

## Program of HES2009

Date November 28, 29, 2009  
Place University Assembly Building, Fukuoka Women's University  
Kasumigaoka, Hikashi-ku, Fukuoka 813-8529, Japan  
<http://www.fwu.ac.jp/english/access.html>  
<http://www.fwu.ac.jp/english/map.html>

### November 28 (Sat.)

**Session A** Clothing 9:00-9:30 Chairperson Fukazawa T. (Fukuoka Women's Univ.)

- A-1 An Ergonomics Study on Wearer Mobility with Protective Clothing for Firefighters  
Su-young Sohn1), Yutaka Tochihara2)  
1) Graduate School of Design, Department of Design, Kyushu University, Japan  
2) Department of Ergonomics, Faculty of Design, Kyushu University, Japan
- A-2 Predicted and reported thermal sensation in wearing outdoorwear  
Jeong-Rim Jeong and Hee-Eun Kim  
Department of Clothing & Textiles, Kyungpook National University, Korea
- A-3 Physiological response to different heat retaining ensemble at the environmental temperature of -10 °C  
Ji-Yeun Kim1), Min-Kyu Song2) and Hee-Eun Kim1)  
1) Dept. of Clothing & Textiles, Kyungpook National University, Daegu, Korea  
2) Korea Textile Development Institute, Daegu, Korea

**Session B** Exercise, Physiology 9:40-10:10 Chairperson Igawa S. (Nippon Sport Science University)

- B-1 The analysis of muscle fiber movement during passive body swaying on quite standing  
Takeshi Sato1), Takayuki Watanabe 2), Tasuku Miyoshi3), Shoji Igawa4) and Masami Miyazaki5)  
1)Jissen Women's University, 2) Hachinohe University, 3)Iwate University, 4)Nippon Sport Science University and  
5)Waseda University
- B-2 Seating characteristics of chairs with different form the viewpoint of Psychological Responses and Body Pressure with  
1 hour experimentation  
Keiichi FURUSAWA, Tetsumi HORIKOSHI, Seiichi MIYAMOTO  
1 Nagoya Institute of Technology 2, Graduate School of Eng, Nagoya Institute of Technology  
3 Graduate School of Eng, Setsunan University
- B-3 Fundamental Study of Measurement of Water Content in Human Body by Impedance Method  
Kouhei Hisamori1), Takeshi Abe1), Yoko Akiyama1), Fumihito Mishima1) Shigehiro Nishijima1) and Yoshikazu  
Maekawa2)  
1. Graduate School of Engineering, Osaka University  
2. Social Welfare ENYUKAI
- B-4 Factors affecting the disappearance of seasonal variation in the basal metabolic rate  
Takafumi Maeda, Suguru Hirota, Hiroshi Ishibashi, Shintaro Yokoyama, and Masashi Kuramae  
Laboratory of Environmental Ergonomics, Graduate School of Engineering, Hokkaido University

Coffee Break 10 : 10~ 1 0:30

**Session C** Environmental Psychology, Air Quality 10:30-11:10 Chairperson Ikeda K. (Nihon University)

- C-1 Classification of Composition-space in Shiro Kuramata's Interior Design and Environment of Generation

Kazuo KATO1), Tetumi HORIKOSI2)

1) Graduate School of Eng., Nagoya Institute of Technology, 2) Nagoya Institute of Technology

C-2 The study of evaluation of oil odor remain after cooking and adaptation

Ikuko BANBA\*, Yuriko IGARASHI\*\*, Norio ISODA\*

\*Faculty of Human Life and Culture, Nara Women's University

\*\*Faculty of Education, Niigata University

C-3 The Relation Between Hydro Thermal Environment and Balance of Ionic Charge

Masaru TORIMOTO1), Takashi MATSUO2), Mi kyong PARK2),

Kimihiko YAMANAKA1) and Mitsuyuki KAWAKAMI1)

1) Department of Management Systems Engineering, Tokyo Metropolitan University.

2) Division of Management Systems Engineering, Tokyo Metropolitan University.

C-4 Study on the Removal of Nicotine in Environmental Tobacco Smoke with an Air Cleaner by a Photocatalyst

Eizo MURAKAMI \*1, Masahiro HORI \*2

\*1Research & Development Center, Asahi Kogyosha Co.,Ltd., \* 2Yokohama National University

C-5 Evaluation of ventilation in diapers

Yayoi Satsumoto 1), George Havenith 2)

1) Faculty of Education and Human Sciences, Yokohama National University, Japan,

2) Department of Ergonomics (Human Sciences), Loughborough University, United Kingdom

#### **General Assembly Meeting of HES 11:30-12:30**

**Session D** Evaluation of thermal environment (part 1) 13:00-13:40 Chairperson Yokoyama S. (Hokkaido University)

D-1 Evaluation on control of room air temperature in consideration of circadian rhythm

Naoshi KAKITSUBA \* 1

\* 1 Prof., Meijo university, School of Engineering, Dr.Eng (naoshi@ccmfs.meijo-u.ac.jp)

D-2 Thermoregulatory Responses during Rest, Passive and Active Heating in Malaysian and Japanese Males

Joo-Young Lee1), Hitoshi Wakabayashi1), Nobuko Hashiguchi2), Titis Wijayanto1), Mohamed Saat3) and Yutaka Tochihara1)

1) Department of Ergonomics, Faculty of Design, Kyushu University, Japan

2) Department of Health Sciences, Faculty of Medicine, Kyushu University, Japan

3) Department of Physiology, School of Medical Sciences, Universiti Sains Malaysia, Malaysia.

D-3 Effects of Air Temperature and Warming Speed of Heated Seat on Thermal Comfort in Vehicles

Koji Tabata 1), Naka Yasuhito 1) , Akira Takeda 1), Yutaka Tochihara 2), Hiroki Nagayama 3), Hajime Oi 3)

1) Graduate School of Design, Kyushu University , 2) Faculty of Design, Kyushu University 3) Nissan Motor Co.,LTD

D-4 The Influence of Floor Cooling upon the Human Body

Kayo FUJII, Norio ISODA

Graduate school of Nara-women's university

**Session D** Evaluation of thermal environment (part 2) 13:50-14:30 Chairperson Watanabe S. (Daido University)

D-5 Effectiveness of mobile radiation cooling panel

Daisuke SAKATA1, Takashi MATSUO2, Mi Kyong PARK2,

Kimihiko YAMANAKA1 and Mitsuyuki KAWAKAMMI1

1)Department of Management Systems Engineering, Tokyo Metropolitan University

2)Division of Management Systems Engineering, Tokyo Metropolitan University

- D-6 Gender differences of physiological and psychological reaction of young persons in summer under different thermal environment  
ASANO Rika 1), HORIKOSHI Tetsumi 2)  
1)Nagoya Institute of Technology  
2)Prof., Nagoya Institute of Technology, D. Eng
- D-7 Experimental study on preference for partial cooling in summer  
Ikue MORII), Futoshi MATSUMOTO1), Kazuyo TSUZUKI1), Takuya KATAOKA2)  
1) National Institute of Advanced Industrial Science and Technology, 2) DENSO CORPORATION
- D-8 Effects of Pre-test Room Air Temperature on Preferred Air Temperature in Summer  
Hiroko KUBO1), Norio ISODA 2)  
1) Faculty of Human Life and Environment, Nara Women's University  
2) Graduate School of Humanities and Sciences, Nara Women's University

**Poster Session** (Part 1) 14 : 40-15 : 40

- P-1 Effects of Wear Training on Cold Tolerance  
Joonhee Park1) and Jeongwha Choi1)2)  
1) Department of Clothing & Textiles, Seoul National University, Korea  
2) Research Institute of Human Ecology, Seoul National University, Korea
- P-2 Study on skin temperature, heat flux and thermal sensation of each part of young males in wearing suits  
Yuko TAKAHASHI 1) and Seiichi MIYAMOTO 2)  
1) Division of Social Development Engineering, Graduate School of Engineering, Setsunan University and  
2) Department of Architecture, Faculty of Engineering, Setsunan University
- P-3 Study on sensible heat flux, latent heat flux and thermal sensation of young males in wearing suits  
Seiichi MIYAMOTO 1) and Yuko TAKAHASHI 2)  
1) Department of Architecture Faculty of Engineering Setsunan University and  
2) Division of Social Development Engineering, Graduate School of Engineering, Setsunan University
- P-4 Regional Variation of Skin Temperature with Thermography  
Ah-Lam Lee and Hee-Eun Kim  
Department of Clothing & Textiles, Kyungpook National University, Korea
- P-5 A study on human skin elasticity in summer -Comparison of children and young women-  
Mutsuko TAKANOKURA  
Kobe Women's University
- P-6 Pain Evaluation from Facial Analysis  
Takeshi Abe1), Yoko Akiyama1), Fumihito Mishima1), Shigehiro Nishijima1), and Midori Shirai2)  
1) Graduate school of engineering, Osaka University,  
2) School of Nursing, Osaka Prefecture University

- P-7 Relationships with Energy expenditure and body composition in Japanese infant  
Kodo OTOKI1), Keisuke TERAMOTO Erina MURAMATSU2), Masayoshi TAKEDA3) Seiko IWATA4),  
Tadashi CHIBA5), Yutaka AIHARA6), Masami MIYAZAKI7), Shoji IGAWA8)  
1) Fine Rise Japan.Co.,Ltd 2) Aichi University of Education 3) Nippon Bunri University 4) Sankuro Hospital  
5)Shuko Junior College 6)Kyushu Women' s junior College, 7)Waseda University, 8)Nippon Sport Science  
University
- P-8 Perceived Physical Fitness and Measured Fitness Levels Among Korean Young Adults  
Dae Taek Lee1), Youn Sun Son1) Yoon Jung Bae2) and Chul Young Bae3)  
1) Kim Chang Kew Exercise Physiology Laboratory, Kookmin Univ., Seoul, Korea  
2) Insung Information Co., Seoul, Korea  
3) Korean Bio-Age Medical Research Institute, Seoul, Korea
- P-9 Characteristics on the Remaining Space in the memories of the Residents  
Hyunhee Lee1), Kyungrak Lee 2) Tosie Goga3)  
1)Kyungwon Uni. Dr. Eng., 2) Youngdong Uni. Dr. Eng., 3) Maebashi Institute of Technology, Dr. Eng.
- P-10 A Study on Prevention of Stack Effect in Elevator Shaft of High-Rise Building due to Opening of Entrance Part 2  
Keihou KAINOU1), Satoru TAKADA1), Tomoaki USHIO2) and Takayuki MATSUSHITA1)  
1)Graduate School of Engineering, Kobe University and 2)Nikken Sekkei Ltd.
- P-11 Examination on purging flow rate\* of test chamber for measuring SVOCs using CFD analysis  
Janghoo Seo1), Minkwan Cho 2) and Shinsuke Kato3)  
1) Associate Professor, College of Engineering, Chosun University, 2) Professor, College of Engineering, Kangnam  
University and 3) Professor, Institute of Industrial Science, The University of Tokyo
- P-12 The effect of different between mean and local skin temperatures on thermal comfort  
Mayu Nonaka , Tomoko Ueno-Towatari, Tadakatsu Ohnaka  
Fukuoka Women's University
- P-13 Study on the physiological and psychological response using air conditioning in summer  
1) Ayako YASUOKA 2) Mao SAKAGAMI 2)Hiroko KUBO 1) Norio ISODA  
1) Graduate school of Nara-women's university 2) Faculty of human life and environment Nara-women's university
- P-14 The study of long wavelength spectrum reflectance of bedding materials  
-The relation between thermal environmental condition and thermal sensation -  
KAJII Hironobu1), SATOUTI Syunji 1), TANIDE Katuaki1), MIYAZAWA Morie2)  
Architecture, Faculty of Science and Engineering, KINKI University1), OSAKAAOYAMA junior college 2)

**Panel Discussion** 15 : 50-17 : 50

Law for Maintenance of Sanitation in Building and Environmental Hygiene

Chari Parson Yutaka Tochihara (Kyushu University)

Law for Building Health, and Environment

Hideo Shinozaki

Building Management Education Center

Health Problem and Energy-Saving Measure  
Masatoshi TANAKA  
Professor of Fukushima College / Emeritus Professor of Fukushima Medical University

Thought and Problem in Environmental Sanitation of Buildings from Law Aspect  
Tetsumi Horikoshi  
Graduate School of Engineering, Nagoya Institute of Technology

The importance of legal control to maintain indoor air quality  
Kouichi Ikeda  
Nihon University

Fellowship banquet 18:00 - 20:00

### November 29 (Sun)

**Session E** Outdoor environment 9:00-9:50 Chairperson Kuno S. (Nagoya University)

E-1 Study on time perception and walking rate in underground space - Comparison study on and under the ground -  
(UDA Yukihiko1), KUNO Satoru 2)

- 1) Graduate Student, Graduate School of Environmental Studies, Nagoya Univ.,
- 2) Prof., Graduate School of Environmental Studies, Nagoya Univ., Dr.Eng.

E-2 Relation between physical environment in urban green and surround and human five senses and perception  
-A case of urban green in Nagoya-

Takumi Nozawa, Tetsumi Horikoshi  
Graduate school Nagoya Institute of technology

E-3 Research about the effect of water channel on town thermal environment in Ogaki City, Gifu prefecture  
(Yuma Morimoto1), Tetsumi Horikoshi2)

- 1) Nagoya Institute of Technology
- 2) Prof. of Nagoya Institute of Technology(Dr. Eng)

E-4 Urban climate affected surface of the water in Gujo-hachiman

Katsumi Ishida 1), Tetsumi Horikoshi 2)  
1), Graduate student of Nagoya Institute of Technology graduate school  
2), Nagoya Institute of Technology Dr. professor of Nagoya Institute of Technology graduate school(Eng. )

E-5 Effectiveness of a Refrigerant Vest for Construction Workers in the Hot Environment

Hikaru Enomoto, Shin-ichi Sawada, Satoru Ueno, Tatsuo Oka, and Akinori Yasuda  
National Institute of Occupational Safety and Health, Kawasaki, Japan

**Session F** Elderly, Thermal manikin, Mathematical model of body temperature regulation 10 : 00-11 : 00

Chairperson Kakituba S. (Meijo university)

F-1 The Effect of Sustained Physical Activity on Adaptability to Thermal Environment of People with Spinal Cord Injuries  
—Survey Results in the First Year of Physical Activity—

Kosei MIKAMI\*, Kazuo AOKI\*\*, Hiroo HACHISU\*\*\*, Teruko TAMURA\*\*\*\*, Kei MATSUMOTO\*\*\*

\*Tokyo University of Science \*\*Graduate School of Science and Technology, Nihon University

\*\*\*College of Science and Technology, Nihon University \*\*\*\*Bunka Women's University

- F-2 Relation between Risks of Heat Stroke and Indoor Thermal Environment of the Elderly in Summer  
Yuriko Igarashi 1) , Hideki Takizawa 2)  
1) Niigata University , 2) Graduate School , Osaka City University
- F-3 Thermal environment of a residence for elderly couple: School House in Scotland  
Akihiro YAMAGISHI and Ayako ONO  
Faculty of Education, Shinshu University
- F-4 Measurement of shape and modeling of heat and moisture transfer for air layer between clothing and skin  
Satoru Takada1), Natsuko Yamanouchi2)  
1) Graduate School of Engineering, Kobe University, 2) Faculty of Engineering, Kobe University
- F-5 Comparison of thermal physiological state predicted by human thermal model, local heat transfer coefficients, and local equivalent temperatures and that from coupled simulation of human thermal model, CFD, and radiation analysis  
Tomonori SAKOI1), Shinsuke KATO2), Ryozo OOKA2),  
Hideaki NAGANO2), Shengwei ZHU3), and Toshiaki OMORI4)  
1) Shinshu University, 2) Tokyo University, 4) Harvard University, and 3) Tokyo Gas Co. LTD.
- F-6 Response of Regional Thermal Sensation based on Human Thermal Load  
Ryota SUZUKI\*, Yasuhiro SHIMAZAKI\*, Atsumasa YOSHIDA\*, Shinichi KINOSHITA\*  
\*Graduate School of Engineering, Osaka Prefecture University

**Poster Session (Part 2) 11:10-12:10**

- P-21 Field measurement on the environmental Symbiotic type houses  
(Part8) The effect of green upon Life style  
Tomoko MATSUI\* Michiyo AZUMA\*\* Hiroko KUBO\_\* Norio ISODA\*  
\*Graduate school of Nara-women's university  
\*\*Faculty of Health Science, Kio university  
\* Graduate School of Humanities and Sciences, Nara Women's University
- P-22 Field Survey on Small Climate in Tenpaku River Flowing in Nagoya City and its Suburbs  
NITTA Rui 1), HORIKOSHI Tetsumi 2)  
1) Graduate Student, Graduate School of Eng., Nagoya Institute of Technology, M. Eng.,  
2) Prof., Nagoya Institute of Technology, D. Eng.
- P-23 Field on investigation of wall surface temperature in green building by thermographic image camera  
YOSHIHIRO Shoko 1) , HORIKOSHI Tetsumi 2) , WATANABE Shinichi 3)  
1) Nagoya Institute of Technology, B. Eng. , 2) Prof. , Nagoya Institute of Technology , D. Eng  
3) Prof. , Daido university , D. Eng
- P-24 Climatic Environment of Moere-Numa Park as an Outdoor Artistic Monument in Winter  
Tetsumi Horikoshi1), Katsumi Ishida 1) ,Emi Miwa,1) Takeyoshi Ishimatsu1) and Hidetsugu Horikoshi2)  
1) Graduate School of Engineering, Nagoya Institute of Technology 2) Shibaura Institute of Technology
- P-25 Heat exchange between the human body with his wheelchair and environments  
-Part 11 Measurement of dermatome area for thermoregulatory model-  
Fumihiro SOUMA1), Tadahiro TSUCHIKAWA2), Yoshihito KURAZUMI3)  
Yoshiaki YAMATO4), Naoki MATSUBARA5), and Tetsumi HORIKOSHI6),

- 1) University of Hyogo, 2) University of Hyogo, 3) Sugiyama Jogakuen University  
 4) Kure College of Technology, 5) Kyoto Pref. University, 6) Nagoya Institute of Technology

- P-26 Experiments of Radiative and Natural Convective Heat Transfer Coefficients using Thermal Manikins which Simulate Baby and Adult  
 Takako Fukazawa 1), Tomoko Ando 1), Keiko Watanabe 1), Yutaka Tochiwara 2)  
 1) Faculty of Human Environmental Sciences, Fukuoka Women's University  
 2) Faculty of Design, Kyushu University
- P-27 Measurements of Thermal Resistance of Infant's Clothing Ensemble for Cold Environment Using a Baby Thermal Manikin  
 Keiko WATANABE 1), Takako FUKAZAWA 1), Yutaka TOCHIHARA 2)  
 1) Faculty of Human Environmental Science, Fukuoka Women's University  
 2) Faculty of Design, Kyushu University
- P-28 Relationship between colors of clothing and solar reflectance, transmittance and absorptance.  
 Kouhei KUWABARA, Koki IKEDA, Hideki KUBOTA,  
 Yasuhiro HAMADA, Makoto Nakamura and Katsunori NAGANO  
 Hokkaido University
- P-29 Regional Differences in Human Thermal Comfort Thresholds in Trunk and Limbs Using an Index of Skin Wettedness  
 Ayumi Yaku, Rie Fukuyama, Tumugi Shimizu, and Takako Fukazawa  
 Faculty of Human Environmental Science, Fukuoka Women's University
- P-30 Analysis of Heat and Moisture Transfer in and around Clothing under Condition Accompanying Sweating  
 Transfer Model of Sweating in the Liquid Phase  
 YUBE Takashi\*, TAKADA Satoru\*\*  
 \*Graduate Student, Graduate School of Engineering, Kobe University.  
 \*\*Associate Professor, Graduate School of Engineering, Kobe University, Dr.Eng.
- P-31 Predictive Characteristics of Thermal Manikin Using CFD  
 —3rd Report: Analysis flow and turbulent field around manikin—  
 \*Takeshi Furuya \*Itsuhei Kohri \*\*Kazuhiko Matsunaga  
 \*Tokyo City University \*\*ISUZU MOTORS LIMITED
- P-32 Validity of Two-Node Model for Prediction of Skin Temperature in Steady State  
 Reproducibility of Average Behavior for Considerable Number of Subjects  
 SAKIYAMA Takuya 1) and TAKADA Satoru 1)  
 1) Graduate School of Engineering, Kobe University
- P-33 The thermal control effect of vegetation by the window side Part15  
 The evaluation of thermal environment in the west direction room  
 Nana UMEDA, Shiho OZAKI, Sayaka INOUE, Norio ISODA  
 \*Nara-women's university \*\*DAIWA HOUSE INDUSTRY CO. LTD.
- P-34 A study for heat protection to the building which covered various wall materials  
 Part1. The experimental method and temperature distribution measurement by the difference of wall structures and difference of covering materials  
 Kazuhiro Miwa 1), Junko Takada 1), Tetsumi Horikoshi 2)  
 1) INAX Corporation, 2) Graduate Nagoya Institute of Technology

- P-35 Passive cooling effect of RC roof covered with different materials for creating comfortable interiors  
Part5. The difference of evaporation rate for construction technique  
Etsuko Fujinaka 1), Junko Takada 1), Nahoko Kato 2), Tetsumi Horikoshi 2)  
1) INAX Corporation, 2) Graduate School, Nagoya Institute of Technology
- P-36 Study on the Consciousness of Energy-Saving and Life Style  
Naomi SASSA  
Mukogawa Womens Univercity
- P-37 Survey of actual sleep situation and lifestyle of university students in summer  
Michiyo AZUMA, Keiko OKAMOTO  
Kio University
- P-38 The Survey of Actual Sleep in Students of Collage Age Daily Life  
-Compare young male with young female-  
Mariko KANAZAWA1), Hiroko KUBO 2)  
1) Graduate School of Humanities and Science , Nara Women's Univ.  
2) Faculty of Human Life and Environment , Nara Women's Univ.
- P-39 Effect of Screen Lightness on Workload and the Sense of Fatigue in VDT Workers  
Tetsuya Katayama, Shigeko Shoyama  
University of Nagasaki

**Session G** Indoor thermal environment, Dwelling 13:20-14:20 Chairperson Horikoshi T. (Nagoya Institute of Technology)

- G-1 Questionnaire survey on a possession rate and the last using dates of Kotatsu  
Shinichi WATANABE\*, Asa HOTTA\*  
\*Daido University
- G-2 Effects of Different Vertical Air Temperatures on Thermal Comfort and Mental Performance in Young and Aged Males  
KUMAMOTO Teruyuki 1), HASHIGUCHI Nobuko 2), TOCHIHARA Yutaka 3)  
1) Graduate School of Design, Kyushu University, 2) Faculty of Medicine, Kyushu University  
3) Faculty of Design, Kyushu University
- G-3 Passive cooling effect of RC roof covered with different material for creating comfortable interiors Part3.  
Naoko Kato1) Tetsumi Horikoshi 1) Junko Takada2) Manabu Kanaya2)  
1) Nagoya Institute of technology, 2) INAX Corporation
- G-4 Passive cooling effect of RC roof covered with different material for creating comfortable interiors  
Part4. Comparison of effects of temperature decrease on the back and above RC.  
Manabu kanaya1), Junko Takada1), Naoko Kato2) and Tetsumi Horikoshi2)  
1) INAX Corporation, 2)Nagoya Institute of technology
- G-5 A study on energy management of the universities  
Yasuaki YAMAKITA 1), Naoshi KAKITUBA 2)  
1) Division of Environmental Science and Technology, Graduate School of Science and Technology, Meijo University  
2) School of Science and Technology, Meijo University
- G-6 A Basic Study on Development of Photovoltaic house for Energy Saving and CO2 Reduction



Eri IMAI), Kimihiro YAMANAKA1), Mi Kyong PARK 2) and Mitsuyuki KAWAKAMI1)

1) Department of Management System Engineering, Tokyo Metropolitan University

2) Division of Management System Engineering, Tokyo Metropolitan University

**Session H** Sleep environment, Bathing environment 14:30-15:30 Chairperson Kubo H. (Nara Women's University)

H-1 Effect of the outdoor air temperature rise upon the resident's disturbed sleep

Daisuke NARUMI\*1, Kazutaka MIYAZAWA\*1, Yoshiyuki SHIMODA\*1,

Tomohiko IHARA\*2, Yutaka GENCHI\*2

\*1 Osaka University, \*2 National Institute of Advanced Industrial Science and Technology

H-2 A Study on Hot Water Bathtub and the Characteristics of Stepping Movement

Sonomi Umezaki<sup>1)</sup>, Yutaka Tochiwara<sup>2)</sup>

H-3 Study on influence on human body by the superheated steam sauna

Xinghui Zhang 1), Teruyuki Saito 1), Satoru Kuno 1), Chihiro Miwa 1), Norihiko Kato 2), Kinichi Shimura 2)

1) Nagoya University, 2) CHUBU Electric Power Co.

H-4 Development of Evaluation Method of Human Hair Friction

Yoko Akiyama1), Yukako Matsue2) and Shigehiro Nishijima1)

1)Graduate School of Engineering, Osaka University, 2)Kracie Home Products, Ltd.

H-5 Sterilization of Microbial Contamination and Odor Control in Pool Facilities with Slightly Acidic Electrolyzed Water

S.Yokoyama\*1 D. Okumura\*2 E. Yanagitsubo\*3 T. Mitamura\*4 K.Shimakura\*4 Y. Kanno\*4 K. Matsuyama\*5

S. Wada\*1 M. Kuramae\*1 T. Maeda\*1 K. Yamamoto\*6 A. Hanai\*6 K. Nakagawa\*6

\*1 Hokkaido University \*2Obayashi Co. Ltd. \*3Kajima Co. Ltd. \*4 Ecolofrontier Industry Co. Ltd.

\*5 Morinaga Milk Industry Co. Ltd. \*6Hokusyo University.

H-6 The regional difference in mortality rate of death by drowning in Fukuoka Prefecture and its relations with living environments

Tadakatsu Ohnaka

Department of Living Environmental Science, Faculty of Human Environmental Science, Fukuoka Women' University

**Closing Address** 15:30