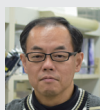


## RESEARCH ENHANCEMENT STRATEGY OFFICE



Director  
UENO, Naoto



Vice-Director:  
MANO, Shoji

In 2013, NINS started a research enhancement project to encourage cutting-edge academic research in the field of natural sciences through international joint research, and to contribute to the enhancement of research capabilities of universities *etc.* in Japan using the world's most advanced research environment for joint utilization and research. It would do this by emphasizing the following: 1) Support for the promotion of international advanced research, 2) Support for the promotion of joint utilization and joint research in Japan, 3) Dissemination of information and enhancement of public relations in Japan and abroad, 4) Support for researchers and especially young, female or foreign researchers. In line with this strategy, the Research Enhancement Strategy Office was founded to achieve the above mentioned four goals at NIBB.

The Research Enhancement Strategy Office, which consists of six groups with distinct missions, is aimed at supporting researchers so that NIBB can improve its ability as a collaborative research institution and to provide comprehensive support within the organization. It was created in 2013 via the restructuring of the former Strategic Planning Department, the Office of Public Relations, and the Office of International Cooperation which existed from 2005. The Office's activities are mainly carried out by URAs (University Research Administrators) in accordance with recommendations given by a group adviser chosen from the ranks of NIBB's professors and in close collaboration with the NINS's Research Enhancement Promotion Headquarters.

## EVALUATION AND INFORMATION GROUP

Associate Professor: KODAMA, Ryuji  
Group Adviser: KAWAGUCHI, Masayoshi

This group is tasked with assisting the Director General in the preparation of NIBB's evaluation procedure and in planning long-range strategies for the institute.

### The main activities of the group

#### 1) Management of external evaluation processes

Every year, NIBB asks non-NIBB members of the Advisory Committee for Programming and Management to submit a questionnaire concerning research achievements, collaborative research, as well as other activities conducted at the institute. Furthermore, several of these members, and a few of other leading scientists in basic biology, are then invited to participate in an evaluation session pertaining to these activities and to propose future directions for the institute. The record of this meeting is published annually.

#### 2) Editing of the Annual Report (in collaboration with the Public Relations Group)

This group edits the annual report (this publication) which summarizes the annual activities of all of the institute's laboratories and facilities. The annual report is also used to publicize the institute and also for evaluation purposes.

#### 3) Assistance in making the plans and reports of the institute

This group assists in the preparation of NIBB's Medium-term Goals and Plans which in themselves span a period of six years. We are also tasked with formulating Annual Plans in order to set yearly benchmarks in regards to the progress of the above mentioned Goals and Plans. The department also assists in preparing Business and Performance Reports for external evaluation on whether we are meeting the goals set both annually and over the medium-term.

## PUBLIC RELATIONS GROUP

Specially Appointed Assistant Professor (URA):  
KURATA, Tomoko  
Technical Assistant: OTA, Kyoko  
KAWAGUCHI, Colin  
BAN, Misato  
Group Adviser: FUJIMORI, Toshihiko

This group, in order to publicize the activities of NIBB to the widest audience, actively facilitates communication between NIBB and the public, school teachers, and the international community of scientific researchers.

### The main activities of the group in 2018

#### 1) Press releases

The group sends news on scientific achievements to newspaper and magazine reporters via leaflets, e-mails and web pages. We also arrange press conferences for some releases.

#### 2) Updating and maintenance of the NIBB web page

#### 3) Editing of publications, production of posters and leaflets

Publication of "NIBB News" (Intra-institutional newsletter, in Japanese). Publication of leaflets introducing the individual researchers of NIBB (in Japanese). Design and distribution of posters of NIBB events.

#### 4) Producing Videos

Creation of videos introducing NIBB and interviews with researchers that are published on the web.

#### 5) Organization of scientific outreach programs

Organizing the Summer Program for university students, and coordinating special classes for middle school students.

### INTERNATIONAL COOPERATION GROUP

*Specially Appointed Assistant Professor (URA):*  
*TATEMATSU, Kiyoshi*  
*Technical Assistant:* *TAKAHASHI, Ritsue*  
*KAWAGUCHI, Colin*  
*COWAN, Glen*  
*Group Advisor:* *UENO, Naoto*

One of NIBB's missions is to continually explore the leading-edge of biology and form research communities that link Japan to the world. To achieve this, it holds scientific meetings such as the "NIBB Conferences" and "Okazaki Biology Conferences (OBC)", as well as educational programs such as "NIBB International Practical Courses". Furthermore, NIBB is coordinating closely with the European Molecular Biology Laboratory (EMBL, European member states), the Temasek Life Sciences Laboratory (TLL, Singapore) and Princeton University (USA). Working on the basis of cooperative agreements signed between NIBB and the above listed organizations, NIBB coordinates the exchange of personnel and techniques and the joint staging of scientific meetings. NIBB is also conducting the "NIBB International Collaborative Research Initiative" to promote high-level international collaborations between faculty members and researchers around the world. It also invites leading-edge researchers from abroad to promote academic exchange with NIBB members in addition to starting new international collaborations.

This group supports and coordinates NIBB's activities related to international research collaborations, by organizing the various above-mentioned international scientific meetings and technical courses, coordinating the dispatch of researchers to international conferences, and supporting researchers visiting from the institutes mentioned above. This group also supports NIBB internship students visiting from foreign countries, and the dispatch of SOKENDAI graduate students (the Graduate University for Advanced Studies) to international conferences aimed at nurturing the next generation of researchers in biology. This group, cooperating with the Okazaki Administration Office and International Affairs Division, City of Okazaki, supports other researchers and students who visit NIBB.

### The main activities of the group in 2018

#### 1) Coordination of international conferences and the International Practical Course

This group coordinated and supported the following international events organized by NIBB:

- The 10th NIBB International Practical Course "Genome Editing and Imaging of Fish and Amphibians" Okazaki, Japan, September 20-29, 2018 (p. 101)
- GBI-ABiS International Training Course for Bioimage Analysis (held in OIST, Okinawa, Japan) October 31-November 4, 2018 (p. 106)

#### 2) Support of visiting researchers to NIBB

This group supported visits of foreign researchers related to the following events:

- One researcher coming from Princeton University (June)
- 12 members coming from the Science and Technology Department of Hubei Province, China (August)
- Six researchers coming from Academia Sinica ICOB, Taiwan (September)

#### 3) Support of education-related programs

This group supported graduate students participating in the following NIBB student exchange and internship programs:

- NIBB Internship Program 2018 (p. 107)

### COLLABORATIVE RESEARCH GROUP

*Specially Appointed Associate Professor (URA):*  
*SHIGENOBU, Shuji*  
*KAMEI, Yasuhiro*  
*Technical Assistant:* *ICHIKAWA, Mariko*  
*ICHIKAWA, Chiaki*  
*Group Adviser:* *YOSHIDA, Shosei*

Specially appointed associate professors of within this Specially appointed associate professors within this group belong to the NIBB core research facilities, and are responsible for managing collaborative research projects and practical courses that take advantage of their expertise in their particular field. It is through this that we are able to further promote the exchange of information and greater collaboration among scientific communities, as well as support the development of new equipment and methods.

In 2018, this group hosted a total of 102 collaborative projects. The success of these collaborations is best illustrated by the 35 research papers that they jointly published during this year. One of the more remarkable cases was the firefly genome project which was conducted across a 5-year timeframe by research teams lead by Drs. Yuichi Oba (Chubu Univ.) and Shuji Shigenobu (NIBB). By sequencing the genomes of the Japanese firefly *Heike-botaru*, *Aquatica lateralis*, and the North American firefly, *Photinus pyralis*, they revealed the evolutionary process of bioluminescence in these insects (Fallon *et al.*, 2018). They discovered that luciferase, the key enzyme behind the glow generated by the above listed fireflies, arose from duplications and divergences of CoA ligase genes involved in fat metabolism, (which in itself is unrelated to luminescence).

- Fallon, T.R., Lower, S.E., Chang, C.-H., Bessho-Uehara, M., Martin, G.J., Bewick, A.J., Behringer, M., Debat, H.J., Wong, I., Day, J.C., Suvorov, A., Silva, C.J., Stanger-Hall, K.F., Hall, D.W., Schmitz, R.J., Nelson, D.R., Lewis, S., Shigenobu, S., Bybee, S.M., Larracuent, A.M., Oba, Y. and Weng, J.-K. (2018). Firefly genomes illuminate parallel origins of bioluminescence in beetles. *Elife* 7, e36495.

## YOUNG RESEARCHER SUPPORT GROUP

Assistant Professor: KOMINE, Yuriko  
Group Adviser: FUJIMORI, Toshihiko

As a leading international institute in the field of basic biology, one of NIBB's more important missions is the cultivation of future researchers. As such, NIBB provides PhD courses for graduate students while acting as the Department of Basic Biology in the School of Life Sciences at SOKENDAI (the Graduate University for Advanced Studies). To compliment this, The Young Researcher Support Group is aimed at supporting young researchers at NIBB (including graduate students such as SOKENDAI and special research students from other universities) to help make their study and research experiences at NIBB beneficial and valuable for their career.

### The main activities of the group

- 1) Coordination and management of courses provided by the Department of Basic Biology (lectures, research presentations, etc.), in collaboration with all faculty members in NIBB.*
- 2) Support in organizing NIBB's programs related to PhD courses, such as the Open Campus Day for prospective students.*
- 3) Cooperation with the interdepartmental programs offered by the SOKENDAI headquarters, including the Freshman Course and the Life Science Retreat.*
- 4) Gathering and providing information that is useful to both students and faculty members.*

## GENDER EQUALITY PROMOTION GROUP

Associate Professor: TSUBOUCHI, Tomomi  
Group Adviser: TAKADA, Shinji

NIBB is committed to promoting gender equality in the scientific community. To help scientists maintain their work-life balance and progress their careers while enduring the stresses of life events, such as having children, this group manages the research assistant system for those in need, and promotes networking among female researchers.

In 2018, a multi-purpose room within the NIBB building was refurbished to suit the needs of NIBB members who may occasionally want to bring their children to work. One of the major refurbishments was to create a "shoes-off space" so that young children can play safely on the floor. Upon the trial period commencing in May, the room is now available for all registered NIBB members. As of writing, 17 members have been registered. The room has also been particularly useful for those wishing to hold meetings or to wait for one's partner/spouse while s/he is in the lab in cases where alternative child care service cannot be arranged.