Please join us as Dr. Camillo Ricordi presents:

Bioengineering of the Endocrine Pancreas:
The BioHUB Project

**Bio:**

Camillo Ricordi holds the Stacy Joy Goodman Chair in Diabetes Research. He is Professor of Surgery, Distinguished Professor of Medicine, Professor of Biomedical Engineering and Microbiology and Immunology and serves as Director of the Diabetes Research Institute and Cell Transplant Program at the University of Miami. Dr. Ricordi and collaborators developed the method for large scale production of human pancreatic islets, and he led the team that performed the first series of successful clinical islet allotransplants to reverse diabetes. Recognized by his peers as an expert in human cell processing, characterization and transplantation, Dr. Ricordi was president of the Cell Transplant Society and served on the FDA Biologic Response Modifiers Advisory Committee and on several NIH Expert Panels and Strategic Planning Committees. He is currently serving as Chairperson of the Steering Committee of the NIH Clinical Islet Transplantation Consortium, which standardized cell manufacturing protocols in North America and Europe and completed the first multicenter FDA Phase III trial of islet transplantation in the US. Dr. Ricordi has received numerous honors and awards and was also Knighted by the President of the Republic of Italy. He is currently serving on the editorial board of CellR4 (Editor-in-Chief) and is Co-Founding Editor of Cell Transplantation. In 2013, Dr. Ricordi was appointed President of the Ri.MED Foundation by the Italian Prime Minister. He also serves as Founding Chairman of The Cure Alliance and of the Diabetes Research Institute Federation. As an inventor, he has been awarded 25 patents.

**Abstract:**

Strategies aimed at restoring beta cells mass generally fall under either Replacement (islet transplantation and stem cell differentiation), Reprogramming (from non-insulin-producing cells) or Regeneration (replication and induction from endogenous precursors/stem cells). Objectives of cellular therapies and regenerative medicine strategies for treatment of DM are to reverse the disease condition and prevent the development of the severe chronic complications that can affect most organ systems in a large proportion of patients over time. A multicenter Phase III trial of transplantation of adult pancreatic islet has been recently completed and is moving towards a Biological License Application (BLA) in the USA. The BioHUB project was launched by the DRI and collaborating institutions worldwide to address remaining challenges, including engineering of an intra-abdominal mini-endocrine pancreas, currently in pilot clinical trials. Abrogation of autoimmunity or its effect could be achieved by either tolerance induction strategies or immune protection. Any strategy, to be considered, must avoid side effects such as those associated with life-long immunosuppression, which now limits the indications of adult islet transplantation to the most severe cases of T1DM. There is a broad consensus on the idea that stem cells will eventually replace adult pancreatic islets in the future.