2012 PBC & SEGH Conference

2012 Joint International Conference on
"Pacific Basin Consortium for Enviornment and Health"
and "Society for Environmental Geochemistry & Health"

Date. 2012. 04. 10 - 2012. 04. 13

Place. GIST, Gwangju, Republic of Korea







Gwangju Institute of Science and Technology

The Pacific Basin Consortium for Environment and Health

The Society for Environmental Geochemistry and Health

Sponsor

GWANGJU CONVENTION & VISITORS BUREAU

The Second stage of BK21 Fostering A World Class Talent Leading Education Program for Future Environmental Fusion Technology

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Welcome Address

Dear distinguished participants !

I am so pleased to host this meeting "2012 PBC-SEGH Joint Conference" at Gwangju Institute of Science and Technology, Korea. April is the best season in Korea ("Queen of the season!") and everything is revived. Here, Gwangju is the city of traditional culture and cutting-edge science with particular reference to photonics.

This conference will be a great place for the international collaboration and we can share lots of experiences in the field of environment and health issues. Today we are very fortunate to have excellent speakers from most Asia-Pacific regions including Australia, Cambodia, Canada, China, Hongkong, India, Indonesia, Japan, New Zealand, Pakistan, Thailand, USA, Vietnam and several others. For the social activities, we will have the cultural show of Gayagum (The Korean instrument with 12 strings; a kind of long zither) Trio before banquet. Also we will have field trip to Korean Folk Museum and Buddist Temple on day 4 (13 April). In these opportunities, I hope that you enjoy Korean culture and "You feel at home in Gwangju".

Lastly, we have several sponsors for this meeting, National Institute of Environmental Health Science in USA, Pacific Pacific Basin Consortium, East-West Center at Hawaii, Gwangju Convention & Visitors Bureau, Bain Korea 21 Program (Leading Education Program for Future Environmental Fusion Technology), and Korean Society for Geosystem Engineering as well as GIST. We are appreciating the supports from these sponsors.

Kyoung-Woong Kim
Meeting President

2012 PBC & SEGH Programme in brief

Tuesday - April 10th, 2012			
2:00 p.m - 6:00 p.m	**Training Workshop I**	**Training Workshop II**	**Training Workshop III**
6:00 p.m - 7:00 p.m	Reception		
Wednesday - April 11th, 2012			
8:30 a.m - 9:10 a.m	Resigtration		
9:10 a.m - 10:40 a.m	**Opening Ceremony & Plenary: Joint PBC & SEGH Session**		
10:40 a.m - 11:00 a.m	Tea Break **(Group Photo)**		
11:00 a.m - 1:00 p.m	**"Emerging Issues in Geo-environment and Human Health"**		
1:00 p.m - 2:00 p.m	Lunch		
2:00 p.m - 4:30 p.m	**"Arsenic"**		
4:30 p.m - 4:50 p.m	Tea Break		
4:50 p.m - 5:50 p.m	**"Water Issues in Asia"**		
6:00 p.m - 6:30 p.m	PBC Board Meeting		
Thursday - April 12th, 2012			
9:00 a.m - 10:50 a.m	**Water Management and Treatment I**	**Soil/Groundwater Remediation I - Radionuclide**	
10:50 a.m - 11:10 a.m	Tea Break		
11:10 a.m - 1:00 p.m	**Water Management and Treatment II**	**Soil/Groundwater Remediation II - Mining Issues**	
1:00 p.m - 2:30 p.m	Lunch (**Poster Session**)		
2:30 p.m - 4:20 p.m	**Hazardous Waste I - Persistent Toxic Substances**	**Soil/Groundwater Remediation III - Current Issues**	
4:20 p.m - 4:40 p.m	Tea Break		
4:40 p.m - 6:30 p.m	**Hazardous Waste II - Current Issues in Pacific Basin**	**Nano and Risk Assessment**	
6:30 p.m -	Banquet (Traditional Culture Performance)		
Friday - April 13th, 2012			
9:00 a.m - 11:00 a.m	**Student Session**		
11:00 a.m - 11:30 a.m	Tea Break		
11:30 a.m - 1:00 p.m	**Collaborative Research in the Pacific Basin**		
1:00 p.m - 1:30 p.m	Lunch (Lunch box)		
1:30 p.m - 6:00 p.m	Field Trip		

PBC & SEGH 2012 Program

Day 1 (10 April: Tuesday) 2:00 p.m. – 6:00 p.m.

Training Workshop I (Rm. 203) **Children's Environmental Health (Dedication to Dr. Jenny Pronczuk)** Prof. Peter Sly Prof. David Carpenter Dr. Leith Sly	**Training Workshop II (Rm. 103)** **Environmental Exposure and Risk Assessment in Children** Dr. Paul Jagals Dr. Colleen Lau	**Training Workshop III (Rm. 101)** **Energy and Environment Issues in the Era of Climate Change: Case Study in Korea (in Korean Language)** Prof. Hyo-Taek Chon Prof. Kyoung-Woong Kim Prof. Myung-Chae Jung
Reception (6:00 p.m. - 7:00 p.m.)		

Day 2(11 April: Wednesday)

Opening Ceremony & Plenary: Joint PBC & SEGH Session (Rm. H-303) **Chair: Prof. Kyoung-Woong Kim**	
9:10 a.m. - 10:40 a.m.	Interdisciplinary research and training models for improving human health and the environment: A global environmental health network (Dr. William Suk, NIEHS, USA)
	Environmental geochemistry and health study in Asia-Pacific region (Prof. Hyo-Taek Chon, Seoul National University, Korea)
10:40 a.m. - 11:00 a.m.	Tea Break (Group Photo)
Emerging Issues in Geo-environment and Human Health **Chairs: Prof. Peter Sly (President of PBC) &Prof. Xiangdong Li (President of SEGH)**	
11:00 a.m. - 1:00 p.m.	Biomarkers in assessing the environmental contribution to disease in children (Prof. Peter Sly, University of Queensland, Australia)
	Drinking water and human health issues in Southeast Asia (Prof. Kyoung-Woong Kim, GIST, Korea)
	Potential health risks of persistent toxic substances found in fish and common food items in South China (Prof. Ming-Hung Wong, Hongkong Baptist University, Hongkong, China)
	High resolution mapping of combustion processes and implications for global CO_2, BC, and PAH emissions (Prof. Shu Tao, Peking University, China)
1:00 p.m. - 2:00 p.m.	Lunch
Arsenic **Chairs: Dr. Maria Argos &Prof. Kyoung-Woong Kim**	
2:00 p.m. - 4:30 p.m.	Low-dose arsenic exposure in Bangladesh: Findings from the health effects of arsenic longitudinal study (Dr. Maria Argos, University of Chicago, USA)
	Prenatal arsenic exposure: Cellular and molecular responses (Dr. Panida Navasumrit, Chulabhorn Research Institute, Thailand)
	Geochemistry of arsenic in Vietnam (Ms. Le Thai Ha, NIOEH, Vietnam)
	Execution of arsenic mitigation project for establishment of government initiative system in UP state of India (Prof. Koichiro Shiomori, University of Miyazaki, Japan)
	Arsenic geochemistry of groundwater in Cambodia and Lao PDR (Dr. Penradee Chanpiwat, GIST, Korea)
4:30 p.m. - 4:50 p.m.	Tea Break
Water Issues in Asia **Chair: Dr. Budi Haryanto**	
4:50 p.m. - 5:50 p.m.	A case study: Healthcare waste management in Vietnam (Dr. Tran Dac Phu, Health Environment Management Agency,Vietnam)
	Main businesses and water treatment technologies of MIRECO (Dr. Min Jang, Institute of Mine Reclamation Technology, Korea)
6:00 p.m. - 6:30 p.m.	PBC Board Meeting

PBC & SEGH 2012 Program

Day 3 (12 April: Thursday)

	Water Management and Treatment I (Rm. 101) (Moderator: Prof. Robert Arnold / Prof. Heechul Choi)	**Soil/Groundwater Remediation I (Rm. 103) - Radionuclide (Moderator: Dr. Keun-Young Lee)**
9:00 a.m. - 9:30 a.m.	Keynote speaker Direct potable water reuse: Implications for health and sustainability (Prof. Shane Snyder)	Keynote speaker Radionuclides migration emitted from the Fukushima Daiichi nuclear power plant: Heterogeneity in their distributions in aerosol, soil and particulate matters (Prof. Yoshio Takahashi)
9:30 a.m. - 10:50 a.m.	Hybridization of managed aquifer recharge (MAR): New concepts in multi-barrier treatment for wastewater reuse (Prof. Sung Kyu Maeng)	Site remediation and final status survey of decommissioning nuclear fuel facility (Dr. Sang-bum Hong)
	Enhanced wastewater treatment processes using ozone, UV/H_2O_2 and ferrate: Elimination of micropollutants and byproducts formation (Prof. Yunho Lee)	Analysis of factors influencing the selection of strategies for decommissioning of nuclear facilities (Dr. Kwan-Seong Jeong)
	Colloidal particle-surface interactions in environmental systems (Dr. Eunhyea Chung)	Effect of temperature on the stability of U(VI) species, $UO_2(O_2)(CO_3)_2^{4-}$ as a complex ion in carbonate solution (Dr. Keun-Young Lee)
	Applications of high-valent iron and copper produced by fenton-type reactions in water treatment (Prof. Changha Lee)	Volume reduction of radioactive HEPA filter media generated from nuclear facilities by thermal treatment (Dr. In-Ho Yoon)
10:50 a.m. - 11:10 a.m.	Tea Break	
	Water Management and Treatment II (Rm. 101) (Moderator: Prof. Robert Arnold / Prof. Heechul Choi)	**Soil/Groundwater Remediation II (Rm. 103) - Mining Issues (Moderator: Prof. Ron Watkins)**
11:10 a.m. - 11:40 a.m.	Keynote speaker Antibiotics in riverine runoff of the Pearl River Delta (China) and their transport into the coastal sea, South China (Prof. Xiangdong Li)	Keynote speaker Effects of acid sulphate soil-derived groundwater on an urban wetland, Perth, Western Australia (Prof. David Oldmeadow)
11:40 a.m.- 1:00 p.m.	Removal of arsenic from water using a new class of iron based nanoparticles (Dr. Byungryul An)	Treatment of acid mine drainage from Ilkwang Cu mine using biochar and zero-valentiron (Prof. Seok-Young Oh)
	Seasonal variation of effluent organic matters through a surface-flow constructed wetland (Dr. Kyongmi Chon)	Chromium generation associated with Fe and Mn oxides in serpentine mining tailings (Prof. Hseu Zeng-Yei)
	The evolution of water supply challenges in the southwestern United States (Prof. Robert Arnold)	Adsorption of arsenic using synthetic magnetite from aqueous solution (Dr. Kaoru Ohe)
	Relationship between hospitalization rate of breast cancer and residence near sites contaminated with EDCs (Dr. Xiaoxia Lu)	Tolukuma gold mine: Bio-physical impact caused by sodium cyanide spill in Papua New Guinea (Dr. Kirpal Singh)
1:00 p.m. - 2:30 p.m.	Lunch (**Poster Session**)	

	Hazardous Waste I (Rm. 101) - Persistent Toxic Substances (Moderator: Prof. Ming-Hung Wong)	Soil/Groundwater Remediation III (Rm. 103) - Current Issues (Moderator: Dr. Rajendra Prasad)
2:30 p.m. -3:00 p.m.	Keynote speaker Managing and disposing of spills of small quantities of hazardous chemicals (Prof. Margaret-Ann Armour)	Keynote speaker Patent retrieval for 'Reclamation of contaminated soil' (Dr. Rajendra Prasad)
3:00 p.m. - 4:20 p.m.	Low dose persistent organic pollutants and diabetes (Dr. Duk Hee Lee)	Heavy metal immobilization by biochar for water and soil remediation (Dr. Jin Hee Park)
	Pollution of selected pharmaceuticals and risk assessment to the watersheds in Hanoi, Vietnam (Mr. Do Manh Cuong)	Environmental impacts evaluation on machinery base project for leading industry development in Dongnam Economic Region using life cycle assessment (Dr. Hae Pyo Chun)
	Alternative model to pesticides constraining use condition (Dr. Semia Gharbi)	The changes of trace metal pollution over the last decade in surface sediments of the Pearl River Estuary, south China (Dr. Baowei Chen)
	Eco-management of hazardous wastes (Dr.Mumtaz Hussain)	Health impact estimation of organochlorine insecticide contamination in groundwater using iridology method (Dr. Kathariana Oginawati)
4:20 p.m. - 4:40 p.m.	Tea Break	
	Hazardous Waste II (Rm. 101) - Current Issues in Pacific Basin (Moderator:Dr. Mahmood Khwaja)	**Nano and Risk Assessment (Rm. 103) (Moderator: Dr. Byung-Tae Lee / Dr. Yun-Sung Kim)**
4:40 p.m. -5:10 p.m.	Keynote speaker Sound chemical management for sustainable development: Assessment of contaminated sites in Pakistan and the emerging environmental and health issues (Dr. Mahmood Khwaja)	Keynote speaker Development of nanometrology for EHS studies of metal-containing nanoparticles (Dr. James F. Ranville)
5:10 p.m. - 6:30 p.m.	Uncontrolled recycling of electronic-waste: Impacts and proper management (Prof. Ming-Hung Wong)	Comparative study of heavy metal loadings in soil, dust, and plant from an urban environment (Prof. Xiangdong Li)
	Approaches to systematic assessment of environmental exposures posed at hazardous waste sites in low and medium income countries (Dr. Bret Ericson)	Frameworks of new environmental risk assessment using TPH fractions and characteristics of PAHs in soil for Korean soil environment policy (Ms. Anna Lee)
	Asbestos issues in Pakistan (Prof. Noor Jehan)	Contribution factor in hepatitis type A :Outbreak in high school in Indonesia (Dr. Dewi Susanna)
	Genesis and delineation of high nitrate concentrations in the groundwater of Thar Desert, Pakistan (Dr. Tahir Rafique)	Noval waste water management in hazardous industries – Recovery of water under zero liquid discharge concept (Dr. S. Rajamani)
6:30 p.m. -	Banquet (Traditional Culture Performance)	

PBC & SEGH 2012 Program

Day 4 (13 April: Friday)

Student Session (Rm. 101) Chair: Prof. David Carpenter&Prof. Peter Sly	
9:00 a.m. - 11:00 a.m.	Depth profile of copper, lead, and zinc in abandoned mine tailings using laser induced breakdown spectroscopy (Ki-Rak Kim: GIST, Korea)
	The importance of metals and metalloids in atmospheric dust and aerosols from mining (Janae Csavina: University of Arizona, USA)
	Speciation of lead in indoor dust and playground soil in Japan and China by X-ray absorption fine structure (XAFS) spectroscopy (Hiroko Yamada: Hiroshima University, Japan)
	Arsenicosis status of inhabitants residing in the arsenic-affected area in Kandal province, Cambodia (Kongkea Phan: GIST, Korea)
	Mitigating symptoms of chronic arsenic toxicity in rats using high selenium lentil diets (Shweta Sah: University of Calgary, Canada)
	Long-term stabilization of arsenic-bearing solid residuals under landfill conditions (Madhumitha Raghav: University of Arizona, USA)
	Correlation between biofilm growth and fate of pharmaceuticals in porous media (Hun-Cheol Im: GIST, Korea)
	Development and evaluation of new behavioral parameters for biological early warning system using *Daphnia magna* (Tae-Yong Jeong: GIST, Korea)
11:00 a.m. - 11:30 a.m.	Tea Break
Collaborative Research in the Pacific Basin (Rm. 101) Moderator: Prof. Fujio Kayama	
11:30 a.m.-1:00 p.m.	Environment and health research at the East-West Center (Dr. Nancy Lewis) Introduction of Japan's EcoChild study, and US National Children's Study (Prof. Fujio Kayama)
1:00 p.m.- 1:30 p.m.	Lunch (Lunch box)
1:30 p.m.-6:00 p.m.	Field Trip (Gwangju Folk Museum & Korean Buddist Temple)

Poster Presentation

(Size of poster: 90 cm (width) x 110 cm (length))
Moderator: Dr. Danielle Carlin

P1] Urban water supply management in developing countries; Pakistan's scenario
(Mumtaz Hussain: The Environ Monitor and Chairperson Environment Media Forum, Pakistan)

P2] Decrease of arsenate adsorption on bacteriogenic iron oxides (BIOS): effect of organic material
(Sakiko Kikuchi: Hiroshima University, Japan)

P3] Physiochemical and redox activity of indoor airborne particles
(BK Padhi: Asian Institute of Public Health, India)

P4] Occupational health issues in industrial effluent treatment plants and viable safety measures
(S. Rajamani: International Union of Environment Commision, India)

P5] Chemical and microbiological analysis of drinking water of satellite town Rawalpindi, Pakistan
(Uzaira Rafique: Fatima Jinnah Women University, Pakistan)

P6] Challenges of climate change governance in Uganda
(S. Muwonge: Green World Uganda, Uganda)

P7] Role of biomineralization in arsenic sequestration under landfill conditions
(Sahar Fathordoobadi: The University of Arizona)

P8] Predicting natural arsenic contamination of groundwater in Korea
(Joo Sung Ahn: KIGAM, Korea)

P9] A measurement of elemental composition of carbonaceous aerosols by using the aerosol focusing-laser induced breakdown spectroscopy (AF-LIBS)
(Gibaek Kim: GIST, Korea)

P10] Assimilation of silver nanoparticles in male Japanese Medaka through aqueous exposure
(JunYeol Kim: GIST, Korea)

P11] Influence of salinity intrusion on the distribution, speciation, and partitioning of mercury in the Mekong River
(Seam Noh: GIST, Korea)

P12] Whole effluent toxicity assessment of mine drainage using *Daphnia magna*
(In Jeong Kim: GIST, Korea)

P13] Case study of abandoned mine area for evaluating passive treatment process
(Sang-Ho Lee: GIST, Korea)

P14] Pilot experiments for stabilization of arsenic in the agricultural soils using mine sludge
(Myoung-Soo Ko: GIST, Korea)

P15] Comparative study of arsenic adsorption on synthesized iron oxide and mine sludge
(Sol-ji Choi: GIST, Korea)

P16] Antibacterial activity and cellular uptake of silver nanoparticles on *Escherichia coli K-12*
(Yoo-Jin Choi: GIST, Korea)

P17] Exclusive accumulation of tellurium nanostructures via respiratory reduction of tellurite by *Shewanella oneidensis* MR-1
(Dong-Hun Kim: GIST, Korea)

P18] Effect of pH and ionic strength on aqueous phase Hg(II) removal by nanoscale zero-valent iron
(Lee, Se-Yong: GIST, Korea)

P19] Effects of environmental conditions on release behavior of the silver ions (Ag+) from silver nanoparticles (AgNPs)
(Hyun-A Kim: GIST, Korea)

P20] Removal of phosphate by using iron-oxide coated sand
(Sang-Ho Lee: GIST, Korea)

2012 PBC - SEGH Invited Speakers & Moderators

Peter Sly

- Professor at the University of Queensland
- Chair of the World Health Organisation's Collaborating Centre for Research on Children's Environmental Health
- Deputy Director of Queensland Children's Medical Research Institute
- Chair of Pacific Basin Consortium
- Research interest: Identification and developing preventative strategies for children at greatest risk
- E-mail: p.sly@uq.edu.au

David Carpenter

- Professor at the University of Albany
- The Director of the Institute for Health and the Environment of the University of Albany
- Researcg interest: The human health effects of exposure to environmental contaminants coming from food, air and water
- E-mail: dcarpenter@albany.edu

Leith Sly

- Senior lecturer at the University of Queensland
- Research interest: The flexible delivery and computer-based learning options for tertiary education
- E-mail: leith.sly@uq.edu.au

Paul Jagals

- Environmental Health Specialist at the School of Population Health at the University of Queensland
- Research interest: Health and environment, Water and health, Management of water in developing counturies
- Editorial board member of Journal for Water and Health
- E-mail: p.jagals@uq.edu.au

Colleen Lau

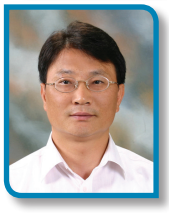
- Ph.D. Candidate at School of Population Health, University of Queensland
- Locum Medical Doctor at Medibank Health Solutions, Australia
- Consultant to International Water Centre, Brisbane
- Research interest: Infectious diseases, Environmental health, Epidemiology, Tropical medicine
- E-mail: colleen.lau@uqconnect.edu.au

Hyo-Taek Chon

- Professor of Applied Geochemistry at the Department of Mineral and Petroleum Engineering (currently Department of Energy Resources Engineering), Seoul National University(SNU)
- Publication: 10 textbooks and about 190 papers in academic journals
- Member of National Academy of Engineering of Korea
- E-mail: chon@snu.ac.kr

Kyoung-Woong Kim

- Professor & Dean of School of Environmental Science and Engineering at Gwangju Institute of Science and Technology
- Director of Brain Korea 21 Program (Leading Education Program for Environmental Fusion Technology)
- Member of National Academy of Engineering of Korea
- Associate Editor-in-chief of Geosystem Engineering (Taylor & Francis)
- Research interest: Environmental risk assessment, Remediation of contaminated soil & groundwater
- E-mail: kwkim@gist.ac.kr



Myung-Chae Jung

- Professor at Sejong University
- Secretary general of Korean Society of Economic & Environmental Geology
- Ph.D. at Imperial College London
- Research interest: Environmental geochemistry and health
- E-mail: jmc65@sejong.ac.kr

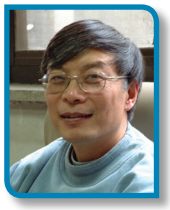
2012 PBC - SEGH Invited Speakers & Moderators

William Suk

- Director of Center for Risk and Integrated Sciences
- Director of Superfund Research Program, National Institute of Environmental Health Sciences (NIEHS), National Institutes of Health (NIH)
- Research interest: The assessment of adverse effects on human health
- E-mail: suk@niehs.nih.gov

Ming-Hung Wong

- Chair Professor of Biology & Honorary Director of Croucher Institute for Environmental Sciences at Hong Kong Baptist University
- Editor-in-Chief of Environmental Geochemistry and Health (Springer)
- Research interest: Ecotoxicological assessment & remediation of sites contaminated with toxic metals & persistent organic pollutants
- E-mail: mhwong@hkbu.edu.hk



Shu Tao

- Dean of College of Urban and Environmental Sciences
- Member of Chinese Academy of Science
- Editorial board member of several international journals
- More than 200 papers published in peer-reviewed international journals
- E-mail: taos@pku.edu.cn

Maria Argos

- Research Associate Assistant Professor at the Department of Health Studies, University of Chicago
- Ph.D: Epidemiology from Columbia University's Mailman School of Public Health
- Research interest: Health effects of arsenic longitudinal study cohort
- E-mail: margos@health.bsd.uchicago.edu

Panida Navasumrit

- Research Scientist of Environmental Toxicology Laboratory, Chulabhor Research Institute, Thailand
- Ph.D: Paterson Institute for Cancer Research University of Manchester
- Research interest: Molecular mechanisms of environmental pollutants-induced human diseases and cancer, Molecular epidemiology
- E-mail: panida@cri.or.th

Le Thai Ha

- Researcher at National Institute of Occupational & Environmental Health, Ministry of Health in Vietnam
- MSc in Environmental Analysing and Management at Asian Institute of Technology
- Research interest: Water treatment, Water quality management, Assessing water quality
- Email: aone71@yahoo.com

Koichiro Shiomori

- Associate Professor of Miyazaki University
- Ph. D: Osaka University
- Research interest: Interfacial engineering, Separation and reaction engineering
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Penradee Chanpiwat

- Post doctoral research fellow at School of Environmental Science and Engineering, Gwangju Institute of Science and Technology
- Ph.D: School of Environmental Science and Engineering, Gwangju Institute of Science and Technology, Republic of Korea
- Research interest: Metal contamination in wastewater and sewage sludge, Sustainable water quality management
- E-mail: pchanpiwat@gmail.com

2012 PBC - SEGH Invited Speakers & Moderators

Tran Dac Phu

- Deputy Director General of Health Environment Management Agency, Ministry of Health of Vietnam
- Ph.D: National Institute of Epidemiology and Hygiene, Viet Nam
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Min Jang

- Senior researcher in Mine Reclamation Corp. (MIREO)
- Ph.D: University of Wisconsin-Madison, USA
  (Title: Arsenic removal from water using nano-scale metal oxide incorporated, highly ordered mesoporous silicate media)
- E-mail: mjang@mireco.or.kr

Shane Snyder

- Professor at University of Arizona
- Co-Director Chemical and Environmental Engineering, Arizona Laboratory for Emerging Contaminants (ALEC)
- Research interest: Identification, fate and health relevance of emerging water pollutants
- E-mail: snyders2@email.arizona.edu

Xiangdong Li

- Professor at Department of Civil and Structural Engineering, The Hong Kong Polytechnic University
- President of Society for Environmental Geochemistry and Health (SEGH)
- Ph.D: Environmental Technology from Imperial College London
- Research interest: Regional environmental pollution, Urban environmental geochemistry, Phytoremediation of contaminated soils
- E-mail: cexdli@polyu.edu.hk

Yoshio Takahashi

- Professor of Environmental Geochemistry at Department of Earth and Planetary Systems Science, Hiroshima University, Japan
- Ph.D: The University of Tokyo, Japan
- Research interest: The speciation studies using X-ray absorption spectroscopy applied to environmental geochemistry
- E-mail: ytakaha@hiroshima-u.ac.jp

David Oldmeadow

- Professor at Curtin University
- Research interest: Mine waste issues, Remote community sustainability, Water treatment technology, Emerging, green and appropriate technologies, Decarbonising regional areas, Mapping sustainable service delivery models
- E-mail: D.Oldmeadow@curtin.edu.au

Margaret Ann Armour

- Associate Dean of Science, University of Alberta
- Research interest: Environmental chemistry, The management and disposal of small quantities of hazardous waste to many groups both in North America and Asia
-E-mail: margaret-ann.armour@ualberta.ca

Rajendra Prasad

- Founder & Vice President, Indian Network for Soil Contamination Research
- Ph.D in Chemistry at Banaras Hindu University in India
- Authored a country report on soil contamination (1996) & organized an international conference on soil contamination (1999)
- E-mail: drrajendra@gmail.com

2012 PBC - SEGH Invited Speakers & Moderators

Mahmood A. Khwaja

- Senior Advisor, Chemicals and Sustainable Industrial Development, Sustainable Development Policy Institute (SDPI)
- Ph.D. in Chemistry at La Trobe University of Science and Technology, Melbourne, Australia
- Research interest: Sustainable industrial development, Persistent organic pollutants (POPs), Hazardous chemicals, Wastes/ contaminated sites, Chemicals and climate change, Environment impact assessment (EIA)
- E-mail: khwaja@sdpi.org; m.a.khwaja@gmail.com

James F. Ranville

- Associate Professor at Department of Chemistry and Geochemistry, Colorado School of Mines
- Ph.D: Colorado School of Mines, The USA
- Research interest: Environmental nanoparticle research
- E-mail: jranvill@mines.edu

Nancy Lewis

- Director of the Research Program at the East-West Center
- President of the Pacific Science Association
- Research interest: Intersection between health and environment, Exploring health and development, Gender and safe womanhood, Health risks associated with climate change and globalization
- E-mail: Nancy.Lewis@EastWestCenter.org

2012 PBC - SEGH Invited Speakers & Moderators

Robert Arnold

- Professor at University of Arizona
- A board member for the Association of Environmental Engineering and Science Professors
- Research interest: Engineered systems for the electrochemical and thermochemical destruction of chlorinated solvents, Fate and transport of trace organics of wastewater origin (e.g. hormones and hormone mimics) in the environment, Advanced oxidation for destruction of trace contaminants and brine minimization during salt separation via reverse osmosis
- E-mail: rga@email.arizona.edu.au

Heechul Choi

- Professor at Gwangju Institute of Science and Technology, Korea
- Ph.D in Civil and Environmental Engineering, Texas A&M University
- Research interest: Environmental nano technology, Advanced oxidation technologies for water, contaminant transport and modeling through porous media, Remediation of contaminated soil and groundwater
- E-mail: hcchoi@gist.ac.kr

Keun-Young Lee

- Researcher of Korea Atomic Energy Research Institute
- Ph.D: School of Environmental Science and Engineering, Gwangju Institute of Science and Technology, Korea
- Research interest: Environmental fusion technology for waste management, Bioelectrokinetics for inorganics separation from target wastes, Geochemical and mineralogical analyses on unknown solid sample, Novel technology for decontamination of radwaste
- E-mail: lky@kaeri.re.kr

Ron Watkins

- Associate Professor at Curtin University
- President of the Asis-Pacific Branch of the SEGH
- Research interest: Mining environment; Urban geochemistry; Geochemistry and health
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Byung-Tae Lee

- Assistant Research Professor of Environmental Analysis Center, Gwangju Institute of Science and Technology, Korea
- Ph.D: Gwangju Institute of Science and Technology, Korea
- Research interest: Nano safety in environment, Ecotoxicology of terrestrial environment, Remedial technology for soils and groundwater contaminated with arsenic and heavy metals, Analytical methods for arsenic and heavy metals
- E-mail: btlee@gist.ac.kr

Yun-Sung Kim

- Research Fellow of Korea Environment Institute
- Ph.D: The Massachusetts Institute of Technology
- E-mail: kimys@kei.re.kr

Danielle Carlin

- A Program Administrator with the Superfund Research Program at the National Institute of Environmental Health Sciences
- Ph.D: The Kansas State University , The USA
- Research interest: Aerosolized drugs/vaccines for treatment and prevention of tuberculosis, Toxicological effects of exposure to Libby amphibole asbestos in the rat model
- E-mail: Danielle.carlin@nih.gov

2012 PBC - SEGH Invited Speakers & Moderators

Budi Haryanto

- Associate Professor at the Department of Environmental Health & Research Center for Climate Change, University of Indonesia
- Ph.D in epidemiology at the Faculty of Public Health, University of Indonesia
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TRAINING WORKSHOP I: CHILDREN'S ENVIRONMENTAL HEALTH

(Dedication to Dr. Jenny Pronczuk)

2:00 - 2:05	Introduction, Aims of Workshop: Peter Sly
2:05 - 2:35	Special Vulnerability of Children to Environmental Exposures: Leith Sly
2:35- 3:10	Air Pollution: outdoor and indoor exposures: Peter Sly
3:10-3:45	**Break**
3:45 - 4:30	Environmental contributions to ADHD and behavioural problems: David Carpenter
4:30–5:00	BPA: What are the issues? What are the options: Leith Sly
5:00 – 5:30	Health consequences of exposures to pesticides and persistent toxic substances: David Carpenter
5:30 – 6:00	Conclusions and Discussion: Peter Sly

The time allowed for each presentation will include time for questions and discussion.

TrainingWorkshop II

Environmental Exposure and Risk Assessment in Children

Paul Jagals and Colleen Lau
School of Population Health, University of QueenslandPBC & SEGH 2012: Day 1 (10 April: Tuesday) 2:00 p.m. – 6:00 p.m.

Assessing and managing health risk caused by environmental exposures is a complex process. To enhance understanding and application of risk assessment and management based on multiple environmental exposures in a population (with varying layers of susceptibilities), it is necessary to understand the integrative process required to achieve meaningful results.
This workshop will discuss how environmental exposures posing risks associated with health outcomes are best considered within an Integrated Environmental Health Impact Assessment framework
The framework includes identification of risk factors, potential pathways of exposure, management of such risk factors and their associated health outcomesthrough evidence-based interventions.

2:00 -2:40pm: *Integrated Environmental Health Impact Assessment (IEHIA)*

Based on the conceptual model developed by Briggs (2008) (Fig 1), the application of an IEHIA rather than risk assessment on its own allows for a more comprehensiveassessment approach thattakes into account multiple layers of exposures to environmental hazards, and the interaction between these different risk systems in determining overall impact of an intervention or predicting the extent of a health outcome.Using an IEHIA provides more preciseinformation about risks, allows implementation ofmore appropriate interventionsandmore accurateassessment of the effectiveness of the interventions.

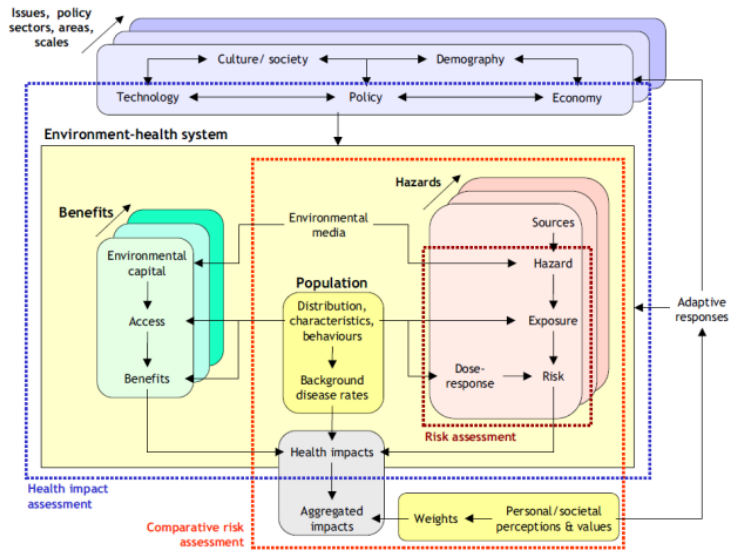

Figure 1: Conceptualising Integrated Environmental Health Impact Assessment (Briggs, 2008)

2:45 to 3:25pm: E*nvironmental exposures and children in the context of IEHIA*

Understanding children's exposures to environmental hazards are perhaps the most vivid examples of the points to consider when conducting an IEHIA. We will briefly visit the various issues one needs to consider when assessing the environmental health impact on children when conducting the assessment.

We will then provide the opportunity for attendees to experience for themselves what aspects of these assessments need to be considered by participating in a small activity based on a real-life assessment used an IEHIA approach to assess people's exposure to environmental hazards - in this case an infectious disease.

3:30 to 4:10 pm: *Case Study – Environmental drivers of Leptospirosis in an island population*

Using multiple sources of information including biomarkers, questionnaire data,and geo-referenced environmental data, the results were used to develop models to identify people at high risk of infection,produce disease risk maps to identify high-risk locations,and provide information to direct public health intervention strategies – all these are essential components of an IEHIA.

4:15 –4:55 pm: *Hypotheticalapplication of IEHIA using children's exposure to environmental agents that drive infectious disease*

Participants will then have the opportunity to design a hypothetical follow-up for this assessment that focuses on children and their exposures to this disease agent. The activity will aim to identify possible extraordinary factors that need to be considered when designing an IEHIA involving children.

For a disease with multiple risk factors for exposure, effective interventions will require a multidisciplinary approach that includes all appropriate stakeholders. Ongoing assessment is required to determine changes in risks over time, adapt interventions to target evolving risks and environmental conditions, and evaluate the effectiveness of interventions.

We will use the framework (Figure 2)to develop our hypothetical follow-up assessment

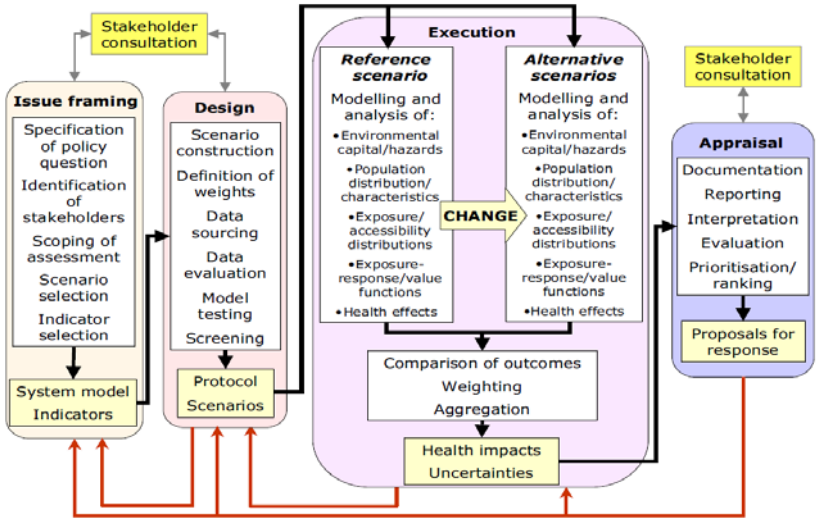

Figure 2: Operational Integrated Environmental Health Impact Assessment (Briggs, 2008)

5:00- 5:30 pm: *Feedback, discussion and closure*

References

Briggs D. 2008. A framework for integrated environmental health impact assessment of systemic risks. BioMed Central (Environmental Health) 7:61.doi:10.1186/1476-069X-7-61

WORKSHOP III GIST, Gwangju, Korea

Energy and Environment Issues in the Era of the Climate Change: Case Studies in Korea

2:00-3:30 Chair person: Dr. Yeong-Wook Cheong

Distribution characteristics of Platinum (Pt), Palladium(Pd) and related elements in dusts from Seoul Metropolitan city, Korea
- Prof. Hyo-Taek Chon (Seoul National University)

Climate change mitigation measures in energy sector
- Dr. Daegyun Oh (Korea Energy Management Corporation)

Topic: Environmental issues in unconventional resources development
- Prof. Hyundon Shin (Inha University)

Role and opportunity of small company in energy and mining business
- Dr. Hae Pyo Chun(SAMDOO Co. Ltd.)

Appropriate technology for the drinking water: Ongdalsaem
- Prof. Kyoung-Woong Kim (Gwangju Institute of Science and Technology)

Korean technology foresight activities and technology outlook 2020
- Dr. Ji-Ho Hwang (Korea Institute of Science & Technology Evaluation and Planning)

3:30-4:00 Coffee break

4:00-5:15 Chair person: Professor Hyeong-Dong Park

Mine water quality before and after closure of mines and its utilization for geothermal energy source
- Dr. Young-Wook Cheong (Korea Institute of Geoscience and Mineral Resources)

Column experiments on removal of dissolved arsenic using microorganism and nano-sized akaganeite particles
- Prof. Jong-Un Lee (Chonnam National University)

Evaluation on asbestos inhalation from soil to air using a friable asbestos sampler
- Prof. MyungChae Jung (Sejong University)

Removal of heavy metals in Gum-poong tailing
- Prof. Jongmun Cha(Dong-A University)

Hydrogeological characterization of soil/weathered zone and fractured bedrocksin DNAPL contaminated areas of the Usan industrial complex, Wonju, Korea
- Prof. In Wook Yeo (Chonnam National University)

5:15-6:00 Panel Discussion (Prof. Hwan-Jo Baek)

SESE

School Vision

GIST ranks world's 12th university

by citations per faculty in the 2011 QS World University Ranking

Citations Per Faculty

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Rank	Institution	Country	QS Stars What are QS Stars?	Domestic Fees ($) undergrad	Domestic Fees ($) postgrad	International Fees ($) undergrad	International Fees ($) postgrad	Score
1	California Institute of Technology (Caltech)	United States		36,000 - 38,000	36,000 - 38,000	36,000 - 38,000	36,000 - 38,000	100.0
2	Rockefeller University	United States						100.0
3	Stanford University	United States		38,000 - 40,000	40,000 - 42,000	38,000 - 40,000	40,000 - 42,000	100.0
4	University of California, San Francisco	United States						100.0
5	Harvard University	United States		36,000 - 38,000	38,000 - 40,000	36,000 - 38,000	38,000 - 40,000	100.0
6	Princeton University	United States		38,000 - 40,000	36,000 - 38,000	38,000 - 40,000	36,000 - 38,000	100.0
7	University of California, San Diego (UCSD)	United States		10,000 - 12,000	10,000 - 12,000	24,000 - 26,000	34,000 - 36,000	99.9
8	University of California, Los Angeles (UCLA)	United States		10,000 - 12,000	10,000 - 12,000	24,000 - 26,000	32,000 - 34,000	99.9
9	University of Washington	United States		12,000 - 14,000	10,000 - 12,000	26,000 - 28,000	26,000 - 28,000	99.8
10	London School of Hygiene & Tropical Medicine	United Kingdom						99.8
11	Johns Hopkins University	United States		40,000 - 42,000	40,000 - 42,000	40,000 - 42,000	40,000 - 42,000	99.8
12	Gwangju Institute of Science and Technology (GIST)	Korea, South						99.7
13	Massachusetts Institute of Technology (MIT)	United States		40,000 - 42,000	38,000 - 40,000	40,000 - 42,000	38,000 - 40,000	99.6

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