

Progress report 2021

Tokyo Biodesign

Project Professor: Minoru Ono

Division Director: Yujiro Maeda

Project Assistant Professor:

Hiroyuki Kiriyama

Munemasa Sugimoto

Takaaki Kakihana

Yoshito Shibusawa

Project Researcher:

Masamitsu Nakayama

Yuri Okura

Daisuke Inagaki

【Summary】

Stanford University's Biodesign Program is a collaborative medical, engineering, and business school program designed to develop entrepreneurial talent in the medical device field. The program was founded by Professor Paul Yock, a physician and inventor of several remarkable medical devices. A small team of physicians, engineers, and businesspeople will work together over the course of one year to identify a large number of unmet needs through thorough observation of clinical practice, to explore and invent the seeds for solutions to these needs with the cooperation of engineering, and to commercialize these seeds in a practical, business school setting for commercialization. Practice inventive entrepreneurship through education. Over the past 20 years, more than 60 university-launched medical device venture companies have been spawned from Biodesign, and graduates of the program have been supplied to industry, government, and academia as leaders in their fields. The University of Tokyo launched Biodesign in 2014 and has created seven medical device ventures.

【Project】

1) Biodesign Fellowship

The approximately one-year (10-month) course for working professionals, called a fellowship, is a hands-on start-up human resources development program in which small project teams are formed by university to carry out the biodesign process under the

guidance of Stanford faculty and outside experts. The team consists of diverse members with different backgrounds in medicine, engineering, and business, and they will gain expertise in various fields such as medicine, engineering, intellectual property, regulatory affairs, finance, and marketing as they experience the process from identifying needs in the medical field to commercialization. The curriculum is designed to help students acquire skills.

2) AMED Public-Private Support Project for Discovery of Young Researchers Support Project for Creation of Medical Devices for Social Implementation

Supporting the Development of Entrepreneurial Young Medical Device Researchers through Biodesign Methods"

Commissioned by the Japan Agency for Medical Research and Development (AMED), this project provides support as a development support organization, primarily through educational programs and matching events, to young researchers from across Japan who are developing medical devices. The project draws on the experience and community cultivated through the operation of the fellowship program, in which teams with different backgrounds in medicine, engineering, and business work together to promote medical device development.

3)AMED Research Project for Practical Application of Medical Technology in Developing and Emerging Countries

Establishment of "Global Biodesign," a medical device development support system that contributes to solving public health issues in developing and emerging countries using a biodesign approach.

This project will establish a medical device development support package for developing countries and emerging markets in the age of corona symbiosis, based on "biodesign," a medical device development methodology owned by the University of Tokyo's Biodesign Division, and utilizing local networks mainly in Asia.

In the development of medical devices, there have been many cases in which development has been carried out without in-depth verification of the needs

of the clinical field, and as a result, the devices have not been accepted by the clinical field. In developing and emerging countries, it is difficult to grasp the actual needs due to different patient journeys, insurance systems, competitive environments, distribution practices, etc., compared to developed countries. To address these issues, this development support will establish a support system consisting of "design approach implementation support," "business strategy formulation support," and "network building support in emerging countries.