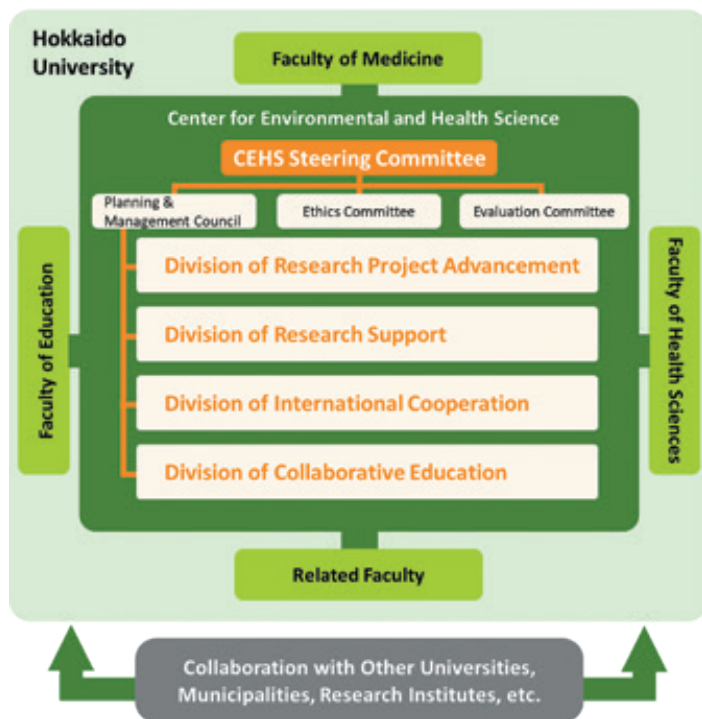




# A wide variety of research projects and education programs on “environments and health”



Center for Environmental and Health Science



## About us

The Center for Environmental and Health Sciences (CEHS) was established in April 2010 as a joint-use facility of Hokkaido University. The CEHS is open to all interested parties across the university and aims to build a solid organizational structure that will be conducive to development of novel research projects, their advancement, and human resource development in the field of “environments and health”.

The CEHS is based on an interdisciplinary system encompassing medicine, dentistry, pharmaceutical sciences and health sciences in the field of preventive medicine, information sciences, science and technology in the fields of hygienic environments and statistics, agricultural and fisheries sciences in the field of food safety, veterinary science with much experience in toxicity studies, and humanities in the fields of education, psychology, communications, life ethics and social science, all in connection with “environments and health”. In addition, the CEHS serves as a hub of development of a wide variety of joint research and education programs both within and outside the university through systematic collaboration with other universities, local governments and research institutes, playing a leading role in the field of “environments and health”.

In April 2015, the CEHS was designated the World Health Organization Collaborating Centre (WHOCC) for Environmental Health and Prevention of Chemical Hazards, and this was redesignated in 2019. Since then, we have established a cooperative system with the WHO and have played an important role in taking measures on a global scale to prevent health problems caused by chemical substances in the environment. In addition, the university participates in the Future Earth (FE) Japan Committee for the Realization of a Sustainable Society with the CC playing a central role on the committee. We will continue to contribute to the resolution of global issues such as the United Nation’s Sustainable Development Goals (SDGs) through research, education, innovation, and collaboration with the international community in the fields of the environment and health.

## Toward the Realization of a Sustainable Society

Pollution caused by various environmental chemical substances, such as polychlorinated biphenyls, dioxins, organofluorine compounds, and phthalate esters, is expanding on a global scale. This leads to health concerns for groups vulnerable to these substances — children, pregnant women, the elderly, workers, etc. In cooperation with the WHO, the Center is actively engaged in the following:

1. the dissemination of knowledge on environmental chemicals,
2. expert training in the area of prevention, and
3. strengthening international collaborative research networks, to reduce the health risks associated with environmental pollution.

In addition, Hokkaido University participates in the FE Japan Committee for the Realization of a Sustainable Society, and the



Public lecture

CEHS plays a central role in this committee. This way, the Center will continue to contribute to the advancement of the SDGs through the research and educational activities adopted at the United Nations summit in 2015.

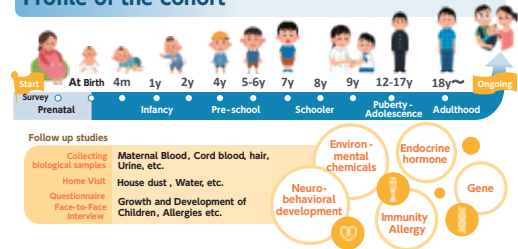


# The Hokkaido Study on Environment and Children's Health

The Hokkaido Study is an ongoing research project launched in 2001 for the purpose of investigating possible effects of prenatal exposures to environmental chemicals on children's health including birth defects, fetal growth retardation, allergies, infectious diseases, obesity, and neurobehavioral problems. The project includes two cohorts; the Hokkaido large-scale cohort with more than 20,000 mother-child pairs and the Sapporo cohort with approximately 500 mother-child pairs. In addition to questionnaire-based surveys, we conduct face-to-face medical and developmental examinations to determine the health status of children. We also investigate other factors that may affect health, such as exposure to chemical

substances, assessed via blood and urine samples; wireless communication and cell phone exposure; living environment surveys through home visits; and socioeconomic factors. Furthermore, to identify people with high sensitivity to chemicals, we aim to determine the link between the environment and genetics and the involvement of acquired genetic modifications in subsequent generations.

## Profile of the cohort



Analysis of chemical substances



Electroencephalography

For more information, please visit the website. [www.cehs.hokudai.ac.jp/hokkaidostudy/](http://www.cehs.hokudai.ac.jp/hokkaidostudy/)



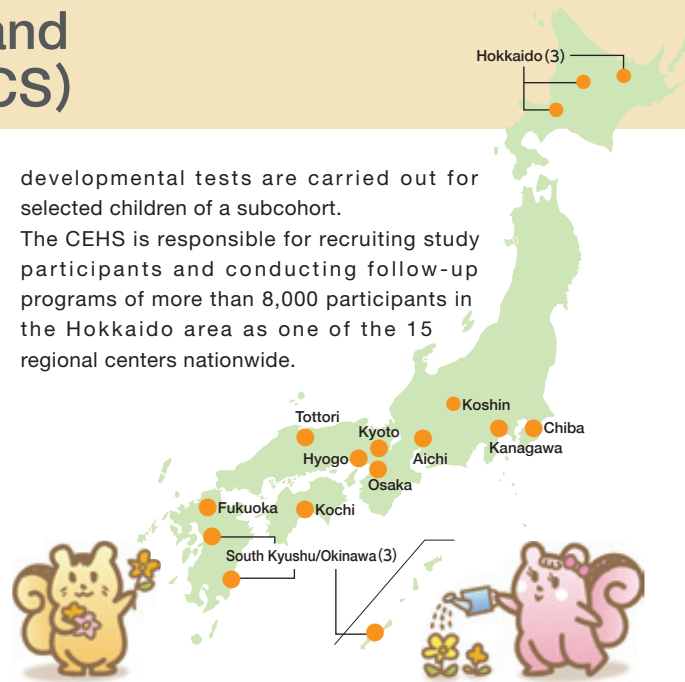
# Japan Environment and Children's Study (JECS)

The Japan Environment and Children's Study (JECS), a birth cohort study involving 100,000 parent-child pairs, was launched in 2011 in order to evaluate the impact of various environmental factors on children's health and development. The major aim of this study is to identify harmful factors in the environment affecting children's growth and health, and to investigate the relationship between such factors and children's health conditions. Participating children will be followed until they reach 13 years of age.

The follow-ups are carried out mainly by a self-administered questionnaire. Detailed follow-ups including home visits and environment measurements, medical examinations and psycho-neurological

developmental tests are carried out for selected children of a subcohort.

The CEHS is responsible for recruiting study participants and conducting follow-up programs of more than 8,000 participants in the Hokkaido area as one of the 15 regional centers nationwide.

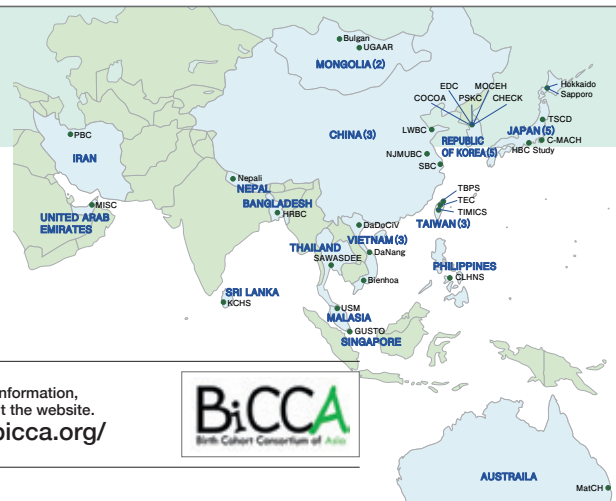


For more information, please visit the website. [www.cehs.hokudai.ac.jp/ecochil/](http://www.cehs.hokudai.ac.jp/ecochil/)



# Birth Cohort Consortium of Asia (BiCCA)

Birth Cohort Consortium of Asia (BiCCA) is the working group for the coordination of birth cohorts in Asia that was established in 2011. Currently 31 cohorts from 16 countries have joined the consortium, and BiCCA as a whole is conducting research on more than 93,000 participants. Through an enlarged set of data, extended diversity of participants and of environmental exposure levels, this international cooperation will provide deeper insight into children's environmental health, especially the regional concerns of Asia.



For more information, please visit the website. [www.bicca.org/](http://www.bicca.org/)



# WHO Collaborating Centre

The CEHS was designated as the World Health Organization (WHO) Collaborating Centre (CC) for Environmental Health and Prevention of Chemical Hazards on 22, April 2015, and this was redesignated in 2019. We are the first Japanese WHOCC in this field. We contribute to health risk assessment, reduction of adverse health effects from environmental risks, improvement of abilities to implement policies and regulations for prevention of chemical hazards, and we support WHO in training courses, especially in collaboration with the Regional offices in the western pacific.

In addition, we are acting under the “Framework of Action for Children’s Health and the Environment” as a member of the Network of WHOCC for Children’s Environmental Health.



## Collaborative Education

### Inter-Graduate School Classes “Health, Society and Environment”

The inter-graduate school class “Health, Society and Environment” is designed to educate researchers with a wide perspective through a process enabling students to attend lectures given by instructors belonging to various departments of the University. More than 40% of the lectures of “Health, Society and Environment” are given in English so that young researchers may be supported or trained to participate in resolution of environmental and health issues which are globalizing. In addition, efforts to develop a new joint education program with overseas universities are being made.

### Research exchange

The CEHS is widely accepting research students from inside and outside of the Hokkaido University and providing opportunities for training and learning in the field of chemical exposure and health outcomes.



International exchange program

### “Health, Society and Environment” Diploma Program

In this Diploma Program, a student earning 20 credits in 5 areas related to health science, especially including the inter-graduate school classes “Health, Society and Environment”, will be awarded a diploma. The purpose of this Diploma Program is to enable students to learn about an increase of health problems and new health problems due to a change of natural and social environments in a comprehensive manner from a wide perspective and to systematically acquire theories and methods required to solve such problems. Applications for admission are widely accepted from various departments, whether liberal arts or science. Recently more and more international students are awarded a diploma, thanks to an increase in the number of lectures in English.



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