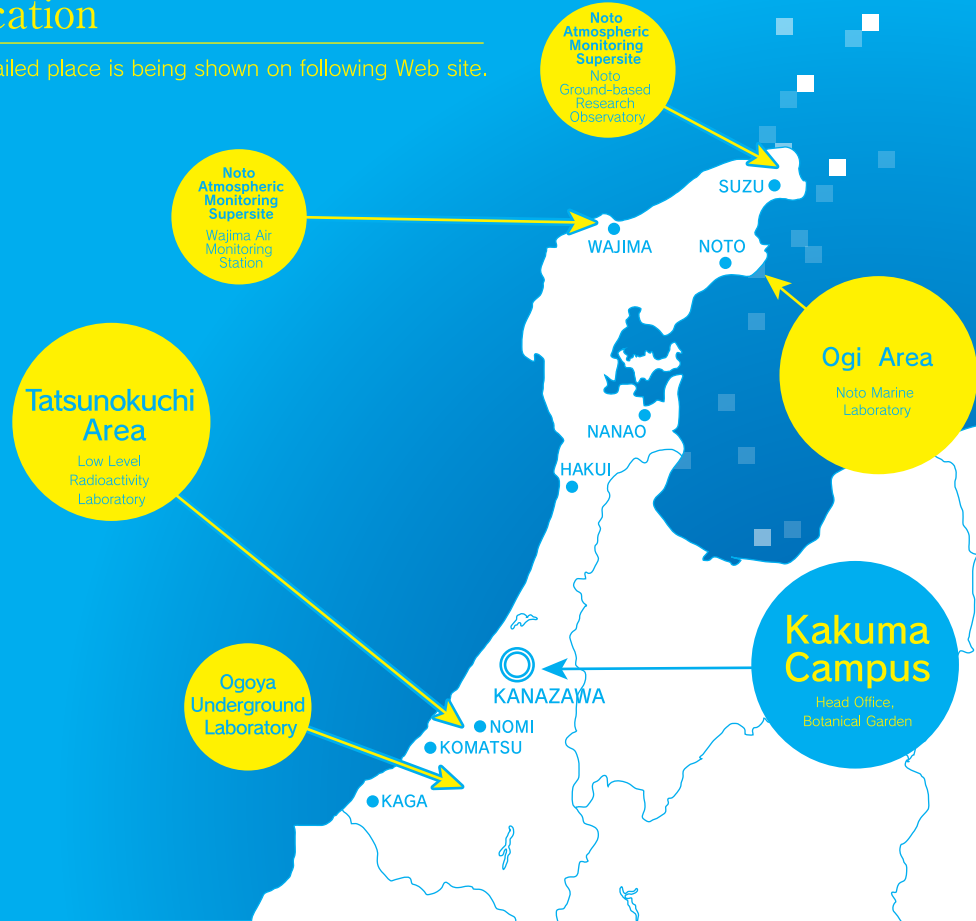


Location

A detailed place is being shown on following Web site.



Kakuma Campus	Head office, Botanical Garden Kakuma-machi, Kanazawa, 920-1192 Japan TEL: +81-76-234-6830
Noto Atmospheric Monitoring SuperSites	Noto Ground-based Research Observatory 33-7 Kodomari, Misaki-machi, Suzu, 927-1462 Japan Kanazawa University Wajima Air Monitoring Station 32 Wo, Nishifutamata-machi, Wajima, 928-0056 Japan
Ogi Area	Noto Marine Laboratory 4-1 Mu, Ogi, Noto, 927-0553 Japan TEL: +81-768-74-1151
Tatsunokuchi Area	Low Level Radioactivity Laboratory 24 O, Wake, Nomi, 923-1224 Japan TEL: +81-761-51-4440
Ogoya Underground Laboratory	1-1 Ka, Ogoya-machi, Komatsu, 923-0172 Japan TEL: +81-761-67-1740

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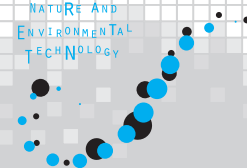
Institute of Nature and Environmental Technology

Kanazawa University

Joint usage / research center (MEXT)
 Joint usage / education center (MEXT)



INSTITUTE OF
 NATURE AND
 ENVIRONMENTAL
 TECHNOLOGY



Establishment Spirit

The area encompassing the Sea of Japan has become one of the major socio-economic areas of the world due to significant industrial and economic activity. However, the atmospheric and marine environmental changes caused by human activities are evident and alarming. The harmful influence of such changes extends to not only terrestrial ecosystems, but to human health as well.

Finding solutions to the various environmental issues caused by both anthropogenic activity and natural phenomena are among the most important challenges imposed on science and engineering in the 21st century. The Institute of Nature and Environmental Technology at Kanazawa University was established in response to these emerging environmental issues and promotes research and education to help create sustainable future environments. It is an effort that has been in collaboration with other domestic and overseas institutions.

Outline of the Institute

The Institute of Nature and Environmental Technology at Kanazawa University was established in 2002 as a joint research and education facility with the purpose of streamlining existing facilities such as the Low Level Radioactive Laboratory, the Marine Laboratory, the Botanical Garden as well as the Electromagnetic Field Control Laboratory. In 2007, the institute was further integrated with the Japan Sea Research Institute at Kanazawa University in order to promote the 21st Center of Excellence program by the Ministry of Education, Culture, Sports, Science and Technology: Environmental Monitoring and Prediction of Long- & Short-Term Dynamics of the Pan-Japan Sea Area. The institute was further reorganized in 2015 to promote environmental research and education in the pursuit of creating sustainable environmental management programs.

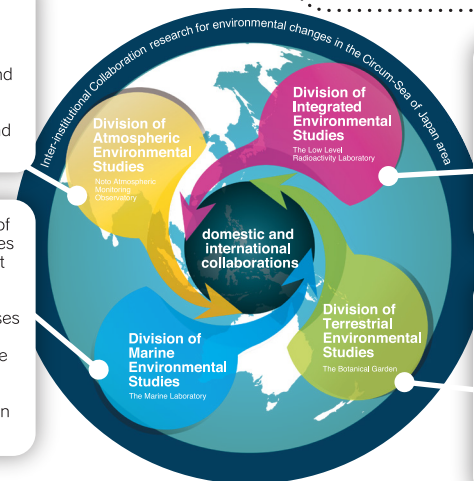


Director
Seiya Nagao

Structure of Institute

- Develops new analytical methods for detecting various air pollutants
- Promotes joint international atmospheric observation and research networks
- Assesses impacts of air pollution on ecosystems and human health

- Researches the dynamics of harmful chemical substances to aid environmental impact assessments on marine ecosystems
- Analyzes organism responses to harmful chemical substances through the use of novel assays
- Constructs marine management and evaluation systems



Department of Inter-institutional Collaboration

Because the Circum-Sea of Japan area is geopolitically important, this department aims to:

- Collect, exchange and maintain environmental data and information
- Establish and maintain international research networks and disseminate information
- Promote multidisciplinary research in conjunction with various research fields

- Uses integrated analyses of substance dynamics in terrestrial-atmospheric-marine environments
- Estimates substance sources using environmental tracers
- Predicts future circumstances by wide-range observations and model simulations

- Develops geoscientific analytical methods to understand environmental changes
- Analyzes long- and short-term variations based on wide area observations
- Evaluates impacts on ecosystems and human society

Joint usage/research center and Joint usage/education center (MEXT)



Joint usage / research center

The Institute of Nature and Environmental Technology was authorized as a joint usage/research center by the Ministry of Education,

Culture, Sports, Science and Technology in April 2016. Utilizing the Noto supersites and our international research networks, we have developed a collaborative research center involving the analysis of pollutant transportation in the area of the Circum-Sea of Japan, integrated model simulations of terrestrial-atmospheric-marine dynamics, assessments of the harmful influence of contaminants on human health, and predictions of the future global environment.



Joint usage / education center

The Noto Marine Laboratory was authorized in July 2012 as a joint usage/education center by the Ministry of Education, Culture, Sports, Science and Technology. In this education center, we teach students at Japanese universities, including Kanazawa University, about the Sea of Japan environment by fostering their own research initiatives. Furthermore, the number of overseas university students using the center is now increasing and contributes to our aim of educating both domestic and foreign students.

Division of Atmospheric Environmental Studies

This division focuses on the atmospheric environment of the Circum-Sea of Japan area, an area of the world where high concentrations of atmospheric pollutants such as Asian dust (Kosa: yellow dust) and PM_{2.5} have become one of the most prominent environmental issues. The aim of this division is to clarify their mechanisms of generation, transport, reaction, deposition, ecosystem and human consequences, and to better predict future pollution in the area. To this end, this division devises and develops new analytical methods and fosters joint international research networks. These activities and their results will make substantial contributions to the global efforts to mitigate atmospheric contamination.

We make every endeavor to solve atmospheric environmental problems.



Division of Marine Environmental Studies

This division studies the influence of harmful chemical substances on marine organisms and the dynamics of these substances in the marine environment in the Circum-Sea of Japan area; particularly in coastal areas. This examination of marine biota is performed through the use of biochemical assays and chemical oceanography. The research performed aids in the development of marine environment evaluation systems and for this purpose involves international collaborations.

We examine the influence of harmful chemical substances on the marine environment.



Division of Terrestrial Environmental Studies

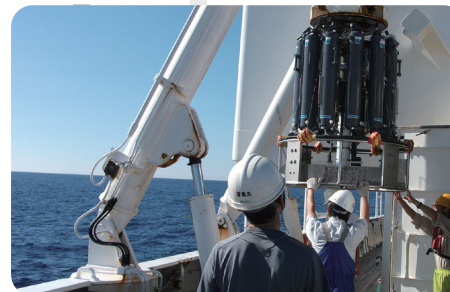
We investigate the geoscientific and ecological history of the Circum-Sea of Japan and its future.

The Circum-Sea of Japan area is characterized by the existence of diverse terrestrial environments. Aiming to understand their temporal and spatial changes and to clearly define the present – and predict future – environmental circumstances, this division develops geological and geochemical techniques to understand their long- and short-term fluctuations. This division uses ecological and phylogenetic approaches in order to evaluate the influence of human activities and natural phenomena on these ecosystem processes.



Division of Integrated Environmental Studies

In order to understand the migration behavior of chemical substances in the Earth's surface environment, it is necessary to study the transport processes within terrestrial, atmospheric and marine environments, as well as their boundary zones. For this purpose, this division uses environmental tracers, involving each of the department's research divisions. Through the use of environmental tracers and model simulations, this division carries out the integrated analysis of substance dynamics in the Circum-Sea of Japan area in order to better predict future circumstances.



We predict environmental changes in the Circum-Sea of Japan area through the integration of various disciplines.

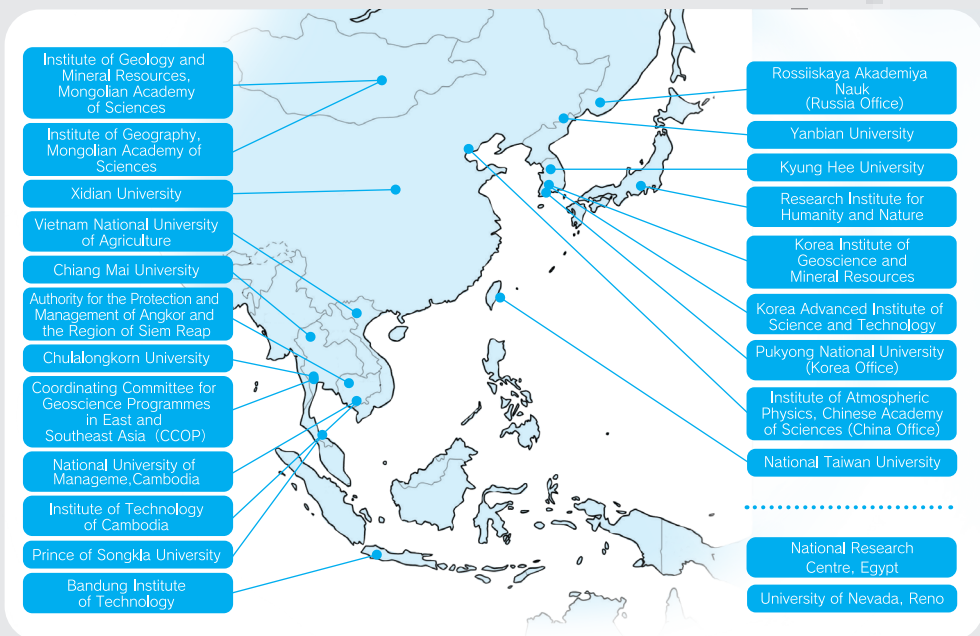
Department of Inter-Institutional Collaboration



This department manages the collection, exchange and maintenance of environmental information in the entire East Asia region, while centred specifically on the Circum-Sea of Japan area. It constructs and sustains international research networks for the global dissemination of information, thus promoting interdisciplinary research in a geopolitically important region of the world.

Sharing knowledge and information to promote interdisciplinary research.

International Exchange An international network supports our research



Sharing institute facilities provide support for various research

Shared Facilities

The Marine Laboratory: Hands-on, Public Seaside Education



This laboratory has a lodging facility and hosts hands-on educational activities in the field of marine coastal studies. While these programs are carried out for multiple departments of Kanazawa University, education programs of neighboring universities are also carried out here. Various facilities are available to support hands-on education, from the molecular level to the field, as related to seaside research.

The Botanical Garden: A Natural Mountain Village School in Kakuma

The hilly Kakuma area adjoins the urban Kanazawa district, and is familiar to the residents as a mountain village from ancient times. Not only is this abundant natural environment used as an educational research field for science, but this natural mountain village school in Kakuma is also considered an educational resource for local residents.



The Low Level Radioactivity Laboratory (LLRL)



This laboratory is located in Nomi City, Ishikawa Prefecture. In the LLRL, the hands-on training of Kanazawa University students and collaborative research activities with other universities and research institutes are carried out using radioactivity measurement systems in the LLRL. This is aided by the extremely low background system constructed in the Ogoya Underground Laboratory (OUL; 270 mwe). In the OUL, the use of 17 HPGe detectors is exceptional for underground laboratories and all detectors at the OUL provide excellent background conditions, stability and counting efficiency.

Noto Atmospheric Monitoring Observatory (Supersite)

The geographical location of the Noto Peninsula is perfectly suited for monitoring atmospheric aerosols originating from the eastern parts of the Asian continent. We regard the location of the peninsula itself as a highly sensitive natural environmental sensor, and have established an atmospheric monitoring observatory – one of several supersites across Japan – in both the Wajima and Suzu areas. These supersites have been used as research platforms for both domestic and international joint research activities.

