



5th International Forum on Green Technology and Management (IFGTM 2015)

GREEN ENVIRONMENT FOR SUSTAINABLE DEVELOPMENT

Hue city, July 28 - 30, 2015

PROGRAM BOOK



IFGTM 2015

Co-organizers

Hue University of Sciences (HUSC)
Consortium for Green Technology Management and Research (CGTMR)

Partners and Sponsors

Hue University
Chonbuk National University
Kyoto University
Reeco Tech Co., Ltd.

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16. Prof. Dr. Kim Jong Guk
17. Dr. Mikiya Tanaka
18. Dr. Jae-Chun Lee

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About CGTMR

CGTMR stands for Consortium for Green Technology Management and Research.

The consortium consists of eleven members (as of June 2015):

- (1) School of Environmental Science and Technology, Ha Noi University of Science and Technology (INEST-HUST);
- (2) Faculty of Environment and Natural Resources, Ho Chi Minh City University of Technology (FE-HCMUT);
- (3) Faculty of Environment, Da Nang University of Technology (FE-DUT);
- (4) Institute for Environmental Science and Engineering, National University of Civil Engineering (IESE-NUCE);
- (5) Institute of Environmental Technology, Vietnam Academy of Science and Technology (IET-VAST);
- (6) College of Environment and Natural Resources, Can Tho University (CENRes-CTU);
- (7) Department of Environmental Science, Hue University of Sciences (DES-HUSC);
- (8) Institute of Resources and Environment, Hue University (IREN-HU);
- (9) Department of Environmental Resources and Management, Chia-Nan University of Pharmacy and Science (ERM-CNU);
- (10) Department of Environment and Resources, Thu Dau Mot University (DER-TDMU);
- (11) Faculty of Biotechnology and Environmental Engineering, Ho Chi Minh City University of Food Industry (FBEE-HUFI).

CGTMR was initiated by INEST-HUST, FE-HCMUT, FE-DUT and ERM-CNU in 2010.

International Forum on Green Technology and Management (IFGTM) is an annual event co-organized by CGTMR and a university that member belongs to. IFGTM provides a platform for researchers and managers to share knowledge, experience and research results in various aspects of environment, with a focus on green technology and management.

There have been so far four IFGTMs occurred: in Da Nang (2011), in Ho Chi Minh City (2012), in Ha Noi (2013) and in Can Tho (2014).

The 5th International Forum on Green Technology and Management (IFGTM 2015) is hosted by Hue University of Sciences and is held in Hue City, from 28th to 30th July, 2015.

At IFGTM 2015, CGTMR will welcome its five new members, including (1)-Faculty of Environment, University of Science, VNU-Hanoi; (2)-Faculty of Environment, University of Science, VNU-HCMC; (3)-Faculty of Biology and Environmental Science, University of Education, Da Nang University; (4)-Faculty of Environment and Natural Resources, Nong Lam University– HCMC; and (5)-Department of Environmental Engineering, Chonbuk National University.

IFGTM 2015: FACTS AND FIGURES

Dates, Abstracts and Papers

January 15, 2015	First Announcement & Call for Papers	150 + receivers
March 20, 2015	Abstract submission deadline	199 abstracts submitted
March 30, 2015	Acceptance notification	142 abstracts accepted
May 14, 2015	Manuscript submission deadline	101 manuscripts submitted
June 20, 2015	Announcement of reviewing result	57 full papers selected

Number of participants

- Cultural tour (July 28): **107**
 - Conference (July 29): **150**
 - Technical tour (July 30): **52**
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Number of presenters at conference

- Keynote speakers: **5**
 - Oral presentations: **30**
 - Poster presentations: **14**
-

Institutions that participants from

Vietnam	Hanoi University of Science & Technology, Hanoi University of Civil Engineering, University of Science-VNU Hanoi, Institute of Environmental Technology-VAST, University of Science and Technology of Hanoi, Thai Nguyen University of Technology, Hue University of Sciences, Hue University of Agriculture and Forestry, Institute of Resources and Environment-Hue University, Da Nang University of Technology, Da Nang University of Education, Da Nang College of Technology, Mien Trung University of Civil Engineering, Thu Dau Mot University, HCMC University of Technology, University of Science-VNU HCMC, HCMC University of Food Industry, Nong Lam University-HCMC, Nguyen Tat Thanh University, Hoa Sen University, Can Tho University, College of Technology Economics and Water Resources, Duy Tan University, Binh Minh Water and Environment Co.Ltd.
Japan	Kyoto University, Yamaguchi University, National Institute of Advanced Industrial Science and Technology, Hitachozosen Co.Ltd., Maezawa Corporation, Water Partners
Korea	Chonbuk National University, Institute of Geoscience and Mineral Resources
Thailand	Mahidol University
Laos	Champhasak University
USA	University of Arizona
Australia	University of Newcastle

IFGTM 2015 website (ifgtm.khoamoitruonghue.edu.vn)

- Total visitors: **3882** (as of July 22, 2015)
- Visitors by country: Vietnam (3032), Japan (519), Korea (86), other 30 countries.

DAY 1 (July 28, 2015)

CULTURAL TOUR

Places of visit: Royal Citadel and Tu Duc King's Tomb

Schedule

14:00: Pick up at Green Hotel.

14:10: Arrive at Royal Citadel for visits to Imperial City, Forbidden Purple City, Emperor's private residence and Museum of Royal Antiquities.

16:00: Leave the Royal Citadel for Tu Duc King's Tomb.

16:20: Arrive at Tu Duc King's Tomb.

17:30: Leave Tu Duc King's Tomb for Green Hotel.

Note:

IFGTM Organizers will cover the fees for bus, entrance tickets and tour guide. These fees include in conference fee of 500,000 VND that participants pay at the conference on July 29, 2015. Participants should prepare drinks or foods by themselves.

MoU SIGNING CEREMONY & ANNUAL STEERING BOARD MEETING

Venue: Meeting Room, Building A, Hue University of Sciences; 77 Nguyen Hue street

Program

16:00 – 16:10 Opening Remarks / Guest introduction

16:10 – 16:20 Welcome Address

16: 20 – 16: 45 Part 1 – MoU Ceremony

16:45 – 17: 45 Part 2 - Annual meeting of CGTMR Steering Board

17:45 – 17:55 Closing remarks.

WELCOME DINNER

(For invited participants)

Time: 18:30 – 20:30

Venue: Ancient Hue Restaurant
104/47 Kim Long Street, Hue city
<http://www.ancienthue.com.vn>

Note: Pick up at Green Hotel at 18:15.

DAY 2 (July 29, 2015)

CONFERENCE PROGRAM

“Green Environment for Sustainable Development”

Venue: Green Hotel, 02 Le Loi street, Hue city, Vietnam

Opening session 8:30 – 9:15

Room: Diamond Hall

Facilitator: Dr. Pham Khac Lieu, Dr. Tran Anh Tuan

8:30 – 8:35 Guest introduction

8:35 – 8:45 Opening speech

Assoc. Prof. Hoang Van Hien, Rector, Hue University of Sciences (HUSC)

8:45 – 8:55 Opening address

Assoc. Prof. Huynh Trung Hai, Dean, INEST, Hanoi University of Science and Technology

8:55 – 9:05 Welcome speech

TBA, Ministry of Education and Training (MOET)

9:05 – 9:15 Photo session

Plenary session (1) 9:15 – 10:30

Room: Diamond Hall

Chairpersons: Assoc. Prof. Huynh Trung Hai, Prof. Lee Kuk Haeng

9:15 – 9:40 Comparison of water use practices in several Asian cities

Prof. Shigeo Fujii – Graduate School of Global Environmental Studies, Kyoto University, Japan

9:40 – 10:05 Landfills as a green technology biorefinery resource to produce biomass and capture biogas

Prof. Dr. Nanthi Bolan - The University of Newcastle, Australia

10:05 - 10:30 Advanced wastewater treatment: a case of gaseous microbubble application

Prof. Dr. Tsuyoshi Imai - Yamaguchi University, Japan

Poster session & coffee break

10:30 – 11:00

- 10:30 – 10:35** Brief introduction to poster session
Dr. Duong Van Hieu and Dr. Ly Bich Thuy
- 10:35 – 11:00** Coffee break and poster seeing

Tips: Refer to the page number in brackets below presentation time to access the full paper in the Journal of Science and Technology 53 (3A).

Session A- Advanced and Green Environmental Technology (1)11:00 – 12:30

Room: Diamond Hall

Chairpersons: Assoc. Prof. Nguyen Phuoc Dan, Dr. Pham Minh Tuan

- 11:00 - 11:15** Study on occurrence of perfluorohexanoic acid in a water purification plant and examination of its removal efficiencies by NF/RO membrane systems
(pp.1-6)
Shuheii Tanaka, Liu Tsz Kit, Kazuma Ishikawa, Yuji Szuki, Masuhiro Hayashi and Shigeo Fujii
- 11:15 – 11:30** Performance of anoxic-oxic membrane bioreactor system operated at low dissolved oxygen for treating synthetic wastewater
(pp.7-12)
Khac-Uan Do, Jim C. Chen
- 11:30 – 11:45** Disinfection of *Escherichia coli* in seawater using pressurized carbon dioxide
(pp.91-96)
Dang-Thi Thanh-Loc, Tsuyoshi Imai, Takaya Higuchi, Le-Van Tuan, Vo-Thanh Huy
- 11:45 – 12:00** Performance of micro-filtration membrane combined with UASB reactor (MFUR) under low flux operation
(pp.19-24)
Tran Minh Thao
- 12:00 – 12:15** Nonylphenol ethoxylates removal by ozonation from raw water for drinking water supply
(pp.55-60)
Le Thi Minh Tam, Lai Duy Phuong, Nguyen Thanh Ninh, Nguyen Minh Nhat, Nguyen Phuoc Dan, Phan Thi San Ha, Do Hong Lan Chi, Nguyen Tan Phong
- 12:15 – 12:30** Usage of *Spirulina* sp. for removing nitrate and phosphate from wastewater of intensive *Pangasianodon hypophthalmus* culture
(pp.79-84)
Tran Chan Bac, Nguyen Xuan Loc

Session B – Sustainable Solid Waste Management

11:00 – 12:30

Room: Gold Room

Chairpersons: Assoc. Prof. Trinh Van Tuyen, Dr. Le Van Tuan

- 11:00 - 11:15** **Effects of C/N ratios on anaerobic co-digestion of pig manure and local biomass in the Mekong Delta of Vietnam**
(pp.223-228) *Nguyen Vo Chau Ngan, Tran Sy Nam, Nguyen Huu Chiem, Le Hoang Viet, Ingvorsen Kjeld*
- 11:15 – 11:30** **CH₄, CO₂, O₂ and N₂O profiles in open-windrow composting**
(pp.235-240) *Nguyen Thanh Phong, Joachim Clemens, Carsten Cuhls*
- 11:30 – 11:45** **A critical look at rice husk gasification in Cambodia: technology and sustainability**
(pp.247-252) *Nguyen Hong Nam, Ha-Duong Minh, Laurent Van De Steene*
- 11:45 – 12:00** **Greenhouse gas emissions from municipal solid waste in Danang city**
(pp.295-300) *Vo Diep Ngoc Khoi, Tran Van Quang, Hoang Hai*
- 12:00 – 12:15** **Greenhouse gas emissions from septic tank and septage treatment in Hue city, Vietnam**
(pp.301-306) *Pham Khac Lieu, Dang Thi Thanh Loc, Le Trong Nghia*
- 12:15 – 12:30** **Comparison of costs of latrines using local construction materials in Vietnam**
(pp.181-186) *Do Hong Anh, Nguyen Viet Anh, Le Trong Bang*

Session A- Advanced and Green Environmental Technology (2)13:30 – 14:45

Room: Diamond Hall

Chairpersons: Assoc. Prof. Le Quoc Tuan, Dr. Jae-Chun Lee

- 13:30 – 13:45** **Application of eco-technology to protecting water resources: case study at urban lakes in Danang city**
(pp.85-90) *Phan Thi Kim Thuy, Tran Van Quang*
- 13:45 – 14:00** **Hydrogen peroxide as an extra oxygen source for activated sludge**
(pp.97-102) *Nguyen Ngoc Truc Ngan, Le Van Tuan, Pham Khac Lieu, Duong Van Hieu, Hoang Thi Nhu Y, Le Thi Hoai Thuong, Shigeo Fujii, Truong Quy Tung*
- 14:00 – 14:15** **Integrated treatment of collected industrial wastewater using biofilm reactors**
(pp.103-106) *Duong Xuan Nguyen, Xiaoying Chen, Jong-Shik Chung*
- 14:15 – 14:30** **Improvement of copper electrowinning condition from leached solution of printed circuit boards**
(pp.109-114) *Ha Vinh Hung, Huynh Trung Hai*
- 14:30 – 14:45** **Control of nano- and submicron particles emissions by multipoint-to-plane electrostatic precipitators**
(pp.337-342) *Tran Thi Minh Phuong*

Session C- Integrated Water and Wastewater Management 13:30 – 14:45

Room: *Gold Room*

Chairpersons: *Assoc. Prof. Nguyen Viet Anh, Dr. Nguyen Thanh Binh*

- 13:30 – 13:45** Estimation of nitrogen and phosphorus loads from the main wastewater sources in Hue city
(pp.133-138)
Truong Quy Tung, Pham Khac Lieu, Hoang Thi My Hang, Le Van Tuan
- 13:45 – 14:00** Hydrological performance evaluation of surface runoff in university campus for flood mitigation
(pp.145-150)
Thu-Thuy Bui, Viet-Anh Nguyen, Trong-Bang Le, Van-Huong Trinh, Anh-Dzung Dao
- 14:00 – 14:15** Characterization of combined sewer discharge in Hue city, Vietnam
(pp.187-192)
Tran Nguyen Quynh Anh, Hidenori Harada, Shigeo Fujii, Pham Nguyet Anh, Pham Khac Lieu, Shuhei Tanaka
- 14:15 – 14:30** Household water security of people in Hue suburbs - A case study in Huong Tho commune, Huong Tra town, Thua Thien Hue province
(pp.163-168)
Mai Ngoc Chau, Nguyen Bac Giang, Hidenori Harada.
- 14:30 – 14:45** Overview of water stress index as a method for assessment of water scarcity
(pp.175-180)
Nhung Tran Thi, Loi Ho Thi My, Hong Nguyen Thi Ngoc, Nghi Vu Van

Session D- Advanced Tools in Environmental Monitoring 15:00 – 16:00

Room: *Diamond Hall*

Chairpersons: *Assoc. Prof. Tran Van Quang, Dr. Ho Duc Thai Hoang*

- 15:00 – 15:15** Application of artificial neural network to fill in the missing monitoring data of air quality
(pp.199-204)
Mac Duy Hung, Nghiem Trung Dung, Dinh Thu Hang
- 15:15 – 15:30** The use of MM5-CMAQ modeling system for simulating ground-level ozone at the Mekong Delta in 2014
(pp.205-210)
Nguyen Thanh Ngan
- 15:30 – 15:45** Accuracy assessment of mapping groundwater quality in Can Tho city, Viet Nam
(pp.115-120)
Truong Ngoc Phuong
- 15:45 – 16:00** Fate of trace organic in a wastewater effluent dependent stream
(N.A)
Bingfeng, Alandra Kahl, Long Cheng, Hao Vo, Robert G. Arnold

Session E- Eco-toxicology and Environmental Risk Assessment 15:00 – 16:00

Room: **Room Gold**

Chairpersons: **Dr. Truong Quy Tung, Dr. Mikiya Tanaka**

- 15:00 – 15:15** **Acute and chronic effects of nickel on *Daphnia lumholtzi***
(pp.271-276) **Dao Thanh Son, Le Vu Nam, Nguyen Thanh Son, Bui Ba Trung, Do-Hong Lan-Chi, Hoang Tham**
- 15:15 – 15:30** **Responses of cholinesterase to insecticide Chlorpyrifos ethyl in snakehead fish (*Channa striata*) in ricefield at Mekong Delta, Vietnam**
(pp.277-282) **Nguyen Van Toan, Dao Trong Ngu, Nguyen Van Cong**
- 15:30 – 15:45** **Human health risk assessment of heavy metals by consumption of marine fish in Hue city**
(pp.283-288) **Nguyen Thi Thuy An, Duong Van Hieu**
- 15:45 – 16:00** **Evaluating pesticide use habit of farmers in three-rice-crop cultivation and proposing the monitoring model for An Giang province**
(pp.325-330) **Le Thi Thuy, Le Quoc Tuan**

Plenary session (2) 16:15 – 17:30

Room: **Diamond Hall**

Chairpersons: **Assoc. Prof. Nguyen Van Hop, Assoc. Prof. Hoang Thi Thu Huong**

- 16:15 – 16:40** **Recycling of e-waste in Korea**
Dr. Jae-Chun Lee - Korea Institute of Geoscience and Mineral Resources, Korea
- 16:40 – 17:05** **Selective Adsorbent for Heavy Rare Earth Elements from Acidic Solutions**
Dr. Mikiya Tanaka - Environmental Management Research Institute, National Institute of Advanced Industrial Science and Technology, Japan

JSPS Core-to-Core Program's Workshop **11:00 – 12:30**

Room: Room Gold A

“JSPS Core-to-Core Program's Workshop for future research and education collaboration”

- 11:00-11:04** **Opening Remarks**
Prof. Shigeo Fujii
- 11:04-11:40** **Part I**
Introduction of each university and its international collaboration activities
(3 min. presentation and 1 min. discussion each)
- 11:40-12:05** **Part II Research Collaboration**
The Next JSPS Core-to-Core Program Proposal *(10 min)*
Assoc. Prof. Hirohide Kobayashi
Discussion
- 12:05-12:30** **Part III Educational Collaboration**
GSGES's plan for Double Degree Programs *(10 min)*
Assoc. Prof. Shuhei Tanaka
Discussion

CoHHO Workshop **13:30 – 16:15**

Room: Room Gold A

- 13:30-13:45** **Self-introduction of the participants**
- 13:45-14:00** **Introduction of CoHHo**
Dr. Edouard Lavergne
- 14:00-14:15** **Introduction of HUAF and research interest topics**
Assoc. Prof. Le Van An
- 14:15-14:30** **Ecosystem, people and environment in Hue**
Dr. Ngo Tung Duc
- 14:30-14:45** **Environmental issues and Danang Environmental City project in Danang**
Dr. Hoang Hai
- 14:45-15:00** **Coffee and tea break**
- 15:00-15:10** **Research plan in Hue**
Assoc. Prof. Hirohide Kobayashi
- 15:10-15:20** **Research plan in Central Vietnam**
Assoc. Prof. Jane Singeri

- 15:20-15:30 **Research plan in Central Vietnam**
Assoc. Prof. Miki Yoshizumi
- 15:30-15:40 **Research activity: Vietnamese Women Association in livelihoods improvement**
Ms. Le Thi Quynh Anh
- 15:40-15:50 **Research activity: Vietnamese ESD programs**
Ms. Kieu Thi Kinh
- 15:50-16:10 **Discussion to develop joint research topics**
- 16:10-16:15 **Conclusion / Closing Remarks**
Assoc. Prof. Le Van An

Closing session **17:05 – 17:30**

Room: Diamond Hall

Facilitator: Dr. Pham Khac Lieu, Dr. Tran Anh Tuan

- 17:05 – 17:20 **Introduction to IFGTM 2016**
Dr. Nguyen Thanh Binh – Faculty of Resources and Environment, Thu Dau Mot University
- 17:20 – 17:30 **Closing remarks**
Assoc. Prof. Huynh Trung Hai - INEST, Hanoi University of Science and Technology
Dr. Duong Van Hieu - Department of Environmental Science, Hue University of Sciences

RECEPTION

(For all registered participants)

Time: 18:30 – 20:30

Venue: Song Huong Floating Restaurant
3 Thang 2 Park, Le Loi street, Hue city

<http://nhahangnoisonghuong.com>

Note: Pick up at Green Hotel at 18:15.

DAY 3 (July 30, 2015)

TECHNICAL TOUR

Date: July 30, 2015

Places of visit: Quang Te Water Purification Plant and Thuy Phuong Landfill site

Schedule

7:45: Pick up at Green Hotel.

8:00: Arrive at Quang Te Water Purification Plant, visit two water purification systems.

9:00: Leave Quang Te Plant for Thuy Phuong Landfill site.

9:30: Arrive at Thuy Phuong Landfill site; visit the operating landfill, incinerator and leachate treatment system.

10:30: Leave Thuy Phuong landfill for Green Hotel.

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