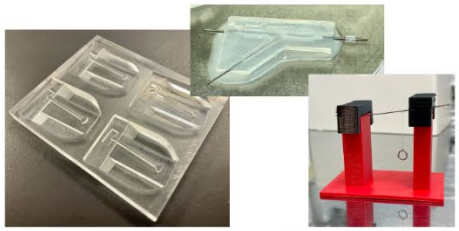
Biofabrication Laboratory

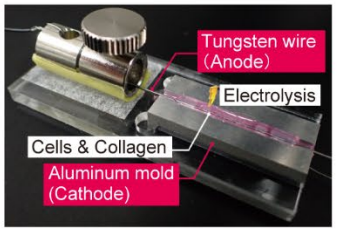
Keyword; Bioengineering, Flexible Materials, Microfabrication, Clinical Data Analytics

– Engineering Tissues, Unraveling Life, Advancing Medicine. –

1. Tissue Model Engineering



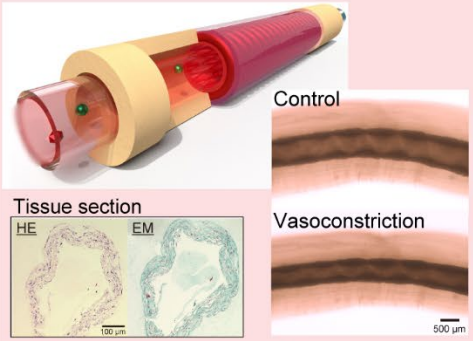
Microfabrication / 3D printing



Electrical stimulation device

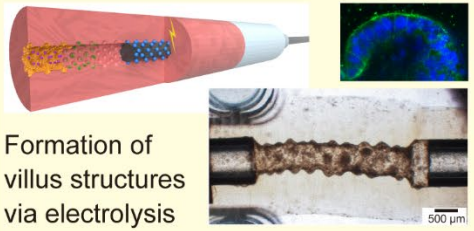
Construction and Control of Cellular Tissues

Vascular model



Vasoconstriction and Vasodilation to hormones and blood pressure

Intestinal model

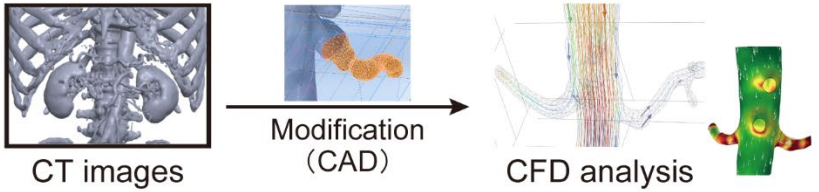


Formation of villus structures via electrolysis

Others: e.g. Neural & Cardiac tissues



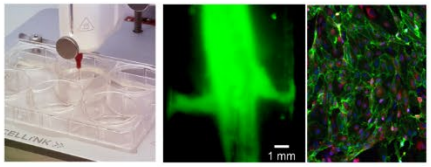
2. Flow Analysis of Clinical Data × Engineering



CT images

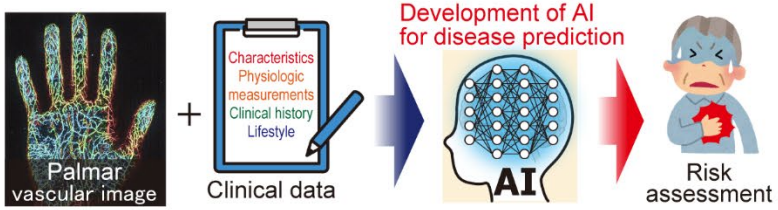
CFD analysis

Design Based on Analysis Results



Fabrication of disease models using 3D bioprinting

3. Deep Learning-Based Early Diagnosis



Enabling early disease prediction through deep learning and mechanics-based analysis of vascular deformation

Advancing Next-Generation Medicine Through the Integration of Fabrication Technologies and Life Sciences

Assistant Prof. Shun Itai
HP: ~coming soon~