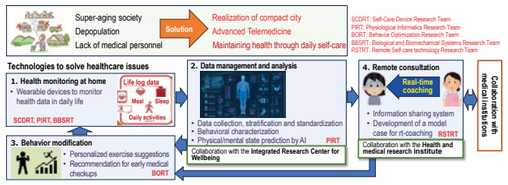
Integrated Research Center for Self-Care Technology

Due to the super-aging society, depopulation, and lack of medical personnel, there is concern that the elderly and other local residents may not receive adequate medical care. This project aims to develop and test the basic technology for “self-care” as a system that integrates medical data at home, daily life data, and living environment data to build an appropriate health evaluation model using AI and to provide coaching that maximizes effectiveness.



Director
YOSHINAKA Kiyoshi, Ph.D.



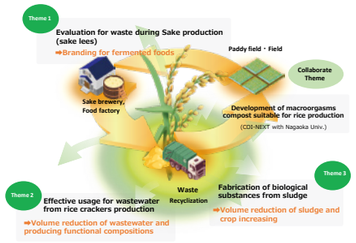
Location: Tsukuba, Kashiwa, Tokyo Waterfront, Shikoku
https://unit.aist.go.jp/irc-sct/en/index.html

NAGAOKA-AIST Bridge Innovation Laboratory

NAGAOKA-AIST BIL is established on the collaboration to Nagaoka City and Nagaoka University of Technology, as performing research and development of recycling process of organic waste involved rice production and manufacturing. The aims of NAGAOKA-AIST BIL are creation of new industries by commercialization support, regional economic revitalization and solving local community social issues based on research bridging process.



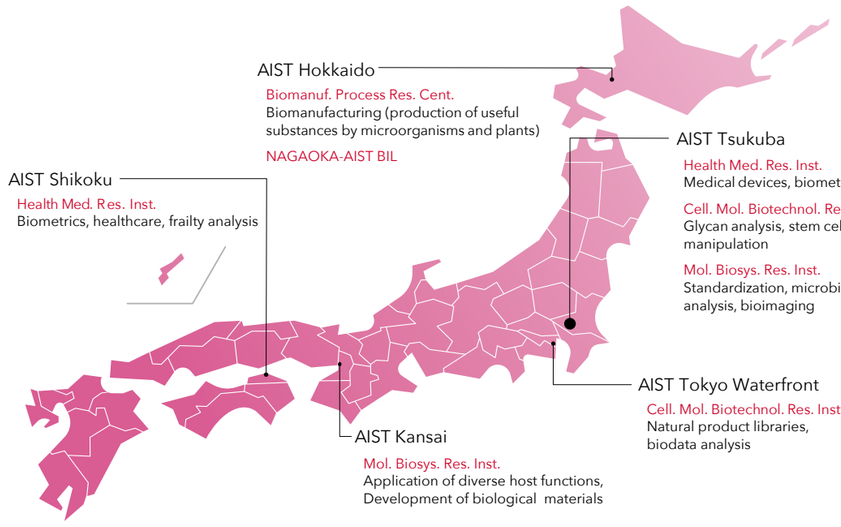
Project Manager
MIYAFUSA Takamitsu, Ph.D.



Not only above 3 themes, widespreading research themes by collaboration activity. Aiming newly technology for widely bioresource utilization.

Location: Tsukuba and Hokkaido

Research bases and their priority fields



NATIONAL INSTITUTE OF
ADVANCED INDUSTRIAL SCIENCE AND TECHNOLOGY
Department of Life Science and Biotechnology

Central 1, 1-1-1 Umezono, Tsukuba, Ibaraki 305-8560, Japan
life-liaison-ml@aist.go.jp

The cover image features *E. coli* engineered to produce novel compounds, with vials of extracted solutions in the background — a snapshot of bio-manufacturing research in action.



2026.6 ©AIST

AIST
Create the Future, Collaborate Together

25TH ANNIVERSARY

Department of Life Science and Biotechnology

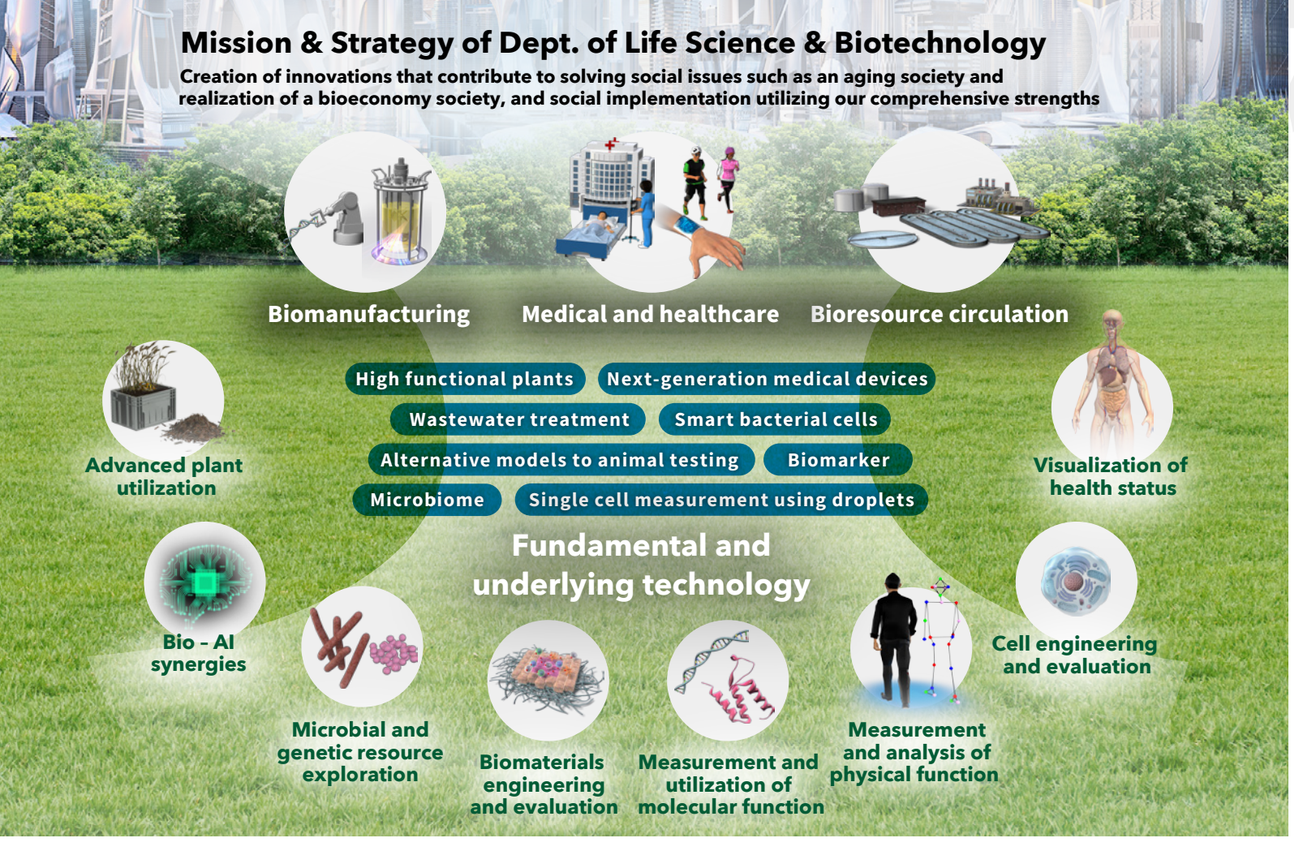


LIFE SCIENCE & BIOTECHNOLOGY

NATIONAL INSTITUTE OF ADVANCED INDUSTRIAL SCIENCE AND TECHNOLOGY

Mission & Strategy of Dept. of Life Science & Biotechnology

Creation of innovations that contribute to solving social issues such as an aging society and realization of a bioeconomy society, and social implementation utilizing our comprehensive strengths



Executives



Director General
CHIBA Yasunori, Ph.D.



Deputy Director General
DOI Motomichi, Ph.D.



Director, Research Planning Office
MITSUDA Nobutaka, Ph.D.



Director, Collaboration Promotion Office
KIM Hyonchol, Ph.D.

Greetings from Dr. Chiba

The formation of a bioeconomy society utilizing biotechnology and biomass is expected to solve environmental, food, health, and other issues, as well as to realize a circular economy and sustainable economic growth. In this context, there is a need to transition away from fossil fuels and realize a resource independent economy through biomanufacturing, health maintenance using complex biopharmaceuticals, and healthcare utilizing medical information. It is crucial to create innovation based on science and technology to support these efforts.
AIST began its 6th Mid- to Long-Term Plans in April 2025. The objective of this plan is to create the world-class research and development results for steady social implementation, and to strengthen the innovation infrastructure by collaborating with the initiatives of companies, universities and other organizations. In our Department of Life Science and Biotechnology (LS-BT), we are committed to creating innovations that contribute to solving social issues such as an aging society and the realization of a bioeconomy society, and to implement these innovations in society by demonstrating our comprehensive strengths.

In this fiscal year, we will address the following priority issues
1. Development of biomanufacturing technologies and pioneering advanced fundamental technologies that accelerate biomanufacturing.
2. Development of innovative diagnostic and therapeutic technologies for extending healthy life expectancy.
3. Creation of innovative technology seeds that address societal challenges and enable growth strategies.

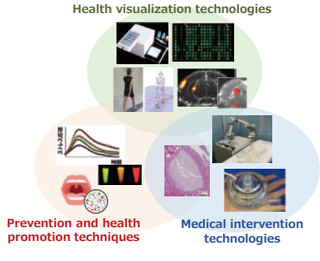
To promote the development of these technologies, we will build a research system that is aware of mutual collaboration among AIST researchers across institutes, centers, and even across departments. In addition, to serve as the core of an innovation ecosystem, AIST and the AIST Solutions Co., one of the AIST group members, will work as one, and will create the future society with all stakeholders. Please look at the information on our researchers and technologies in LS-BT, and feel free to contact us.

We look forward to collaborating with you as your partner.

Health and Medical Research Institute

HMRI

Our mission is to develop advanced medical and healthcare technologies to predict and provide solutions to diversifying health problems. In particular, we aim to realize a sustainable healthy society despite the declining birthrate and aging population by promoting the development of (1) technology for visualization of health conditions, (2) technology for prevention and health promotion, and (3) medical intervention technology and its practical application.





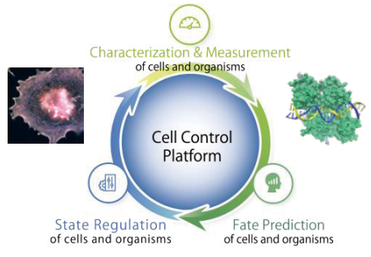
Director
OISHI Isao, Ph.D.

Location: Shikoku and Tsukuba
https://unit.aist.go.jp/hmri/en/index.html

Cellular and Molecular Biotechnology Research Institute

CMB

We promote the development of the following three advanced technologies: (1) high-precision measurement and analysis of cellular and biological system properties; (2) high-precision diagnosis and prediction of disease onset; (3) controlling cellular and biological system functions, and aim to establish an integrated "Cell Control Platform" by linking them, thereby contributing to a healthy and long-lived society.





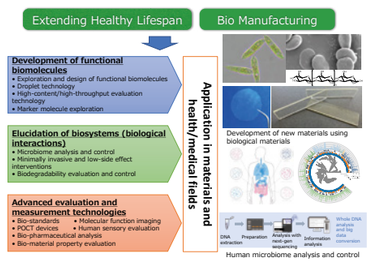
Director
KOMATSU Yasuo, Ph.D.

Location: Tsukuba and Tokyo Waterfront
https://unit.aist.go.jp/cmb5/index_en.html

Molecular Biosystems Research Institute

MolBiS

The Molecular Biosystems Research Institute focuses on "development and evaluation of functional biomolecules and their implementation in society" as the unit mission. We also focus on research themes derived through backcasting from social issues, aiming to create innovations that will contribute to enhancing Japan's economic growth and industrial competitiveness.





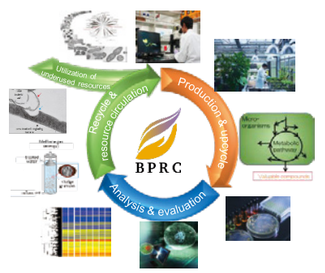
Director
MITANI Yasuo, Ph.D.

Location: Tsukuba and Kansai
https://unit.aist.go.jp/molbis/en/

Biomanufacturing Process Research Center

BPRC

Our R&D efforts focus on realizing a circular bioeconomy. We are engaged in discovering new biological resources to make use of underutilized resources and developing technologies for the efficient production of functional substances, raw materials, and fuels using microorganisms, plants, and bioinformatics. In addition, we are working on technologies for the effective treatment and reuse of wastewater and waste to promote resource circulation. The technologies developed are disseminated through academic publications and intellectual property and implemented in society in collaboration with companies. These efforts contributes to revitalizing the domestic biomanufacturing industry and realizing a bioeconomy-based society.





Director
ABURATANI Sachiyo, Ph.D.

Location: Hokkaido and Tsukuba
https://bprc.aist.go.jp/en