

Koichi Nakayama, M.D., Ph.D.

Professor and Chairman,
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Biography

Koichi Nakayama, M.D., PhD is Professor and Chairman at the Department of Regenerative Medicine and Biomedical Engineering, Faculty of Medicine, Saga University, Japan. He is also a Visiting Professor at the Medical Institute of Bioregulation, Kyushu University, Fukuoka, Japan. Nakayama is currently the president of the Cell Aggregation Meeting and also serves as a committee member for the Japanese Society for Regenerative Medicine. He received his MD from Kyushu University, Faculty of Medicine, and his PhD from the Graduate School of the same institution. After specializing and working in orthopedic surgery at Fukuoka Red Cross hospital, National Hospital Organization Kyushu Medical Center and the Department of Orthopedic surgery of the Kyushu University Hospital, Nakayama went on to lead a project on bio-rapid prototyping funded by the Japan Science and Technology Agency (JST) at Kyushu University. This work led to the invention of a pioneering scaffold-free method for bio 3D printing, based on cell spheroids being deposited onto needle arrays at specific coordinates. In 2010 Nakayama co-founded Cyfuse Biomedical, where he currently is the scientific advisor. Together with Shibuya Kogyo, Cyfuse work on developing the bio 3D printer Regenova, as well as new biological products and solutions for drug testing and regenerative medicine. The company, together with Nakayama's laboratory at Saga University and several Japanese and international partners are leading the way in scaffold-free bio 3D printed blood vessels, cartilage, liver, cardiac and neural tissues. The main funder of the overall project is the Japan Agency for Medical Research and Development (AMED).

Statement

During my four years as a board member of the ISBF, I was mainly active in the industry-Academia Relations Committee, mainly promoting participation in the Society to Japanese high-tech manufacturing companies that might be relevant to the field of Biofabrication.

Especially under this COVID-19 pandemic, we were unable to hold a physical conference, so we held an online industry-university collaboration events, which was successful. In the meantime, we have succeeded in autologous transplantation of artificial blood vessels made of cells developed by our Kenzan Method bio 3D printer to patients. The field of Biofabrication has great potential to contribute not only to regenerative medicine, but also to the progress of academic disciplines in various fields such as drug discovery research, cancer research, and developmental biology. I take this opportunity to serve ISBF as a board member and, if elected again, I will continue to focus on promoting ISBF to researchers of various fields, industry people, medical doctors, and patients based on clinical experience.