

2 Groups and Departments

1) Groups

(1) Group for Optimization of Work Environment

Group leader: Professor Hiroshi KASAI

The group consists of Department of Environmental Health Engineering, Department of Environmental Oncology and Department of Occupational Pneumology.

To promote healthier life of workers, the members of this group are focusing on the studies of work-environment improvement. A typical research project of this group is the risk assessment for engineered nanomaterials, such as metal-oxide nanoparticles, fullerenes, carbon nanotubes. Now, it is widely concerned about the risk of nanotechnologies. We are conducting the hazard assessment of several new nanomaterials using inhalation exposure tests of nanoparticle aerosols for laboratory animals and other relational methods. Each department of this group provides the knowledge and skills, such as aerosol generation and measurement, gene expression analysis of test animals, and pathological examination of the animal organs. The research project is internationally well-known as a leading project of risk assessment of nanomaterials.

We have already conducted hazard assessment of fibrous materials, such as asbestos and their substitutes, or particulates, such as crystalline silica and metal oxides. These researches were successfully finished and many research papers have been published at international science journals.

(2) Group for Occupational Health Support

Group leader: Professor Masaharu KUMASHIRO

The Group for Occupational Health Support consists of Department of Ergonomics, Department of Health Policy and Management, Department of Health Development, and Department of Mental Health.

The education and research activities of the ergonomics group focuses on the work ability and the occupational gerontology field, and applied occupational ergonomics. These are based on the collaboration of research projects with occupational physicians who graduated from our university and other unique research projects. This group has experience with international collaboration that in turn will benefit the education of our student and occupational physicians. Internationally minded occupational physicians have much information to share with Japanese companies wishing to expand their business overseas.

The group of health policy and management aims at applying useful technologies to real workplaces and developing the state-of-the-art policy for good occupational health practices to promote adaptation of workers to their works. The current research topics include prevention of adverse health effects from overwork, mortality survey of workers, prevention of heat stroke at work, prevention of noise-related health effect from communication devices used in noisy workplaces, and distribution of in-shoe plantar pressure at different postures.

The group of health development is engaged in promoting the physical health development so that aged workers can work without any difficulties, considering increase of aged workers. Researches on regular aerobic exercise and life-style modification, and smoking control are conducted in this group.

The group of mental health is working on research and development of methodology in occupational mental health promotion. New tools for occupational mental health measures such as the scale of mental health climate (WIN) and for interventional approaches such as the checklist to clear needs for improvement of working condition (MIRROR) were developed and used for many companies. This group is also engaged in

the development of methodology regarding mental health promotion in small scale companies.

The new research project regarding the employability of aged workers has started in collaboration with these 4 groups since 2009.

(3) Group for Environmental Evaluation

Group leader: Professor Toshiaki HIGASHI

The research activities in this group of the 3 departments--Departments of Environmental Toxicology, Environmental Epidemiology, and Work Systems and Health--are wide-ranging; from biochemical and molecular biological experiments to epidemiology and field studies. Applying these, the Departments have been playing important roles for the prevention of health problems of workers. Members of the departments have been involved in various activities such as OEL committees in Japan Society for Occupational Health, providing key information to public organizations, and have had close collaborations with enterprises in which significant chemical exposure can take place. Besides, "internationality" may be regarded as one of the feature of the group because the activities are not limited to domestic ones but extended to overseas, especially to Asian regions. One of such activities is "Elimination of Asbestos-related Diseases as a Global Health Problem". The departments have been pivotal in international educational activities of the Institute (JICA/KITA group training course), in WHO Collaborating Research Center activities and in organizing meetings of the representatives from regional WHO-CCs. The group has 3 educational staff and 1 postgraduate student from overseas.

