanford University School of Medicine  
*Dissection of Gene Regulatory Networks underlying Diabetic Retinopathy*

**Phillip White, PhD**  
Duke University  
*A new homeostatic mechanism for metabolic control*

## 2017

**Paul Cohen, MD, PhD**  
Rockefeller University  
*Dissecting the role of beige fat in metabolic homeostasis*

**Jonathan Flak, PhD**  
Indiana University School of Medicine  
*Targeting the VMN to Understand Hypoglycemia Pathogenesis*

**Aleksandar Kostic, PhD**  
Joslin Diabetes Center  
*Generation of an in vivo system for dissection of the human type 1 diabetes-associated microbiome*

**Sumita Pennathur, PhD**  
University of California, Santa Barbara  
*Untethering diabetes through innovative engineering*

**David Spiegel, MD, PhD**  
Yale University School of Medicine  
*Targeting glucosepane crosslinks in diabetes*

**Sarah Stanley, MD, PhD**  
Icahn School of Medicine at Mount Sinai  
*Central nervous system regulation of glucose metabolism*

## 2018

**John Campbell, PhD**  
University of Virginia  
*Molecular and functional taxonomy of vagal motor neurons*

**Samie Jaffrey, MD, PhD**  
Joan & Sanford I. Weill Medical College of Cornell University  
*Rewiring cellular metabolic networks in diabetes*

**Alexander Nectow, MD, PhD**  
Columbia University  
*Investigation of Brainstem Neurons Regulating Energy Balance*

**Michael Stitzel, PhD**  
The Jackson Laboratory  
*Deciphering Longitudinal Cell Type-Specific Defects in Diabetes Pathogenesis*

**Randi Streisand, PhD**  
Children's Research Institute  
*Improving health communication during the transition from pediatric to adult diabetes care*

**Jonathan Sweedler, PhD**  
University of Illinois at Urbana-Champaign  
*Unraveling diabetes progression a cell at a time*

## 2019

**Ebony Carter, MD**  
University of North Carolina at Chapel Hill  
*Targeted lifestyle change group prenatal care for obese women at high risk for gestational diabetes: a randomized controlled trial*

**Sarah Tishkoff, PhD**  
University of Pennsylvania  
*Genetic risk factors for adult-onset diabetes in populations of African Ancestry*

**Matthew Webber, PhD**  
University of Notre Dame  
*Hypoglycemic rescue with glucose-responsive glucagon delivery devices*

## 2020

**Judith Agudo, PhD**  
Dana-Farber Cancer Institute  
*Harnessing immune privilege mechanisms from stem cells to protect beta-cells from immune attack*

**Maxence Nachury, PhD**  
University of California, San Francisco  
*Regulation of body weight homeostasis and beta cell function by primary cilia*

## 2022

**Lisa Beutler, MD, PhD**  
Northwestern University Medical School  
*Dissecting sugar-induced modulation of gut-brain circuits*

**Anna Kahkoska, MD, PhD**  
University of North Carolina at Chapel Hill  
*Fusing rapid-cycle testing and adaptive interventions: A scientific pipeline to translate and individualize evidence-based psychosocial and behavioral interventions in routine type 1 diabetes care*

## 2023

**Chelsea Hepler, PhD**  
University of Michigan  
*Integration of circadian and inflammatory pathways in metabolic homeostasis*

**Debora Rodrigues Sobreira, PhD**  
David Geffen School of Medicine at University of California, Los Angeles  
*Linking variants to function: understanding the genetics of type 2 diabetes through multi-omic data*

**Lu Wang, PhD**  
Tufts University  
*Leveraging the online grocery shopping environment to improve diet and advance health equity*

## 2024

**Ilia Droujinine, PhD**  
The Scripps Research Institute  
*Decoding and validating interorgan communication proteins as new therapeutic targets in diabetes*

**Rachel Goode, PhD, MPH, MSW**  
University of North Carolina at Chapel Hill  
*Preventing Type 2 Diabetes in Black Emergent Adult Women At-Risk for Binge-Eating Disorder*

**Daniel Seung Kim, MD, PhD, MPH**  
Stanford University  
*Integration of a trained language model to improve glycemic control through increased physical activity: a fully digital My Heart Counts smartphone app randomized trial*

**David Merrick, MD, PhD**  
University of Pennsylvania  
*Optogenetic stimulation of thermogenic adipose as a novel cell therapy for obesity and metabolic disease*

## MENTOR ADVISORY GROUP MEMBERS

**Chair**  
**Christopher B. Newgard, PhD**  
Duke University

**Chair**  
**Louis Philipson, MD, PhD**  
University of Chicago

**Barbara J. Anderson-Thomas, PhD**  
Baylor College of Medicine

**Mark S. Anderson, MD, PhD**  
University of California, San Francisco

**Charles F. Burant, MD, PhD**  
University of Michigan

**David A. D'Alessio, MD**  
Duke University

**Daniel J. Drucker, MD**  
Lunenfeld-Tanenbaum Research Institute

**Robert Eckel, MD, FAHA, FACC, FNLA**  
University of Colorado, Denver

**Joel Elmquist, DVM, PhD**  
University of Texas Southwestern Medical Center

**Anthony Ferrante Jr., MD, PhD**  
Columbia University

**David M. Harlan, MD**  
University of Massachusetts Medical School

**Kevan Herold, MD**  
Yale University

**Elbert Huang, MD**  
University of Chicago

**Barbara Kahn, MD**  
Beth Israel Deaconess Medical Center

**Rohit Kulkarni, MD, PhD**  
Joslin Diabetes Center

**Lori Laffel, MD, MPH**  
Joslin Diabetes Center

**David Nathan, MD**  
Massachusetts General Hospital

**Stephen C.J. Parker, PhD**  
University of Michigan

**Sumita Pennathur, PhD**  
University of California, Santa Barbara

**Jane Reusch, MD**  
University of Colorado, Denver

**Christopher J. Rhodes, PhD**  
AstraZeneca

**Alan R. Saltiel, PhD**  
University of California, San Diego

**Jean E. Schaffer, MD**  
Harvard Medical School

**Michael Schwartz, MD**  
University of Washington

**Andrew Stewart, MD**  
Icahn School of Medicine at Mount Sinai

**Karen Talmadge, PhD**  
Nabu Strategic Advisors



I want to thank the ADA and the Pathway program for being a game-changer for my work. The ADA Pathway award not only supported the BrainChild Study, uncovering key findings in maternal-child health and diabetes risk, but also inspired my trainees to explore new, exciting areas in diabetes and brain development. It's incredibly rewarding to see how the child participants in the study have been inspired by this work, illustrating the program's goal of cultivating the next generation of research leaders. My Pathway project is making a transgenerational impact—through both the discoveries and the future scientists it inspires."

— Kathleen Page, MD, MS

Associate Professor of Medicine and Pediatrics, Co-Chief, Division of Endocrinology & Diabetes Director, Diabetes and Obesity Research Institute Keck School of Medicine of University of Southern California



In June 2024, the ADA hosted the 84<sup>th</sup> Scientific Sessions in Orlando, Florida. The ADA's Scientific Sessions is the world's largest diabetes meeting, convening leading physicians, scientists, researchers, and health care professionals from around the globe. The hybrid meeting featured the latest scientific findings in diabetes research, prevention, and care which included:



## 2,000+

RESEARCH PRESENTATIONS



## 2,320

ABSTRACTS PUBLISHED

in addition to providing networking opportunities for

# 11,190 ATTENDEES

FROM **116 COUNTRIES**

Register for the 85<sup>th</sup> Scientific Sessions at [professional.diabetes.org/Scientific-Sessions](https://professional.diabetes.org/Scientific-Sessions).



### 2024 Outstanding Scientific Achievement Award

While health care professionals don't have a crystal ball to foretell future disease in a patient, research advances are progressively improving the ability to assess disease risk and make more effective treatment decisions. A deeper understanding of the impact of genomic variations has the potential to greatly enhance this ability, enabling health care professionals to better identify predispositions to complex diseases like diabetes and to choose treatments more effectively. Researchers like Steven Parker, PhD, are leading the way in unlocking this life-changing knowledge.

Dr. Parker's research explores how disease susceptibility is encoded in the non-coding portion of the genome. At the 2024 Scientific Sessions, Dr. Parker was awarded the ADA's prestigious Outstanding Scientific Achievement Award for his work in genetic predisposition in type 2 diabetes and related traits. With a long history in bioinformatics, Dr. Parker's research progress was greatly accelerated after receiving the ADA's Pathway award. "I believe the Pathway award in 2014 set me on this trajectory. They invested in me and I'm just so thankful." Along with that support, Dr. Parker credits this award for providing him access to top researchers in the field who mentored him as another reason for his accomplishments.

"This award recognizes Steven's ground-breaking research in epigenomics and serves as a testament to the remarkable potential of the Pathway program, which supports and mentors early career researchers who show amazing talent and promise of productivity," said one of the organizers. "Dr. Parker's work epitomizes the commitment of the Pathway program to nurture talent and innovation in the field."

Over the past year, Dr. Parker helped open the Epigenomic Metabolic Medicine Center at the University of Michigan, with the goal of generating single-cell multi-omics datasets from key metabolic tissues. Achieving this goal could lead to a comprehensive picture of the connection between genetic and environmental factors and diabetes onset and progression. Knowing these new genetic mechanisms can lead to better strategies to detect, treat, and prevent type 2 diabetes.

In the work of predicting future health, Dr. Parker emphasizes one point—success in epigenomics is the result of a team-focused approach. "I think of this award as a result of the cumulative effect of the exceptional people on the team, both people who work in my lab as well as collaborators."



## Innovative Approaches to Psychosocial Care and Access in Youth and Adult Diabetes Management Workshop

Addressing the psychosocial aspects of diabetes care is essential to improving outcomes for individuals of all ages. Factors such as mental health, stress, and access to social support can significantly influence diabetes management. Innovative strategies are needed to ensure care is both inclusive and responsive to the diverse needs of youth and adults living with diabetes.

In November 2024, the ADA hosted grant recipients conducting research in mental health and difference in health outcomes for the Innovative Approaches to Psychosocial Care and Access in Diabetes Prevention and Management workshop. Program officers from the NIDDK also participated, sharing insights on research priorities and opportunities for funding. This two-day event covered both psychosocial and health challenges in youth and adults with type 1 and type 2 diabetes.

The presentations covered a rich variety of topics, such as rapid implementation and optimization of individualized psychosocial and behavioral interventions in clinical settings and an innovative precision medicine approach to detect and treat device-related diabetes distress. Attendees also discussed their research on youth with type 1 diabetes, including reducing diabetes-specific emotional distress in teenagers, promoting adolescent self-management and investment in diabetes care.

Presenters posed solutions for addressing the psychosocial needs of youth with type 2 diabetes. They highlighted the potential benefits of integrating a team approach for appointments and mental health interventions tailored to youth within the specialty care setting. Additionally, the relationship between brain function and structure in youth with type 2 diabetes was discussed.

Speakers also explored topics that addressed psychosocial issues of vulnerable populations within diabetes care. This included minimizing diabetes-stigmatizing language, addressing multi-level barriers associated with diabetes technology use in under-resourced youth, and developing values-based behavior change programs delivered by bilingual health coaches to enhance diabetes care.



While attendees benefited from hearing the critical research, Marlon Pragnell, PhD, the ADA's vice president of research and science, emphasized the importance of bringing ADA grant awardees together for collaboration and networking. Grant recipients connected during a networking dinner on the first day and a lunch on the second day. Additionally, they were able to discuss challenges and brainstorm opportunities related to their research during the panel discussions. "We also strongly encourage our researchers to attend and present their research at the ADA's annual Scientific Sessions. We look forward to connecting with them at our upcoming 85th Scientific Sessions in Chicago." Pragnell noted.

Bringing together grantees and research program staff from the ADA and NIDDK, in small workshops like these, as well as at Scientific Sessions, provides valuable opportunities for networking and collaboration. Dr. Pragnell emphasized that these interactions support academic success and help participants explore potential avenues for future research funding.

“Our goal is to facilitate the research progress and career growth of all our awardees. And part of that is engaging researchers, encouraging connectivity, and supporting an environment that maximizes their progress.”

—Marlon Pragnell, PhD

# Thank You to Our Volunteers

## Research Policy Committee

The Research Policy Committee (RPC) is responsible for providing guidance to the ADA on the strategic direction of its Research Programs. This includes the development of new funding opportunities, evaluation of current grant mechanisms and research initiatives, and recommendations for program enhancements to increase impact.

As one of the oldest committees in the ADA, with co-discoverer of insulin Dr. Charles H. Best serving as the first chair in 1952, the RPC has a long history of advancing breakthrough science and growing the next generation of diabetes researchers. In recent years, the committee has played a pivotal role in broadening the ADA's focus to include the full continuum of experience for a person living with diabetes to encompass things such as mental health. Dr. Mary de Groot, the current chair, stated, "I really welcome this time of expansion, balancing the portfolio with research that supports molecular and genomic science as well as science that promotes public policy, care implementation, and community change to help prevent diabetes and support people with diabetes."

Recently, the committee has spotlighted psychosocial factors as an area of interest. "As the first behavioral scientist to chair the RPC, I'm honored in this capacity. It's an exciting time to be part of this committee," said Dr. de Groot. She elaborated, "Behavioral, emotional, and social aspects of diabetes are intricately intertwined with the physiology of diabetes. We tend to think of different categories of diabetes research and medical care in silos, but, in fact, it all comes together in the person and family with diabetes." While women's health, youth-onset in type 2 diabetes, and mental health have been previous areas of focus, aging in diabetes and primary care were recently selected as the ADA's new research priority areas.

Every two years, the ADA selects new targeted topic areas and launches RFAs to research and expand the field of knowledge to improve the lives of those living with diabetes. At the beginning of 2024, the ADA engaged its People with Diabetes Council, composed of individuals living with diabetes, to help identify research gaps based on their personal experiences. The council's insights were then shared with the RPC, which developed a list of critical research gaps that align with the ADA's mission.

There was an overwhelming enthusiasm that upcoming research should focus on improving the lives of older adults living with diabetes and diabetes prevention and care in primary care settings. Finally, these identified topics were shared with the Science and Health Care Council and ADA leadership for their review and endorsement. Once approved, the Research Programs team worked with the RPC to outline the scope and goals of the new funding opportunities. In September 2024, the Primary Care and Aging in Diabetes RFAs were launched with funding announcements anticipated by May 2025.

**It has been an enormously gratifying and inspiring experience to be a member of the Research Policy Committee of the ADA. It is so encouraging to see the resources and energy of this association continuing to provide opportunities for new and veteran researchers to address many of the growing needs and new challenges in understanding diabetes and improving outcomes through new treatment approaches. There is no more certain way of providing the pathways for prevention, remission, improved treatment, and yes, eventual cure of diabetes than continuing to build and support a strong, creative, and multi-generational research program.**

—James R. Gavin III, MD, PhD

## 2024 Research Policy Committee

### Chair

**Mary de Groot, PhD**  
Indiana University School of  
Medicine

**Jonathan E. Campbell, PhD**  
Duke Molecular Physiology  
Institute

**Deborah J. Cohen, PhD**  
Oregon Health and Science  
University

**Melanie Cree, PhD**  
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and Digestive and Kidney  
Diseases (NIDDK)

**Alessandro Doria, MD,  
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Joslin Diabetes Center

**James R. Gavin III, MD, PHD**  
Healing Our Village, Inc

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Cincinnati Children's Hospital

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**Patti Urbanski, MEd, RD, LD, CDCES, FADCES**, President of Health Care & Education

## 2024 People with Diabetes Council

**Adeola Akindana**

**Hermona Girmay**

**Alysa Goethe**

**Abigail Hoppe**

**Tom Kigin**

**Shelby Kinnaird**

**Chris Labuda**

**Sara Lerner**

**Jessica Oser**

**Hector Soto**

**Stephanie Weaver**

**Shay Webb**

## Thank You to our Reviewers

We would like to express our deepest gratitude for the effort and expertise of the researchers that generously volunteered their time to serve on various review panels in 2024.

Each application is reviewed by at least three external scientific experts in the diabetes field and are carefully selected by the Research Program team based on their area of expertise.

Their commitment to excellence and willingness to provide constructive feedback was instrumental in shaping the outcome of the 250+ applications submitted this year. All applicants, including those that were not selected for funding, have benefited from the constructive feedback shared in their reviews.

It is important to note that their insights not only helped us identify projects that push the boundaries of diabetes research, but also contributed to the career development and growth of these applicants.



[View the full list of reviewers.](#)



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