Postdoctoral Positions for Higashiyama Group:

Institute of Transformative Bio-Molecules (ITbM), Nagoya University, Nagoya, Japan
http://www.itbm.nagoya-u.ac.jp/

Higashiyama Group
http://www.itbm.nagoya-u.ac.jp/en/members/ (Higashiyama ERATO project)
(http://www.liveholonics.com/en/)

At the ITbM, our group is aiming to develop transformative molecules for plant reproduction and bio-imaging. The former includes molecules that overcome genome barriers (reproductive barriers) to produce novel useful hybrids and that enhance fertility of plants. Identification of key molecules of plant reproduction is critical to achieve this goal. Our unique approaches in ITbM include live-cell manipulation, single cell omics, nano-engineering for microfluidics devices, and synthetic chemistry for various kind of molecules including peptides. For developing bio-imaging molecules, live imaging systems are available in our group for germ cell formation, pollen tube guidance, double fertilization, and early embryogenesis in plants, and organelle dynamics in various organisms. We have cutting-edge laser microscopes in Live Imaging Center (3 two-photon microscopes, 9 confocal microscopes (point-scan, line-scan, spinning disk) including incubator-types, 2 super resolution microscopes, 1 light sheet microscope, 1 laser microdissection microscope equipped with optical tweezers, 1 IR-LEGO system for optical control of gene expression)

Higashiyama group is seeking the following postdocs:
# A postdoc who is interested in identification of key molecules for plant reproduction (germ cell formation and manipulation, pollen tube guidance, double fertilization, and early embryogenesis)
# A postdoc who has an enthusiasm in live-cell imaging of biological systems, especially plant reproduction. The postdoc in this position will be involved in development of molecules for bio-imaging. A postdoc who has a basic skill in live-cell
imaging is preferable.

# A postdoc who has an original idea to develop a transformative bio-molecule that is specially promoted in Higashiyama group of ITbM.

Ambitious postdocs who are interested in interdisciplinary researches are welcome. Details of ITbM, postdoc positions, and application are as follows:

**Director:** Kenichiro ITAMI  
**Vice Directors:** Tetsuya HIGASHIYAMA, Shigehiro YAMAGUCHI  
**Principle Investigators (PIs):** Kenichiro ITAMI, Tetsuya HIGASHIYAMA, Jeffrey W. BODE, Cathleen M. CRUDDEN, Stephan IRLE, Steve KAY, Toshinori KINOSHITA, Takashi OOI, Keiko TORII, Shigehiro YAMAGUCHI, Takashi YOSHIMURA  
**International Advisory and Review Board:** Yuan Tseh LEE, Kazuo SHINOZAKI, Osamu SHIMOMURA, Roald HOFFMANN, Ryoji NOYORI, Gerhard ERKER, Kazuyuki TATSUMI, Takao KONDO

**Our goal** is to develop innovative functional molecules that make a marked change in the form and nature of biological science and technology by taking full advantage of the cutting-edge molecular synthesis expertise of our chemistry PIs and intense interactions with our leading plant/animal biology PIs. Through this interaction, which is fundamental to the Institute, transformative bio-molecules will be synthesized that can (1) enhance biotic productivity and quality and (2) realize innovative bio-imaging. To ensure the advancement of these projects, we will (3) develop catalysts that enable incredibly efficient synthesis and molecule activation on demand.

We are seeking highly motivated postdoctoral researchers who are willing to work with the 11 PIs in the Institute at Nagoya University. We welcome researchers with strong preference for interdisciplinary work between chemistry and biology. Candidates should have a PhD in Chemistry, Biology, Theoretical Chemistry, or other related fields. More information about this Institute ITbM from  
http://www.nagoya-u.ac.jp/en/research/activities/wpi/
Employment conditions:
(1) Annual Salary: 4,200,000 JPY (350,000 JPY per month)
- Net salary to be determined after deduction of insurance premiums and taxes.
- No bonus/retirement allowance provided.
- One-way air ticket to Nagoya and a settling-in allowance provided.
(2) Term: Annually renewed, up to three years.
(3) Start date: As early as possible in 2014

Documents for Application:
(1) CV (Including current address, phone number, e-mail)
(2) A one page summary of previous research contributions
(3) A personal statement of your interest in this Institute
(4) A list of academic works
(5) Reprints of publications (up to three)
(6) Names and contact information of two academic persons from whom references can be obtained.

All the materials should be prepared in English and sent by e-mail to higashi@bio.nagoya-u.ac.jp.
WPI Institute of Transformative Bio-Molecules (ITbM)
Nagoya University

What is WPI Program?

The World Premier International Research Center Initiative (WPI Program) provides priority support for projects aimed at creating top world-level research centers staffed at their core with the world’s most leading researchers. WPI program was established in 2007, and nine WPI institutes have been selected and established; The University of Tokyo (Math/Physics/Universe), Kyoto University (Cell/Materials), Osaka University (Immunology), Tohoku University (Materials), National Institute for Materials Science (Nano-Materials), Kyushu University (Energy), Tsukuba University (Sleep Medicine), Tokyo Institute of Technology (Earth-Life Science), and Nagoya University (Synthetic Chemistry/Plant-Animal Biology).


Institute of Transformative Bio-Molecules (ITbM)

The goal of ITbM is to develop innovative functional molecules that make a marked change in the form and nature of biological science and technology (transformative bio-molecules) by taking full advantage of the cutting-edge molecular synthesis expertise of our chemistry PIs and intense interactions with our leading plant/animal biology PIs. Our team of PIs is an innovative mix of chemists and biologists from Japan and abroad. With the average age of the PIs at 43, there is no doubt we have assembled an ambitious and committed team of researchers, who will be highly active throughout the duration of the project and well beyond the 10 year funding envelope.

Website of ITbM: [http://www.itbm.nagoya-u.ac.jp](http://www.itbm.nagoya-u.ac.jp)

**Director**

Kenichiro Itami
Nagoya Univ

*Synthetic chemistry, Catalysis*
**Vice-Directors**

Tetsuya Higashiyama  
Nagoya Univ  
*Plant biology, Live cell imaging*

Shigehiro Yamaguchi  
Nagoya Univ  
*Fluorescent molecule design*

**Principal Investigators**

Jeffrey W. Bode  
ETH Zürich (Switzerland)  
*Peptide, Molecular catalysis*

Cathleen M. Crudden  
Queen’s Univ (Canada)  
*Organometallic/organoelement catalysis*

Stephan Irle  
Nagoya Univ  
*Computational chemistry*

Steve Kay  
Univ of Southern California (USA)  
*Circadian clock*

Toshinori Kinoshita  
Nagoya Univ  
*Plant growth, Molecular physiology*

Takashi Ooi  
Nagoya Univ  
*Non-metal catalysis, Synthesis*

Keiko Torii  
Univ Washington (USA)  
*Plant growth and differentiation*

Takashi Yoshimura  
Nagoya Univ  
*Animal reproduction, Hormone*