



OIST Press Release

OKINAWA INSTITUTE OF SCIENCE AND TECHNOLOGY GRADUATE UNIVERSITY

July 30, 2014

First Startup from OIST — A New Platform Technology for Drug Development

Okinawa, Japan — The first startup from the Okinawa Institute of Science and Technology Graduate University(OIST) was established on June 25, 2014. The company has grown from advanced structural imaging technology developed by Professor Ulf Skoglund of the OIST Structural Cellular Biology Unit. Based in Onna-son, Okinawa, the company, called Okinawa Protein Tomography Ltd. (Okinawa PT) headed by CEO Akira Kamei, will provide contracted research services worldwide. The launch of the startup comes from the selection of Skoglund's research as one of the START projects funded by the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT). On July 23, 2014, an Okinawan venture capital fund managed by Bio-Sight Capital led by President Masayuki Tani invested 10 million JPY in the startup. Okinawa PT aims to become a global company that can contribute to the sustainable development of Okinawa through the advanced technology from OIST.

Technology

“This is a major breakthrough. We hope the new company will provide a new platform technology for drug development,” comments Skoglund, the inventor. OIST is transferring a visualization method called protein tomography to Okinawa PT. This technology allows imaging of macromolecules including proteins in various states at the single molecule-level by combining conventional electron tomography and a specifically designed 3D reconstruction program known as COMET. The current resolution of a 3D image produced by this technique is approximately 1.5 nanometers and the resolution is steadily improving. For decades, pharmaceutical companies have studied the structure of proteins on the surface of human cells to develop drugs that latch onto the proteins and block the entry of a virus or bacteria. The new technology also allows visualization of protein complexes and their dynamics, serving as an alternative solution to the study of biological samples that are difficult or impossible to crystallize. Skoglund's technology complements the otherwise expensive and time-consuming crystallization which is commonly used in 3D visualization of protein structures. The ultimate goal of imaging protein structures is to provide data for new drug design. By utilizing data obtained by the new technology at various stages of the drug development, pharmaceutical companies will be able to analyze drug candidates efficiently and effectively.

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Technology Transfer

The establishment of OIST's first startup company stems from the selection of Skoglund's research in Fiscal Year 2012 as one of the programs for creating Start-ups from Advanced Research and Technology (START) initiatives funded by MEXT. Takanari Ichikawa, Section Manager of the OIST Business Development and Technology Licensing Sections states, *"The START program is revolutionary. It facilitates the partnership between a university and a venture capital firm. To this day, OIST has worked closely with Bio-Sight Capital (BSC) on market analysis, search for potential customers and the selection of the CEO. Without their involvement, the project could not have been realized."* Masayuki Tani, the CEO of BSC, added, *"Protein tomography is innovative and state-of-the-art. Prof. Skoglund's passion for research has made us want to promote the project for the establishment of a startup that will grow globally."* BSC has assigned two executives to serve as Okinawa PT's board members and it will support the development of the company as a shareholder.

Okinawa Protein Tomography Ltd.

Okinawa PT will provide contracted research service. Customers will receive analyzed data of molecular structures of their protein samples. The CEO of Okinawa PT, Akira Kamei, says, *"I first heard of OIST's startup through a friend. After hearing about the cutting edge technology and the potential market, I saw a huge opportunity and decided to take on this challenge. This is an exciting project that can provide new images we have never seen before. It will take some time to fully penetrate the market but we will make progress in a steady manner to reach our goal."*

By conducting internationally outstanding education and research in science and technology, OIST aims to contribute to the sustainable development of Okinawa, and to promote and sustain the advancement of science and technology in Japan and throughout the world. This startup is one step forward in OIST's effort to establish an international R&D cluster in Okinawa.

<Reference>

Venture Company Name: Okinawa Protein Tomography Ltd. (Okinawa PT)

Date of Establishment: June 25, 2014

Head Office: Uruma-shi, Okinawa

Branch: Onna-son, Okinawa

Capital: 10 million JPY

Board: CEO: Akira Kamei

Director: Nobuo Fukuda (BSC)

Director: Kazuhiro Hara (BSC)

Director: Akimitsu Hirai (Attorney)

Technical Consultant: Ulf Skoglund (OIST)

Scope of Business:

Contract research service using imaging and analyzing technology for macromolecules

<About OIST>

The Okinawa Institute of Science and Technology Graduate University (OIST) is a new graduate university established in November 2011, which aims to conduct internationally outstanding education and research in science and technology, and thus contribute to the self-sustaining development of Okinawa and promote the advancement of science and technology in Japan and throughout the world. The OIST graduate education and research program is cross-disciplinary and aims to be at the leading edge of research in science and technology, including the life sciences, physical sciences, and mathematics. So far, 47 research units (with over 360 researchers, of whom approximately 170 are international) have been launched, with research in the five major areas of neuroscience; molecular, cell, and developmental biology; mathematical and computational sciences, environmental and ecological sciences, as well as physics and chemistry. The first graduate class commenced in September 2012, with 34 students from 18 countries and regions.