



Institute of Transformative Bio-Molecules (ITbM) Nagoya University



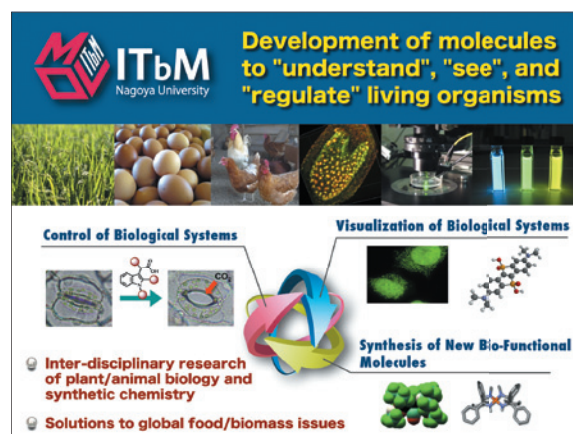
Changing the world with molecules

Molecules are extremely small particles that are essential to sustaining life on the planet. Amongst the vast pool of molecules, there are those that profoundly change the way we live. One such example is Penicillin, an antibiotic effective in treating many serious diseases. Such molecules can be defined as "transformative bio-molecules." Led by Prof. Kenichiro Itami of Nagoya University, the Institute of Transformative Bio-Molecules (ITbM) works to create transformative bio-molecules through extensive collaboration between cutting-edge molecular synthetic chemistry and animal/plant biology. This new interdisciplinary field addresses urgent social issues related to the environment, food production, and medical technology, by delivering bio-molecules that can transform the world. One aspect of ITbM's research is to develop molecules that control biological systems, i.e. molecules that dramatically enhance plant growth and improve animal reproduction.

ITbM has a young team of ten Principal Investigators (PIs) who are



ITbM's ten PIs. Top left to right: Drs. Higashiyama, Kinoshita, Yoshimura, Yamaguchi
Bottom left to right: Drs. Torii, Bode, Itami, Crudden, Irie, Ooi



world-leading researchers in the fields of synthetic chemistry, plant/animal biology, and theoretical science. With three overseas PIs concurrently holding posts in Canada, Switzerland and the US, ITbM is an international research center with bilingual administrative staff and "Mix-Labs." These lab spaces enable synthetic chemists, biologists and theoretical scientists from different countries around the world to work alongside each other on the bench, allowing interactive discussions on a daily basis and promoting interdisciplinary research.

Many of the postdoctoral researchers at ITbM are from overseas, and the institute has specialized staff who provide local support for their daily life, accommodations, medical care and for the education of their children—all aimed at making sure the overseas researchers and their families are comfortable living in Nagoya. Located between Tokyo and Osaka, Nagoya University's ITbM provides an enthusiastic research environment for people wanting to "connect molecules, create value, and change the world."



Professor Jeffrey W. Bode Principal Investigator of ITbM at Nagoya University

Profile

2001: PhD; ETH-Zürich, Switzerland
2001-2003: JSPS Postdoctoral Fellow; Tokyo Institute of Technology, Japan
2003-2007: Assistant Professor; University of California, USA
2007-2009: Associate Professor; University of Pennsylvania, USA
2010-present: Professor; ETH-Zürich, Switzerland
2013-present: Visiting Professor, ITbM, Nagoya University, Japan

After finishing his doctoral studies in Switzerland, Dr. Bode came to Japan as a JSPS postdoctoral fellow. Having secured academic posts in the US and Switzerland, where he currently is a full professor, Dr. Bode became one of ITbM's principal investigators working on the development of new methods for carrying out peptide synthesis. He speaks from experience when talking about research in Japan and conveying his thoughts on ITbM's operation.

"My interaction with Japan has extended over a period of 13 years since my JSPS postdoctoral fellowship in Tokyo. The most

important lesson that experience has taught me is the passion that the Japanese people put into science. In Japan, researchers not only have the opportunity but also possess the motivation to work on very hard problems, and the government offers them good support in carrying out fundamental research.

"ITbM conducts high-quality research in a manner different from traditional labs. Synthetic chemists and animal/plant biologists work together in the same lab, making it possible for synthesized molecules to be subjected to biological assays with almost immediate feedback.

"After less than a year of getting ITbM up and running, its research is going extremely well. Now, we are jumping off the starting blocks down a challenging course: focusing on the science we can advance together, thinking about what molecules to create, and embarking on science that none of us could do alone.

"Japan offers warm hospitality, a friendly atmosphere, and fantastic food. It is a safe and very convenient place to live and work. ITbM's office provides generous support to assist overseas researchers in adapting to life in Nagoya. ITbM is very different in terms of its researcher staffing, with a large number of overseas postdocs working at it. We are determined to create an international model where people from diverse countries and cultures can work together effectively and collaboratively.

"At ITbM, we are looking for ambitious and adventurous people who want to try something new, and we believe that ITbM provides an environment that motivated people will find very attractive."

For more detailed information about ITbM, please visit our website: <http://www.itbm.nagoya-u.ac.jp>