

10 YEARS:  
10 STORIES OF IMPACT



CASE STUDY 8

# Developing future T1D research leaders

The best and brightest young research talents face many barriers to progress in their careers, including securing their own funding and developing their skills beyond science.

The Australian Type 1 Diabetes Clinical Research Network (T1DCRN) joined forces with the Macquarie Group Foundation to build a bespoke program to support, encourage, and train early career researchers in type 1 diabetes (T1D) in Australia to develop the research leaders of the future.

Delivering T1D research progress and innovation needs leaders who are capable of coordinating this increasingly complex environment towards research progress and the delivery of improved healthcare to people with T1D. Equipping today's early-mid career researchers with the skills and experience required for effective leadership in the future is therefore an urgent priority.



Australian Type 1 Diabetes  
Clinical Research Network

**JDRF** IMPROVING  
LIVES.  
CURING  
TYPE 1  
DIABETES.

## WHAT WAS THE IMPACT?

Early career researchers (ECRs) face substantial barriers in initiating their first independent studies, including securing funding and early career progress and support.

They may have ground-breaking and innovative ideas to solve complex research problems but often have not had access to leadership skill development and commercial training important to advance their concepts.

They also face increased competition for direct funding in their peer group, further skewed by competing against senior investigators seeking the same grant opportunities, and require new skills for grant success and future leadership opportunities.

As a result, ECRs find it particularly challenging to solicit their first-own grant funding and establish themselves as a senior researcher, leading a team. Training to bridge this gap and nurture an executive and commercialisation mindset offers great potential to accelerate scientific discoveries and foster superior leadership skills.

Universities and organisations have recognised the urgent need to support ECRs with many generic training programs developed. However, they mainly target PhD students and do little to prepare young researchers, who in today's research landscape must be equipped with a multitude of technical skills, work in research teams, be linked to industry, the T1D community and the health system, and focus on research that responds to a global context.

The type of skills-based training needed to support these challenges falls outside the scope of what traditional research funding bodies will support and was identified by JDRF as a key gap preventing preventing emerging leaders from successfully gaining continued funding for research programs.

## WHAT WAS FUNDED BY THE T1DCRN AND WHY?

The T1DCRN and the Macquarie Group Foundation (Macquarie) joined forces to address key skills gaps and launch the Future Research Leaders Program, with the key aim to develop the T1D research leaders of the future.

The key components of the program included:

### 1 Training in core leadership skills

Leadership training and courses tailored to address the specific needs of T1D researchers and research leaders

### 2 Connecting emerging leaders with established research leaders

Pairing emerging leaders with carefully selected mentors, to complement the skills acquired throughout the formal leadership training program

### 3 Understanding and engaging with external stakeholders

Understanding how industry, regulatory affairs and government function are vital for research leaders to ensure they progress their innovative ideas from the laboratory to the T1D community.

Engaging with key external parties takes practice, and it can be difficult to achieve without influential connections. Increasing opportunities for ECRs to engage with these stakeholders helps to initiate these connections for future engagement in their research programs



#### 4 Providing first-own funding for innovative proposals

ECRs face constant uncertainty over funding and salary, and low success rates in grants results in many young potential researchers moving away from the field.

The Future Leaders Program required participants to apply for an innovative research program, to help build skills in successful grant writing while providing first-own funding to the standout researcher from each cohort (six in total).

While the leadership component of the program was supported by Macquarie, the funding for the projects was facilitated and funded by the T1DCRN, with upwards of \$1.5 million of funding committed to innovation research grants.

#### WHAT HAS THIS DELIVERED?

The impacts of the program were wide-reaching:

- **In the short-term**, success in securing research funding was increased. Enhanced communication, project management and budgeting skills, along with expanded global networks and increased understanding of research translation, resulted in feasible, high-impact research proposals that were more competitive.
- **In the mid-term**, this improved the capacity of early-to mid-career researchers to successfully develop and deliver independent, innovative research projects, increasing publication output and driving career progression.
- **In the long-term**, through building on the foundation of skills and experience gained, these researchers developed the capacity to effectively lead and influence the field of T1D research, expediting the impact of current research projects, and driving innovation and progress into the future.

Investing in future leaders must be a priority to ensure the sustainability, progress, and innovation of T1D research. Without this focus, there will be a void of effective leadership in coming years.

## WHAT DOES THIS MEAN?

The Future Research Leaders Program has seen some of the best and brightest researchers accelerate to the next stage of their career, and the next stage of their research projects.

Alumni from the program (Appendix 4) are making a substantial impact on the course of T1D research progress, with many now leading their own teams and labs with significant funding success (see case study 1 for an example of **Dr Bell's** work).

One prominent example is **Dr Ki Wook Kim**. Dr Kim was in the early stages of his career when he participated in the program and is now an emerging leader in T1D research. Following his participation in the program, Dr Kim has successfully secured substantial grant funding from JDRF and additional funding bodies, establishing himself as an independent leader in T1D research.

Dr Kim is now a recognised prominent investigator in the ENDIA study (case study 2). His work focuses on exploring the association between viral infections during pregnancy and early life, and the subsequent risk of developing islet autoimmunity.

To investigate this link, Dr Kim utilises cutting-edge technology to comprehensively analyse all viruses present in the gut and respiratory system. By identifying specific viral exposures that may contribute to islet autoimmunity, the research aims to shed light on the underlying mechanisms.

Furthermore, Dr Kim and his team are employing advanced computing and statistical methods to develop a novel assessment tool called the Combined Risk Score 2 (CRS2). This score incorporates early-life viral infections, changes in protein levels, and other markers in the body. By combining these factors, Dr Kim aims to enhance the accuracy of predicting an individual's T1D risk later in life.

Ultimately, the goal of Dr Kim's research is to establish a more precise method for determining T1D risk. This method could be invaluable for T1D risk prediction and screening programs, providing more effective means of identifying individuals at risk and facilitating prevention strategies like vaccine development.

Dr Kim credits the Future Leaders Program for accelerating his success in funding these projects and ultimately driving progress for the T1D community.



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I am truly grateful for the opportunity to participate in the Future Leaders program. The training received through this program provided essential expertise tailored to ECRs working in T1D research that I would not have had access to otherwise. The program has been instrumental in advancing my research career and establishing myself as an independent researcher. Most importantly, this means I can continue driving my research forward – towards impact for the T1D community.

**Dr Ki Wook Kim**, participant of JDRF's Future Research Leaders Program