

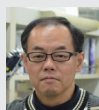
RESEARCH ENHANCEMENT STRATEGY OFFICE



Director
 UENO, Naoto



Deputy Director
 HASEBE, Mitsuyasu



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:
 BAN, Misato
 HOSHINO, Maki
 UCHIMURA, Ai
 OTA, Kyoko
 Group Adviser:
 FUJIMORI, Toshihiko

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

The group's main activities in 2019

1) Press releases

The group issues news items concerning 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 brochures introducing NIBB. Design and distribution of posters of NIBB events.

4) Production of Videos

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

5) Organization of scientific outreach programs

Organization of the Summer Program for university students, and coordination of special classes for middle school students. Organization of the 27th NINS symposium for the public. Coordination of NIBB open house 2019 (p. 111).

INTERNATIONAL COOPERATION GROUP

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

Two of NIBB's missions is to continually explore the leading-edge of biology and to form research communities that link Japan to the world. To achieve this, it conducts scientific meetings such as the "NIBB Conference", as well as educational programs such as the "NIBB International Practical Course".

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), and has also signed a new cooperative agreement with the Center for Organismal Studies (COS) Heidelberg (Germany) in 2019.

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 also conducts the "NIBB International Collaborative Research Initiative" to promote high-level international collaborations between faculty members and researchers from around the world. It also invites researchers, who are at forefront in research fields, 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 NIBB from the institutes mentioned above. This group also supports NIBB internship students visiting from foreign countries, and the dispatch of SOKENDAI graduate students 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 engaged in by this group from Jan. 2019 to March 2020

1) Coordination of international conferences and the International Practical Course

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

- The 66th NIBB Conference/ABiS International Symposium "Cutting Edge Techniques of Bioimaging" Okazaki, Japan, February 17-18, 2019 (p. 100)
- The 67th NIBB Conference "Quest for Orthologs" Okazaki, Japan, July 31 – August 2, 2019 (p. 101)

- The 2nd NIBB-Princeton Symposium "Imaging and Quantitative Biology" Okazaki, Japan, October 28–30, 2019 (p. 102)

2) Support of visiting researchers to NIBB

This group supported visits of foreign researchers related to the following events (p. 103):

- One professor and one manager of Corporate Engagement Team coming from Princeton University (January and April, 2019)
- Managing Director and two junior professors coming from COS Heidelberg (May and September, 2019)
- Director coming from EMBL-EBI (August, 2019)

3) Support of education-related programs

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

- NIBB Internship Program 2019 (p. 110)

COLLABORATIVE RESEARCH GROUP

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

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 2019, this group hosted a total of 115 collaborative projects. The success of these collaborations is best illustrated by the 36 research papers that were jointly published during this year thanks to a number of these projects. One of the more remarkable achievements produced by this group was a transcriptome analysis of a harmful red tide alga *Chattonella antiqua*. This analysis was conducted by Dr. Tomoyuki Shikata (FEIS, FRA) and his colleagues in collaboration with the members of the NIBB core research facilities, Ikuo Uchiyama, Shuji Shigenobu and Yasuhiro Kamei. In this project, the abovementioned researchers conducted RNA-seq analysis of *C. antiqua* and identified several genes with functions possibly related to the generation and dynamics of red tide, such as photosynthesis, photoreception, nutrient uptake and superoxide production. The identified genes were further characterized by comparative analysis with orthologs in other harmful and non-harmful algae. The obtained data and analysis results are open to the public

through the website HAB-DB (<http://hab.nibb.ac.jp/>) in order to provide a basis for the understanding of the mechanism behind the development of red tide.

- Shikata, T., Takahashi, F., Nishide, H., Shigenobu, S., Kamei, Y., Sakamoto, S., Yuasa, K., Nishiyama, Y., Yamasaki, Y., and Uchiyama, I. (2019). RNA-Seq analysis reveals genes related to photoreception, nutrient uptake, and toxicity in a noxious red-tide raphidophyte *Chattonella antiqua*. *Front. Microbiol.* 10, 1764. doi: 10.3389/fmicb.2019.01764

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 complement 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 advance 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. The

room has been particularly useful for those wishing to hold meetings with small children by their side 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.

In 2019, the room had 18 registered users and also accommodated visitors attending meetings held in Okazaki. To create a safer environment, a surveillance camera and an air purifier were also installed.