Application Procedures for Joint Research Program
with IDAC Tohoku University

Continuous challenges have been made by the Institute of Development, Aging and Cancer (IDAC) for comprehensive understanding of normal and pathological aging and underlying molecular mechanisms. Our goal is to decipher the developmental nexus between birth and death through growth, maturation and senescence and to clarify the defense mechanism from miscellaneous exogenous and endogenous insults that affect the aging process. Now that Japan is experiencing a super-aging society, more and more attention is being attracted to this field of medicine, “medical science for achievement of healthy aging”. As a core research center focusing on the medical science of aging, IDAC welcomes 1-year joint research proposals on a wide-variety of themes relating to aging, which will be conducted by researchers and/or graduate students belonging to institutes outside of IDAC in cooperation with faculty members of IDAC. For accepted proposals, IDAC supports necessary expenses for the joint research and provides access to various kinds of facilities and biological materials in IDAC.

Research Categories:

(1) Development and analysis of model organisms for aging research
The ultimate goal of aging research is the achievement of healthy aging. In order to clarify molecular mechanisms underlying aging, model organisms provide very powerful approaches. IDAC has been utilizing various organisms including mouse and zebra fish for aging research, and accumulating plenty of skills and knowledge on these animal models. We welcome research plans that make use of the model organisms or developing new animal models for aging study.

(2) Basic researches on aging processes and stress response
Impairment of stress response is one of the critical factors accelerating the aging processes and causing many aging diseases. IDAC has been dedicating its efforts to clarify how functional defects in stress response, genome integrity and protein quality control cause cell senescence and individual aging. IDAC has also been providing many useful biological materials including cell lines, DNA clones, antibodies and mutant mice. Recently, a facility for proteomic analysis has been available in IDAC. We welcome research plans that make use of these facilities and biological materials for deciphering underlying mechanisms of aging.

(3) Cancer research in clinical and basic medicine
Carcinogenesis is one of the major diseases in senile populations. IDAC has been at the frontier of cancer research in Japan, establishing a cancer biobank and founding a specialized department for cancer chemotherapy, both of which are the first example in Japan. Based on the long history of cancer studies a large number of clinical samples and case information are available at IDAC. Recently, IDAC is making efforts, particularly in formulating personalized anti-cancer therapies based on the genetic diagnosis, and developing new targets for anti-cancer therapies such as regulators of tumor angiogenesis. We welcome research plans taking advantage of these clinical, pharmacological and biological heritage of cancer research.

(4) Brain research in development and aging
IDAC is equipped with multiple high-quality imaging systems for brain research, such as super-high magnetic field MRI and two-photon excitation microscopy. Utilizing these systems, IDAC has been carrying out interdisciplinary joint researches on morphological and functional changes of human brain during aging and exploration of rational protocols for prevention and early diagnosis of dementia. Two newly founded departments, focusing on gerontology and pediatric neurology, have cooperatively set up the system for recruitment of children and senile people. We welcome research proposals on development and/or aging of brain taking advantage of these facilities and systems. We also welcome proposals in the field of cultural sciences.
1. **Research Categories**
   
   **A. Topics**
   
   (1) Development and analysis of model organisms for aging research
   (2) Basic researches on aging processes and stress response
   (3) Cancer research in clinical and basic medicine
   (4) Brain research in development and aging

   **B. Available facilities**
   
   Machines in the IDAC core facilities,
   Cell lines, DNA clones, antibodies, mutant mice, other model organisms,
   Irradiation system for cells with microbeam
   Proteomics analysis platform
   Two-photon excitation microscope,
   3T MRI
   Near Infrared Spectroscopy (NIRs)
   Magnetoencephalography (MEG)
   7T MRI for small animals

2. **Eligibility for Application**
   
   Faculty members, researchers and graduate students who belong to a university or public research institute.

3. **Research Period**
   
   April 1, 2016 ～ March 31, 2017
   Project under the same title can be extended for a maximum of 3 years.

4. **How to Submit the Application**
   
   Download the application form from the IDAC website.
   Make arrangements with a host researcher at IDAC before you submit your application.
   You can get information on research areas being studied at IDAC from the IDAC website (http://www.idac.tohoku.ac.jp/index.ja.php)
   For applying for the joint research, send the following documents to the address below.
   (1) Application form for joint research program
   (2) Attachments 1 and 2
   (3) Agreement form with a signature of Dean/Director of your institution

5. **Deadline for Submission**
   
   January 29, 2016

6. **Address for Submission**
   
   Section for Joint Research Program
   4-1 Seiryo-machi, Aoba-ku, Sendai 980-8575, Japan
   Institute of Development, Aging and Cancer
   Email: ida-sen@grp.tohoku.ac.jp

7. **Decision of Adoption or Rejection**
   
   Applicants will be notified of the screening panel’s decision by March 31, 2016.
   When the application is adopted, principal investigators and their co-investigators are appointed to be joint researchers of IDAC.

8. **Research Expenses**
   
   IDAC provides research funding up to 500,000 yen for consumable items and travel expenses within Japan, which are necessary for executing joint research. One or two selected proposals, if necessary, will be funded to a maximum of 1,000,000 yen.
9. Submission of Research Achievement Report
Principal investigators are requested to submit research achievement reports, which should be no longer than 2-3 pages of A4 size paper, to the IDAC office at the address above (6) by March 31, 2017. The copyright of research achievement reports belongs to IDAC, Tohoku University.

10. Publication of the Joint Research Outcome
When results of joint research are published, IDAC will be acknowledged as follows: This work was partly supported by the Joint Research Program of Joint Usage/Research Center at the Institute of Development, Aging and Cancer, Tohoku University. One copy of reprints needs to be submitted to the IDAC office at the address above (6).

11. Intellectual Property Right
Regulations of Tohoku University collaborative research are applied for intellectual property rights as a result of the joint research program.

12. Accidents and Emergency
Researchers who visit IDAC for this joint research need to carry an insurance that covers accidents in Japan. Students who participate in the joint research should conduct experiments under the supervision of faculty members at IDAC or those at their affiliation.