

1. Research

(1) Project Research

Key Research Area Projects funded by Ministry of Health, Labour and Welfare

- 1) Study on work environment management for irregular work using organic solvents
Norihiko Kohyama, Sei-ichiro Kanno, Mariko Ono-Ogasawara, Fumio Serita and Mitsuya Furuse
- 2) Study on whole-body vibration and countermeasures in work environment
Setsuo Maeda, Makoto Ariizumi¹, Hisataka Sakakibara², Tatsuya Ishitake³ and Gen Tamaoki⁴
¹ Ryukyu University School of Medicine; ² Nagoya University School of Medical Science; ³ Kurume University School of Medicine; and ⁴ Tokyo Metropolitan University
- 3) Epidemiologic studies on work-relatedness of diseases
Mamoru Hirata, Ippei Mouri, Yasutaka Ogawa, Kenji Iwasaki, Tsutomu Okuno, Naomi Hisanaga, Takeshi Sasaki, Hitoshi Kubota
- 4) Preventive study on occupational stress of older workers
Hideki Fukuda, Shin-ichi Sawada, Tatsuo Oka
- 5) A study on genetic factors that determine the sensitivity against hazardous agents in the working environment
Shinji Koizumi, Hiroto Yamada, Kaoru Suzuki, Nobuhiko Miura, Fuminori Otsuka¹, Mikiko Takahashi²
¹ Teikyo University; ² Kobe University
- 6) Epidemiological and physiological study to prevent work-related musculoskeletal disorders
Naomi Hisanaga, Kazuyuki Iwakiri, Satoru Ueno, Susumu Saito, Midori Sotoyama, Mamoru Hirata, Hideki Fukuda

Research Projects Funded by Government

- 1) A comprehensive study on the effects of endocrine disruptor suspects on the hormonal and neurobehavioral development of the second generation in rats
Takeshi Honma, Muneyuki Miyagawa, Rui-Sheng Wang, Megumi Suda, Kenichi Kobayashi, Soichiro Sekiguchi
- 2) Study on the improvement of local air pollution mainly caused by diesel exhaust gas
Mariko Ono-Ogasawara, Toshihiko Myojo, Hironobu Abiko
- 3) Study on risk assessment of workplaces related with brominated dioxins
Haruhiko Sakurai¹, Yasutaka Ogawa, Ippei Mouri, Mitsutoshi Takaya, Masayoshi Hagiwara
¹ Occupational Health Research and Development Center, JISHA
- 4) Study on development and application of two dimension visualized system by continuous measurement for hazardous substances in work environment
Norihiko Kohyama, Fumio Serita, Sei-ichiro Kanno
- 5) Historical cohort study on carcinogenic risks and reproductive disorders due to dioxine exposure among workers in municipal solid waste incinerators
Ippei Mouri, Yasutaka Ogawa, Shigeki Kohda¹, Shinji Kumagai²
¹ Department of Community Nursing, Kochi University ² Life and Hygiene Division, Osaka Prefectural Institute of Public Health
- 6) Study on the mechanisms of damages in the reproductive and haematopoietic systems caused by glycol ethers
Rui-Sheng Wang, Takeshi Honma, Megumi Suda

- 7) Relation between health effects of low level exposure to dioxin and gene polymorphism
Yasutaka Ogawa,
- 8) The role of daytime sleepiness in sickness absence among workers
Masaya Takahashi,

Research Projects Entrusted by Public Foundations and Private Enterprises

- 1) Study on stress assessment in workplaces using occupational stress questionnaire
Takashi Haratani, Akinori Nakata, Masaya Takahashi
- 2) Development of a quick analytical method for organic chemicals in size-selected particles of tobacco smoke
Toshihiko Myojo, Mariko Ono-Ogasawara
- 3) Study on cooling capacity and safety of air-ventilated heat protective jacket
Shin-ichi Sawada
- 4) Examination of biological effects by fibrous silica gel and forsterite made from serpentine
Norihiko Kohyama, Tadao Toya, Yasushi Shinohara

(2) Fundamental Research

Intramural Research Projects

- 1) Development of high sensitive analytical method for dioxins in human blood
Norihiko Kohyama, Masayoshi Hagiwara, Mitsutoshi Takaya, Sei-ichiro Kanno, Yasushi Shinohara, Fumio Serita, Yasutaka Ogawa and Rie Yoshida
- 2) Indicators and assessment of health effect in low level of chemical
Takeshi Honma, Muneyuki Miyagawa, Rui-Sheng Wang, Megumi Suda, Kenichi Kobayashi, Mamoru Hirata, Goro Asano¹, Tatsuya Haga², Kao Xing³
¹ Japan Medical University; ²Gasyuin University; ³ CDC, Beijing

Department of Work Stress Control

- 1) Epidemiological and immunological research of stress, fatigue and sleep
Akinori Nakata, Takashi Haratani, Masaya Takahashi, Yosei Fujioka¹ and Naomi Swanson²
¹University of Tokyo; and ² National Institute of Occupational Safety and Health, USA
- 2) Mental health management for Japanese expatriates
Lumie Kurabayashi, Mitsuru Suzuki¹, Takamasa Saito², Fumitaka Noda³, Naoko Miyaji⁴, Hidehiko Kuramoto⁵ and Kazuyoshi Yamamoto⁶
¹Iwate Medical University; ² Oita University of Nursing and Health Sciences; ³ Taisho University; ⁴ Hitotsubashi University; ⁵ Kitanomaru Clinic; and ⁶ Ryukyu University
- 3) Evaluation of stress reaction by measuring physiological index with consideration of the circadian rhythm
Keiichi Miki

- 4) Improvement of sleeping problems related to work schedules and promotion of sleep related health through nap strategies
Masaya Takahashi, Akinori Nakata Takashi Haratani, Naoko Tachibana¹, Takeshi Tanigawa², C. A. Czeisler³
¹Osaka Prefectural Health Science Center; ²Tsukuba University; and ³Harvard University
- 5) Study on the prevention of health impairment due to overwork
Kenji Iwasaki, Takeshi Sasaki, Naomi Hisanaga, Lumie Kurabayashi, and Ippei Mouri
- 6) Development of the evaluation system of health and quality of life in aged workers
Tatsuo Oka, Hideki Fukuda and Shin-ichi Sawada
- 7) Experimental studies on the evaluation of cardiovascular effects in long working hours
Tetsuo Tai and Akinori Nakata
- 8) Development of biological indexes to help quit smoking at health promotion program
Yasutaka Ogawa
- 9) Assessment and prevention evaluation of cardiovascular effects in long working hours
Tetsuo Tai, Kenji Iwasaki and Naomi Hisanaga
- 10) Assessment of immunological indices for monitoring of the stress and overwork
Akinori Yasuda, Kenji Iwasaki
- 11) Clinical Psychological Study on Job Stress
Yasumasa Otsuka and Takashi Haratani

Department of Health Effects Research

- 1) Correlation between surface properties and carcinogenicity of silicon carbide whisker
Tadao Toya, Ayako Takata¹, Norihiko Kohyama, Mariko Ono-Ogasawara and Yasunosuke Suzuki²
¹ Department of Preventive Medicine and Public Health, School of Medicine, Keio University; ² Mount Sinai School of Medicine of the City University of New York
- 2) Analysis of the biological protection mechanisms against industrial chemicals in consideration of practical use in occupational health
Hiroto Yamada and Shinji Koizumi
- 3) Development of a method to screen the effect on gene function with a higher efficiency
Kaoru Suzuki, Shinji Koizumi, Terukazu Kobayashi and Rie Uenishi
- 4) Relationships between exposure and body concentrations of industrial chemicals and health effects due to chemicals: Body concentration of propane derivatives following inhalation exposure and intra-peritoneal administration of these chemicals to rats
Megumi Suda, Takeshi Honma, Rui-Sheng Wang and Soichiro Sekiguchi
- 5) Analysis of cellular function influenced by hazardous factors in working place
Nobuhiko Miura and Shinji Koizumi
- 6) The characteristics of muscle contraction under various conditions
Satoru Ueno, Rui-Sheng Wang, Makoto Okuno¹, Joseph Hoh², Kazuhito Yokoyama¹, Yasuki Kobayashi¹
- 7) Effects of industrial chemicals on endocrine glands in mammals
Kenichi Kobayashi, Takeshi Honma and Megumi Suda
- 8) Analysis of molecular mechanisms involved in the health effects of industrial chemicals
Shinji Koizumi, Kaoru Suzuki, Terukazu Kobayashi and Rie Uenishi
- 9) Application of large tissue electron microscopic methods for reproductive toxicity
Hisayo Kubota, Katsumi Otani and Junzo Saegusa

- 10) The Investigational and Experimental Studies on the relationship between health condition of reproductive function and exposure to physicochemical incidents among the workplace environment

Katsumi Otani, Hisayo Kubota, Kenichi Kobayashi and Junzo Saegusa

Department of Hazard Assessment

- 1) Epidemiological studies on occupational cancer
Ippei Mori, Hitoshi Kubota, Mamoru Hirata and Kuniomi Nakamura¹
¹ *Japan Nuclear Cycle Development Institute*
- 2) Work physiological analysis of work loads in cold environments
Shin-ichi Sawada, Toshio Kobayashi¹ and Naomi Hisanaga
¹ *Yamaguchi Prefectural University*
- 3) Analysis of occupational diseases caused by abnormal temperature conditions based on Workmen's Accident Reports
Shin-ichi Sawada and Hideki Fukuda
- 4) Poisoning cases due to exposure to chemical substance
Keiichi Katoh
- 5) Assessment of mutagenicity and chemicals testing guidelines
Yoshifumi Nakanishi, Katsuhiko Sawatari, Katsumi Ohtani
- 6) International research collaboration for enactment of international standard on thermal working environments
Shin-ichi Sawada, Ingvar Holmer¹, Naomi Hisanaga and Norazman Bakrun²
¹ *National Institute for Working Life, Sweden;* ² *National Institute of Occupational Safety and Health, Malaysia*
- 7) Visual function of workers and the in vitro design for studying toxic effects on the eyes
Ryo Suzuki
- 8) Risk assessment for pneumoconiosis and asbestos-related diseases among construction workers - Phase II -
Ippei Mori, Naomi Hisanaga, Hitoshi Kubota, Eiji Shibata¹
¹ *Nagoya University*
- 9) Single nucleotide polymorphisms of drug-metabolizing enzyme genes and interindividual variability in health effect of chemicals
Ruisheng Wang, Takeshi Honma, Megumi Suda
- 10) Assessment of the health effects of the occupational and the environmental factors in Asian countries
Fumihiko Kitamura, Kazuhito Yokoyama¹, Tadashi Sakai², Yoko Morita², Rusli Bin Nordin³
¹ *Mie University;* ² *Poisoning Center, Tokyo Rosai Hospital;* ³ *Malaysia Science University*
- 11) Examination of the metal exposure evaluation by the biological monitoring procedure
Hirokyu Saito
- 12) Creation of the database for exposure to hazardous substances and health effects
Hirokyu Saito, Yasutaka Ogawa and Ippei Mouri
- 13) Health effects due to wooden dust
Kenji Morinaga

Department of Work Environment Evaluation

- 1) Evaluation of physical agent hazards

Tsutomu Okuno, Jun Ojima and Hiroyuki Saito

- 2) Development of prediction systems of toxicities of chemicals by their chemical structures
Katsuhiko Sawatari and Yoshifumi Nakanishi
- 3) Evaluation method for the components of diesel particle
Mariko Ono-Ogasawara and Toshihiko Myojo
- 4) Estimation of breakthrough time of respirator cartridges for organic vapors by monitoring exit vapor concentration
Mitsuya Furuse and Tsugio Takano
- 5) Aerosol generation from suspension using frequency variable ultra-sonic nebulizer
Fumio Serita
- 6) Study of “in situ” analysis for hazardous metal and metalloids in work place air
Mitsutoshi Takaya and Fumio Serita
- 7) Development of analytical method of low level contents of asbestos in bulk materials and industrial products and preparation of the analytical manual
Norihiko Kohyam
- 8) Measurement and evaluation of fume and gases from gas metal arc welding processes
Fumio Serita, Seiichiro Kanno and Yoshihisa Hayakawa¹
¹Safetec Co.Ltd.
- 9) Study on quantitative measurement of crystalline silica and other hazardous minerals in airborne dust and raw material samples
Yasushi Shinohara

Department of Human Engineering

- 1) Effects of working posture, work contents and age on low back pain
Kazuyuki Iwakiri, Susumu Saito, Midori Sotoyama, Hiroshi Jonai¹ and Ippei Mori
¹Nippon University
- 2) A study on vibration reduction effect of anti-vibration gloves
Setsuo Maeda and Yukio Takahashi
- 3) A study on vibration perception measurement of whole-body and hand-arm vibration
Setsuo Maeda and Yukio Takahashi
- 4) Studies on the effects of noise-direction on workers
Yukio Takahashi and Setsuo Maeda
- 5) Studies on the effects of low-frequency noise in working environments
Yukio Takahashi and Setsuo Maeda
- 6) Experimental studies on biological effects of physical factors in working environment
Junzo Saegusa, Katsumi Ohtani, Kenichi Kobayashi and Hisayo Kubota
- 7) Development of a light sensing self-adjusting hood for welding fumes
Jun Ojima and Nobuyuki Shibata
- 8) Research of activated carbon with additive for adsorption of organic solvents gas in working place
Hironobu Abiko, Toshihiko Myojo and Mariko Ono-Ogasawara
- 9) Study on the evaluation of biomechanical response to vibration in workplaces
Kazuo Kanada
- 10) Development of discretization-based contaminant diffusion model and its application to designing of local ventilation system
Nobuyuki Shibata and Jun Ojima

- 11) Development of respiratory protector
Toshihiko Myojo and Mitsumasa Sugimoto
- 12) Development of dust collector
Toshihiko Myojo

Department of Research Planning

- 1) Studies on job stress and healthy work organizations
Takashi Haratani and Satoe Fukui
- 2) Risk assessment of hazards affecting the nervous system among exposed workers
Mamoru Hirata, Hisataka Sakakibara¹ and Kazushi Taoda²
¹ Nagoya University, ²Shiga Medical University
- 3) Ergonomic research on VDT workstation and work environment design: Questionnaire survey on computer use at home
Midori Sotoyama, Kazuyuki Iwakiri, Susumu Saito, Hiroshi Jonai¹ and Ippei Mouri
¹ Nihon University
- 4) The study on asbestos exposure and its related diseases among construction workers
Hitoshi Kubota, Naomi Hisanaga, Ippei Mori, Eiji Shibata¹ and Michihiro Kamijima¹
¹ Nagoya University
- 5) Evaluation of health effects in long working hours or night work
Takeshi Sasaki, Kenji Iwasaki, Tatsuo Oka, Lumie Kurabayashi, Akinori Yasuda and Ippei Mouri
- 6) Health effect indices in new situations of exposure to health hazard factors
Takeshi Honma, Megumi Suda, Rui-Sheng Wang, Kenichi Kobayashi, Muneyuki Miyagawa and Soichiro Sekiguchi
- 7) Needs of international cooperation in the field of occupational health and the effective way to fulfill them
Naomi Hisanaga, Yasutaka Ogawa, Shin-ichi Sawada and Ippei Mouri