JDRF Northern California Center of Excellence

Executive Summary

The JDRF Center of Excellence will accelerate high impact research **to develop cures for type 1 diabetes (T1D)**. JDRF believes that we are at an inflection point, an unprecedented era in T1D research where advances in stem cell research, beta cell biology and immunology are providing opportunities to drive cures to commercial development. Innovative and nimble, the JDRF Center of Excellence is purposefully ambitious.

JDRF Stanford University UCSF University of California San Francisco

The JDRF Northern California Center of Excellence will be a high impact partnership combining the scientific expertise of Stanford University and the University of California, San Francisco (UCSF) within the collaborative structure and support that are hallmarks of JDRF. Investigators at the Center will seek to better understand and target the interactions between the immune system and the beta cell, in an effort to **deliver first-generation, stem cell-based cures for T1D**.

Islet transplantation has proven to be a viable cure for T1D, but it is not widely applicable because of a limited cell source (reliant upon organ donation) and the need to take immunosuppressive drugs for the patient's lifetime. This Center will utilize innovative beta cell biology, immunology and a variety of other novel treatments to drive a cell replacement solution that is widely available to people with T1D and without the need for chronic immunosuppression.

The JDRF Northern California Center of Excellence team will:

Discover and explain how immune cells interact with islets and beta cells in T1D

Generate islets and immune cells from stem cells as the basis for next-generation cell therapies

Develop an islet transplant protocol that will induce tolerance and not require immunosuppression

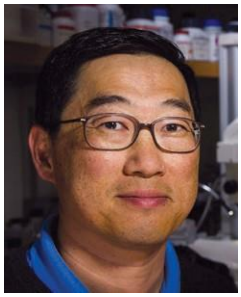
Why Centers?

Now is the time to capitalize on the substantial talent, progress and scientific resources at Stanford and UCSF to drive toward cures for T1D. This Center will provide the structure to facilitate collaboration among the experts at UCSF and Stanford. Both institutions excel in human immunology and bring complementary learnings to the collaboration. Stanford has developed a distinctive protocol for transplanting kidneys without requiring immunosuppression, which the team will apply to islet cell transplant. UCSF has developed a method to derive insulin-producing beta cells from stem cells, which brings us closer to providing a source of cells for transplantation. Bringing these two advancements together, augmented and improved upon by the expertise of the team in all the fields listed above, will accelerate efforts toward viable cures for T1D.

The Center approach will expedite project approval and reduce administrative load, allowing researchers to spend more time collaborating and in their labs.

Leadership Team

Matthias Hebrok, Ph.D., UCSF



Seung Kim, M.D., Ph.D., Stanford University

Aaron Kowalski, Ph.D., JDRF

Andrew Rakeman, Ph.D., JDRF

Jeffrey Bluestone, Ph.D., UCSF

Dr. Matthias Hebrok at UCSF and Dr. Seung Kim at Stanford, in partnership with Dr. Aaron Kowalski, JDRF President and CEO, and Dr. Andrew Rakeman, JDRF AVP of Research, will lead this Center. Drs. Hebrok and Kim have assembled a team that includes world-renowned experts in the fields of T1D immunology, stem cells, gene editing, transplant immunology and technology.

Of note, many of these scientists have previously received JDRF early-career development grants to attract them to the field of T1D research, in addition to being awarded JDRF grant funding. The Center is the culmination of decades of JDRF investments in these scientific leaders and their research, and it coalesces brilliant minds to accelerate our understanding of the complex science around T1D autoimmunity and identify paths forward toward cures.

Scientific Team

Dr. Mark Anderson, UCSF
Dr. Alexander Marson, UCSF
Dr. Audrey Parent, UCSF
Dr. Julie Sneddon, UCSF
Dr. Qizhi Tang, UCSF
Dr. Linda Vo, UCSF
Dr. Jimmie Ye, UCSF
Dr. Kyle Loh, Stanford
Dr. Everett Meyer, Stanford
Dr. Judith Shizuru, Stanford

Funding and Governance

JDRF is leading the creation and oversight of all Centers of Excellence, committing to raising funds to launch each partnership and providing annual funding for the first three years of operation. JDRF will launch the JDRF Northern California Center of Excellence upon securing $5 million.

The Center will be governed by a steering committee comprised of representatives from JDRF, Stanford and UCSF and with oversight by the JDRF Research Committee. The steering committee will be advised by an external board that includes outside experts appointed by JDRF and advisors representing the T1D voice.

Now is the time. At JDRF, we know what we have to do to change the course of T1D. The JDRF Northern California Center of Excellence is a game-changer.

With your investment, this Center will accelerate T1D research, deliver breakthroughs, and help secure a world without T1D.