Diabetes Research Connection

2023

ANNUAL REPORT

What is the Diabetes Research Connection?

At Diabetes Research Connection (DRC), we diligently identify, rigorously review, and expertly allocate seed-funding to advance the most promising type 1 diabetes (T1D) research led by pioneering, early-career scientists nationwide.

Our innovative research offers a beacon of hope to individuals living with the daily burdens of T1D.

It's time for a cure.

DRC's Mission

To connect donors with early career scientists, enabling them to perform peer-reviewed, novel research designed to prevent and cure T1D, minimize its complications, and improve the quality of life for those living with the disease.

DRC's Vision

To support innovative scientific inquiry until T1D is eliminated.

Contents

Imagine a world where no one ever has to hear: "You have type 1 diabetes."

We do. And our mission to eradicate this autoimmune disease is what drives us every day at the Diabetes Research Connection (DRC).

A Message from DRC's Board Chair & President, Eric Zwisler

As we reflect on DRC's achievements during 2023, we're filled with pride and gratitude for your support. In our journey through the past year, we've continued to uphold our commitment to fostering innovation in type 1 diabetes (T1D) research.

As a father, the pursuit of a cure for T1D holds profound personal significance to me. Like many others, I long for the day when my son, Taylor, can break free from the daily challenges imposed by this relentless condition and the looming threat of future health complications.

The impact of our collective efforts is evident in the tangible results we've achieved. From groundbreaking studies to significant publications in leading scientific journals, every step forward reinforces our belief in the power of collaboration and innovation.

In 2023, thanks to the generosity of our supporters and the dedication of our team, we reached new heights in our mission, investing in 17 research projects and further solidifying our position as a driving force in the field of T1D research.

Looking ahead, we're filled with excitement for the possibilities that lie before us. As we continue to push the boundaries of T1D research, we invite you to join us in shaping a brighter future for those affected by this condition.

Thank you for your ongoing support and dedication to our mission.
Eric

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Supporter's Stories

A diagnosis of type 1 diabetes (T1D) not only impacts the patient and their family, it also multiplies the risk of another family member developing T1D by up to 15X. Featured here are DRC supporters who know this all too well, each having multiple members of their family living with T1D.

Lauren and Kyra Grove

Lauren was 5 years old when the unmistakable symptoms of T1D lead to her diagnosis. Her blood sugar was at a dangerous, near-coma level of over 900 by then. Four years later, her 13-yr old sister Kyra recognized the same symptoms that lead to Lauren's diagnosis in herself. Kyra shares, *"I stole my little sister's glucose monitor and checked my blood sugar. Sure enough, I saw '320' flash across the screen and knew this meant I had T1D too."*

Together Lauren and Kyra have survived the ups and downs faced by young people living with T1D. United by their shared challenge and strengthened by the bond of sisterhood, both Lauren and Kyra went onto college, earned degrees, and are embarking on future careers in law and medicine. They also are passionate supporters of the mission of DRC. Lauren even joined the DRC staff 4 years ago and is currently DRC's Research Grants Coordinator.

Lauren: "Being part of the DRC team for over 4 years has a special and personal meaning to me. I love that I am actively contributing to advancing scientific understanding and potential treatments for my condition and fostering hope for a brighter future for myself, my sister, and others living with T1D. In my role, I am devoted to managing the research grant process, ensuring that innovative studies receive the support they need to make a meaningful impact in the fight against T1D."

Kyra: "Being a medical student living with Type 1 Diabetes, DRC holds personal significance to me as it highlights the vital role of early-career scientists. By uniting these emerging researchers with donors, DRC encourages the next generation of scientific leaders to drive innovation and breakthroughs in diabetes research."

Allison and Mac Orechwa

Diagnosed at just 4 years old, Allison says she doesn't remember life without diabetes. Eight years after her diagnosis, her 3-year-old sister Marianne was also diagnosed. Decades later, Allison would receive the same devastating news her parents did when her own 4-year-old son Mac was diagnosed.

Allison shares, *"I went into major depression…. This was the worst day of my life, and I had this extra layer of guilt that I had passed it down to him."*

Allison is grateful for the advancements in T1D management made over the decades since her diagnosis that help ease the relentless and exhausting burden of T1D. *"Treatments have been amazing. The research toward the CGM and the integrated pump are incredible, but we still have the burden of the disease."*

Mac's diagnosis in 2023 moved Allison to do what she could to help move T1D research forward towards a cure. As a PhD with expert knowledge in the scientific research field, she was drawn to DRC's mission. *"The DRC path is very clear. They take early-career scientists and support them with seed funds, and everyone in research knows that you can't get major transformative grants without preliminary data. Not only do they get funds to get that data, they also get guidance from seasoned diabetes researchers in the community. It is these creative young investigators that are going to make the difference."*

Allison joined the DRC Board in fall 2023, stating, *"As a type 1 diabetic and parent of a type 1 diabetic, I have a personal stake in the mission to find a cure for this disease. I am committed to using my voice and my position on the board to fund important research and advocate for people with diabetes and their families."*

DRC by the Numbers

70 — T1D Research projects funded by DRC

$3.3M+ — Total amount DRC has granted to early-career scientists

$30M+ — Follow-on funding to DRC-funded researchers thanks to DRC's initial seed-funding, providing a 9x return on investment

8 — DRC-funded scientists who established their own T1D research labs

74 — Members of our Scientific Review Committee (SRC), comprised of top diabetes experts from across the country who review each proposed research project

1,175 — Donors who support DRC's mission and have contributed to help our work continue

533 — Gifts made to DRC in 2023

30,000+ — Make up our online presence, connecting the T1D community to research

TYPE 1 DIABETES (T1D) BY THE NUMBERS

2.2 to 3.8 Million
Estimated # of T1D children and adults in the U.S. (5-10% of all diabetics)

200,000
Estimated # of children and adults newly diagnosed with T1D each year in U.S.

30%
Increase in numbers of those newly diagnosed with T1D since 2017

100%
Projected increase in those newly diagnosed with T1D by 2040

Source: CDC

Exciting New Research

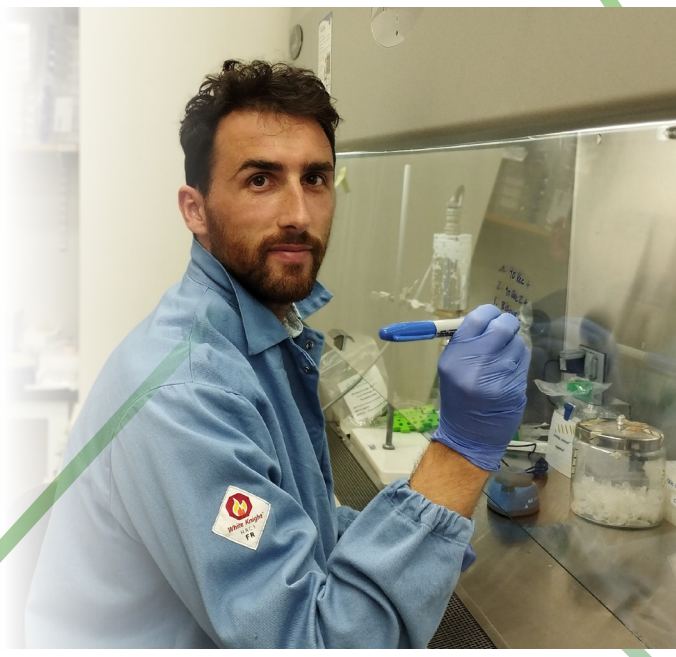
Launched in 2023

In fall of 2023, DRC launched another nationwide Request for Applications (RFA) from early-career scientists investigating innovative ideas in T1D care, prevention and cures. Here are the five awardees from the 2023 RFA with a brief description of their research project. We eagerly look forward to observing their progress!

Viruses and T1D

Recent studies have shown an association between viruses and T1D onset. By identifying these viruses, we can pave the way for the development of innovative therapies aimed at preventing and effectively managing T1D. Dr. Chuard shares that his project includes the following innovations that will enable new T1D research milestones:

- Our laboratory's groundbreaking discovery of viruses producing insulin has the potential to uncover critical insights into the triggering and pathogenesis of T1D.
- We are the first to use cutting-edge technology, PepSeq, to trace the viral infection history of T1D patients and advance the field offering insights into viruses' role in T1D onset.



Aurelien Chuard, PH.D.
Boston College
Determine the Role of Viral Infections and viral-insulin carrying viruses in T1D pathogenesis

Every research project we fund answers a question, investigates a possible new pathway, and fills in another piece of the complex diabetes puzzle that can lead to curing T1D. You can help us continue on this path of discovery that will one day make T1D a thing of the past

Less Stress for Beta Cells

Evidence shows that that beta cell stress is a key trigger for autoimmunity. Therefore, identification of molecules that reduce beta cell stress and improve their health is a major therapeutic goal in T1D.

Dr. Filipowska proposes that the LGR4-ECD protein has the potential to prevent beta cell stress related to T1D by interfering with RANKL/RANK interaction, previously shown to be a brake for beta cell proliferation and a mediator of cytokine-induced beta cell death. Findings from these studies will identify novel therapeutic targets for T1D, particularly for improving beta cell health and regeneration.

Joanna Filipowska, PH.D.
City of Hope
LGR4-ECD- a potential therapeutic for type 1 diabetes-related beta cell stress

Cell Communication?

T1D is characterized by progressive destruction of pancreatic beta cells. Extracellular vesicles (EVs) are small membrane bound nanoparticles released by most cells, including beta cells, and act as cell signaling in the islet microenvironment. EVs can potentially play a role in beta cell communication with surrounding islet cells as T1D develops. Therefore, a critical need exists for understanding the mechanisms of beta cell EV biology.

This project's overarching hypothesis is that stressed beta cells upregulate EV PD-L1 to evade beta cell destruction. Therefore, increases in beta cell EV PD-L1 could serve as a biomarker of beta cell attack, provide insight into beta cell heterogeneity and ultimately be exploited as an intervention to prevent autoimmune beta cell destruction.

Chaitra Rao, PH.D.
Indiana University
The role of PD-L1 in beta cell extracellular vesicles in type 1 diabetes

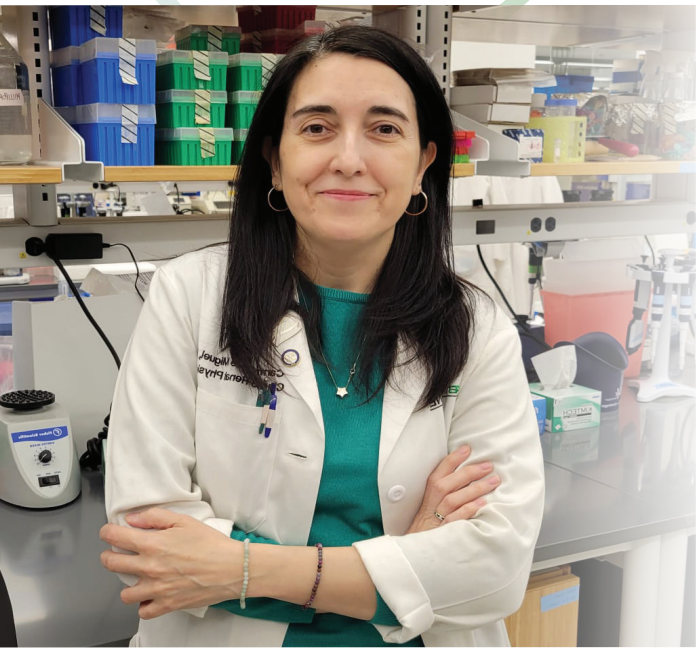
New Answers to Beta Cell Demise

While T1D has been traditionally characterized by a near-complete destruction of insulin-producing beta cells, research has unveiled a subset of lasting beta cells capable of sustaining immune attacks over extended durations, making it critical to reveal the intricate pathways linking external signals to beta cell demise.

Autophagy, a fundamental cellular process which serves as a crucial mechanism for responding to external stressors, depends on the effective functioning of lysosomes. Dr. Melnyk hypothesizes that impaired lysosomal function plays a significant role in the deterioration of beta cells and that defective autophagy in beta cells, primarily through impaired lysosome function, exacerbates the autoimmune attack.

In this project, Dr. Melnyk will develop a beta cell-specific biosensor to visualize and evaluate the lysosome function and its effect on the observed autophagy impairment, providing new answers to beta cell-demise during T1D.

Ohla Melnyk, PH.D.
Indiana University School of Medicine
Evaluation of lysosome dysfunction during autoimmune diabetes pathogenesis



Carmen De Miguel, PH.D.
University of Alabama at Birmingham
GPER, inflammation and diabetic kidney disease

Protection Against Diabetic Kidney Disease

Kidney disease is one of the most prevalent complications of diabetes.

Most with T1D:
- Start developing signs of kidney dysfunction within 5 years of diagnosis.
- Between 30-40% of these patients develop diabetic kidney disease
- About 1/3 progress to diabetic nephropathy - the leading cause of end-stage kidney disease worldwide.

Our understanding of how kidney damage develops during T1D is very limited and current therapies only slow its progression, but do not halt or reverse it.
This project will study the role of G protein-coupled estrogen receptor (GPER) in protecting against diabetic kidney disease that can significantly advance the field and lead to new pathways for better prevention therapies.

DRC's Investments in Early-Career Scientists

We're ensuring that a new generation of the best and brightest minds will continue to pursue T1D research.

"I am committed to continuing our efforts to advance diabetes research and am optimistic about the potential impact of our work on improving patient outcomes. The support from DRC plays an important role in driving forward my future research endeavors."

- Dr. Jian Zhang

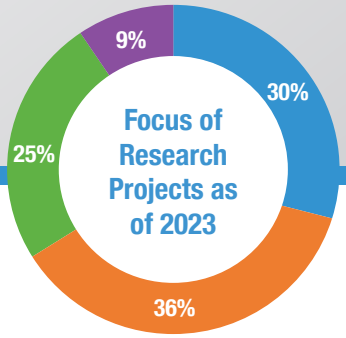
Congratulations to

2023 DRC-Funded Researcher

Jian Zhang

University of Chicago

With the help of DRC seed-funding, Scientist Jian Zhang of the University of Chicago, developed a new optical continuous glucose monitor (CGM) device enabled by fluorescent nanodiamond boronic hydrogel. ***"Our sensor is small and easy to apply/remove, providing a safer and user-friendly optical CGM device for diabetes patients."*** This development presents a new strategy of fluorescence-based continuous glucose monitoring toward treatment and control of diabetes, earning him publication in the high-impact peer-reviewed journal, **Advanced Science.** Next stop for Jian Zhang is his new role as Assistant Professor at North Carolina State University.



THE IMPORTANCE OF OUR BROAD RESEARCH FOCUS:

CURE

Develop therapies to halt the autoimmune attack and restore beta cell function – providing a biological cure for T1D.

Like most who support T1D research, this is our ultimate goal. It's time to cure T1D!

PREVENTION

Slow or halt T1D progression and ultimately eliminate the development of T1D.

The CDC estimates that there are 200,000 newly diagnosed cases of T1D each year. We want to prevent new cases.

T1D MANAGEMENT

Improve and automate glucose monitoring and control to ease the daily relentless burden of T1D.

Glucose management takes an enormous physical and mental toll on those living with T1D. Until there is a cure, we want to improve their lives and ease their burden.

COMPLICATIONS

Develop therapies to prevent, treat, and reverse the debilitating complications of T1D that could lead to heart and kidney disease, stroke, amputations, neuropathy and blindness.

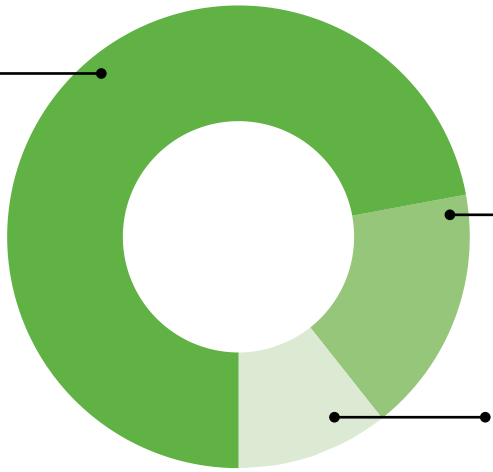
The risk of these complications is significant to those living with T1D. We want to prevent and reduce the risks of these complications so those with T1D can lead longer and healthier lives.

2023 Financial Snapshot

Revenue & Support Received*

($902,605)

*Updated figures as of 11/18/24 to reflect audited financials



75.4%
Contributions
$680,581

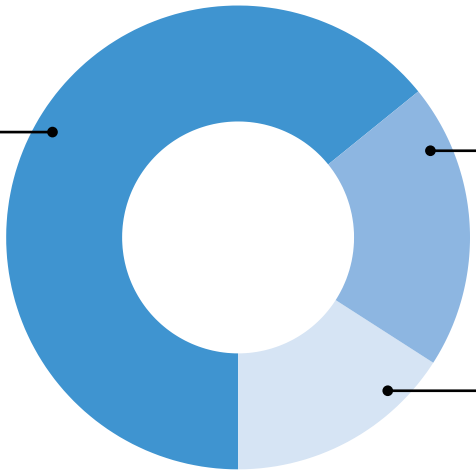
18.2%
In-Kind Donations
$164,893

6.3%
Other (Investments)
$57,131

Expenses / 2023 Mission Spending*

($936,811)

*Updated figures as of 11/18/24 to reflect audited financials



64%
Program & Research
$600,448

17.4%
Development & Events
$166,230

18.2%
General & Admin
$170,133

Net Assets End of Year: $2,234,528

Looking Ahead To 2024

The prevalence of type 1 diabetes (T1D) is increasing worldwide. The CDC reports that T1D diagnoses in the US have increased by nearly 30% since 2017 and may double by 2040.
We need answers, better treatment and prevention therapies, and pathways to cures faster! DRC is funding more research than ever to accomplish that.

For 2024 - DRC has ambitiously increased our research funding by 66% !

FAQ

How are research grant proposals reviewed and chosen, to ensure funding is spent efficiently and effectively?

Each research grant proposal is vetted and carefully reviewed by three assigned specialists from our Scientific Review Committee (SRC) comprised of top T1D scientists across the country. These experts score and review each proposal based on the following criteria to ensure its merit and achievability, ensuring that each funding dollar is spent wisely.

√ Innovation √ Feasibility √ Possible Weaknesses √ Recommendation to Fund

Reviews are then compiled by our Internal Review Team (IRT) and awardees are chosen based on scoring, expert commentary, and available funding.

We currently have 30 new research grant applications in the review process and plan for two more funding cycles in 2024.

To accelerate and fund more qualifed research, we need to raise more funds. It's time to cure T1D.

Dance for Diabetes 2023

We are thrilled to report on the phenomenal success of our Dance for Diabetes 2023 event which was held on at the beautiful tropical grounds of the Elliot Ranch in Rancho Santa Fe. It was an unforgettable evening filled with fantastic music, lively dancing, and the spirit of unity in our mission to find a cure T1D. Thanks to the generosity of our supporters, we are excited to announce that we raised over $430,000. These funds will be instrumental in driving forward critical research projects, and treatment innovations.

JOIN US IN 2024

Saturday September 7th

Together – let's dance our way to a world without Type 1 Diabetes!

FIND OUT MORE
DiabetesResearchConnection.org/events

DANCE for DIABETES

2023 Dance for Diabetes Sponsors

Enormous thanks to Richard & Camella Elliot for their exceptional generosity in hosting this event at their beautiful ranch home.

We also extend our sincerest gratitude to the following sponsors, underwriters, and in-kind donors for their tremendous support in making the event a success.

SPONSORS

Research Benefactor

Ivan Gayler

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Tarson Investments
Winkler Family
Zwisler Family

Ambassador of Hope

Kevin & Sherry Ahern
Stephen & Teresa Korniczky

Friends of DRC

Rob Cohen
Ron Leibow

UNDERWRITERS

Gary & Jerri-Ann Jacobs
Capture the memories!
You can dance. You can jive. Having the time of your life!

Sonny & Ludvina Nevarez
Don't Stop Beer-lievin'

John & Debra Resler
How sweet it is!

Christian & Lina Waage
Wine flies when you're having fun!

IN-KIND DONORS

Leaders in Giving

We remain extremely grateful to these extraordinary **research champions** whose **cumulative gifts** over the past 12 years have made a tremendous impact in DRC's mission.

$1,000,000+
John T. Ragan
Michael Persall

$500,000+
Winkler Family
Melvin Garb
Foundation

$200,000+
Coppel Corporation
Amy & Micah Adams
Ivan Gayler

$100,000+
Jose Fernandez & Deidre Buddin
Seth & Jennifer Grossman
Tarson Investments
Craig & Diane Poulton
Lucy McDonald-Stewart
Stephen & Teresa Korniczky

2023 Major Gifts

Thank you to these major contributors whose inspirational gifts of $10,000 and above in 2023 had power to effect change. They set the pace, providing vital funding to propel new research that significantly impacts our shared vision of a world without type 1 diabetes.*

$100,000+
David & Sherry Winkler

$50,000+
Melvin Garb Foundation
Gerwyn A Jones,
in honor of Gregory Jones

$25,000+
Richard & Camella Elliot
Ivan Gayler
Jose Fernandez & Deidre Buddin
Steve & Teresa Korniczky
Meredith J Chevreaux,
in honor of Gregory Jones

$10,000+
Amy & Micah Adams
Camilo Salazar & Tallie Gibson
Lucy McDonald-Stewart
John Zumberge
John & Karen Creelman
Steve & Cherryl Simms
Keith & Sara Tarson
Jon & Dawna Corn
Nick & Kathy Ervin
Tarson Investments
Eric & Tori Zwisler

Thank you to the following generous contributors whose gifts in 2023 are helping us pave the way to a future without T1D.*

$5,000+

Kevin & Sherry Ahern
Mitch & Susan Ellner
Patrick & Anjanette Frias
Futures Unbound (Moxie Foundation)
Joe & Diane Goodman
Seth & Jennifer Grossman
Bryan Holker
Terry Holland
Gary & Jerri-Ann Jacobs
Rick Phetteplace & Marilyn James
Mike & Jackie LaFever
Ron Leibow
Allison & Robert Price Family Foundation
John & Arlene Rubenstein
Elliott & Lynn Tarson
Taylor Zwisler

$2,500+

Lisa & Steve Altman
Anonymous
James Bandy
Chicago Title Company
Peter House & Carol Childs
Robert & Candace Cohen
Pamela DeBusk
Roland & Janet Gorrie
Braydon & Allison Hamilton
C.C. & Martha King
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Ron & Joyce Nelson Family Foundation
Eric Nudleman
Scott & Lora Polakow
John & Debra Resler
Cele H. & William B. Rubin Family Fund
Mark & Lori Simmons
Lina & Christian Waage

$1,000+

Jonathan Arfa & Barbara Bernstein
Richard & Sam Baker
Benchmark CIS
Malcolm Bund & Eva Benton
Michael & Carolyn Berlin
Steven & Cindy Blumkin
Maggie Brown
Barbara Bry & Neil Senturia
Georgette Coffey
Thomas Cohen & Lena Price
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Terence Dutton & Patricia Riddle
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Tim & Michelle Elliott
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Ronald & Marie Lucker
Jeanne McCoy
Sonny & Ludvina Nevarez
Michelle Olejnik
Kathleen W. Olsen
Jeffrey & Mona Platt
Bruce & Michelle Riesman
Bruce, Robin & Lindsey Rubin
San Diego Miramar Lions
Jeff & Karen Silberman
Carolyn Singer
Julieanne Tyler
Alton & Sandy White
Bart Ziegler
Mark & Cathy Zumberge

* Every effort was made to review this list for completion and accuracy. If there are any errors or omissions, please contact us at Giving@DiabetesResearchConnection.org so that we may immediately correct them.

Leaving a Legacy

DRC Legacy Donors

David Winkler

Felise Levine

DRC Legacy Donors have made a lasting commitment to our mission by including DRC in their estate plans, ensuring that our research funding and hope for cures stays alive. Your legacy gift, distributed from your estate after your death, will allow us to continue to provide innovative research funding that will carry DRC's vision of a world without T1D into the future. Learn more about including DRC in your will, trust, or retirement account at **Giving@DiabetesResearchConnection.org.**

Honoring the Legacy of **Gregory G. Jones** (1945-2023)

Join us in paying tribute to the late Gregory G. Jones for his lasting commitment to our mission.

In a heartwarming tribute to his memory, Gregory's brother Gerwyn, along with his sister Meredith, generously contributed a combined $100,000 in Gregory's honor, to further the cause that was important to him. His siblings did so to fulfill his wish to continue in his commitment of supporting innovative research to cure T1D, the disease he lived with for most of his life.

As a devoted ally of our organization, Greg leaves behind an enduring legacy of backing groundbreaking research so that future generations may never have to live with the burden of T1D.

Thank you to Gregory and his family for ensuring that our hope for cures stays alive. If you are interested in including DRC in your estate plan, contact us at **Giving@DiabetesResearchConnection.org.**

Giving to DRC—A Wise Investment

We invest in the best and brightest early-career scientists with fresh new ideas, ensuring that a new generation of innovators will continue to advance T1D science.

We are action driven. We invest quickly and early, providing the seed funding to get promising research breakthroughs moving forward in as few as 3-6 months.

Every research proposal is carefully reviewed for innovation and scientific merit by our Scientific Review Committee (SRC) composed of the nation's top T1D experts, better ensuring our funded projects' high rate of success.

We provide full transparency into where your dollars go to support T1D research and we are the only T1D non-profit organization that enables you to give 100% of your donation to a specific research project we are funding. Check out the projects we've funded and follow their progress at: **Giving@DiabetesResearchConnection.org.**

Every dollar you give to DRC is spent efficiently and effectively to support T1D research. Read below about our 5th consecutive year of earning GuideStar's top Platinum rating.

It's time for a cure.

DRC is committed to make that happen.

Give to DRC today.

DiabetesResearchConnection.org.

Platinum Transparency 2024

Candid.

DRC Gets Top GuideStar Rating Celebrating Transparency Excellence!

For the fifth consecutive year, Diabetes Research Connection has proudly achieved the prestigious Platinum Transparency **"CANDID"** rating, the highest acknowledgment bestowed by GuideStar.

This recognition underscores our commitment to transparency, ensuring that our valued donors have full confidence in the impact of their contributions. By providing insights into our goals, strategies, capabilities, progress and achievement, we illuminate the impact DRC is making by using donor dollars wisely to advance T1D science.


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Research
Connection
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INSTAGRAM
TWITTER
LINKEDIN
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