

The Faculty of Biotechnology and Food Engineering

Seminar

Dr. Nadav Sharon

Harnessing developmental biology to cure type 1 diabetes

Faculty of Biology, Technion

Abstract

Type 1 diabetes (T1D) is a chronic debilitating disease caused by an autoimmune attack that destroys the insulin-producing beta cells in the pancreatic islets. Although islet transplantation from cadaveric donors provides an effective, years-long cure for the disease, donor scarcity limits the treatment's availability. In an attempt to overcome islet scarcity, several labs have recently developed protocols for the directed differentiation of functional beta cells from pluripotent stem cells. In my talk, I will present my efforts to improve these protocols and bring them closer to the clinic by uncovering the basic mechanisms that direct cellular differentiation and islet morphogenesis during embryonic development of the pancreas. In addition, I will show how the use of tools from the field of developmental biology, combined with single cell RNA sequencing, can serve to uncover the causes for the eruption of T1D and to outline its progression.

Wednesday, 12/5/2021, 14:00-15:00

<https://technion.zoom.us/j/98647227787>