

ReSAGPAPR WG Newsletter

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Member Countries :



Australia



India



Indonesia



Japan



Korea



Malaysia



New Zealand



Philippines



Sri Lanka



R.O.C.(Taiwan)



Thailand



Vietnam

Message from Taiwan EPA



Mr. Hung-Teh Tsai (蔡鴻德)

Steering Committee Member of WG ReSAGPAPR

Executive Secretary

Soil and Groundwater Remediation Fund Management Board

Environmental Protection Administration, Taiwan

Mr. Hung-Teh Tsai received his M.S. from National Taiwan University. He is Technical Superintendent and Executive Secretary in Soil and Groundwater Remediation Fund Management Board (SGRFMB), Environmental Protection Administration, R.O.C.(Taiwan). He has more experience on Administration, Site Supervision and Management.

Distinguished invited Steering Committee members and delegates of working group, distinguished experts and guests from Asian and Pacific Region, Ladies and Gentlemen:

It is my great honor to welcome all of you at the program of the 4th business meeting of the Working Group on Remediation for Soil and Groundwater Pollution of Asian and Pacific Region (WG ReSAGPAPR). On behalf of Taiwan EPA, I would like to express my sincerely welcome all of you, including **11 country members of Steering Committee of government officers, some delegates from countries members** of the working group and also include experts from United States of America and New Zealand. Your attendance is highly appreciated.

Taiwan EPA welcome two country members of the working group, **Australia and Sri Lanka**, were approved as new members **in** the last business meeting held on November 2, 2012 and

affectively started their member activities on January 1st, 2013. We welcome the delegate from **Australia, Mr. Andrew Pruszinski**, and the delegate from **Sri Lanka, Dr. Kithsiri Ranawana**, to join this meeting. In order to promote more benefits of the country members, the working group wants to include **New Zealand** to join the working group. We will discuss this issue in this afternoon. One representative governmental officer from **New Zealand, Mr. Bruce Croucher**, is here now.

Taiwan EPA and Korea Ministry of Environment (MOE) had signed the **Memorandum of Understanding (MOU)** on August 28, 2012, at Taipei. Both countries also created a funding to start the international cooperation visiting programs on May, 2013, in Seoul, Korea. Taiwan EPA also organized a cooperation visiting activities in Taiwan in the coming half year for Korean team. Taiwan EPA hopes to initiate a new project to sign the MOU with Ministry of Environments of Thailand and Vietnam in the next half

year of 2013.

Finally, I would like to express my grateful thanks to all of you and also thanks the chairman of the working group, Prof. Zueng-Sang Chen and his service team for their strong supporting

on this business meeting and coming workshop activities. I also hope you have a very good time in Taipei and Kaohsiung cities in next 4 days in Taiwan.

Thank you.



Message from Chairman of WG ReSAGPAPR

Opening Address on 4th Business Meeting of Working Group on Remediation for Soil and Groundwater Pollution of Asian and Pacific Region

09:15 - 09:20, June 24, 2013

Alexandria Chamber, GIS Convention Center, National Taiwan University, Taipei, Taiwan



Dr. Zueng-Sang Chen (陳尊賢)

**Distinguished Professor of Department of Agriculture Chemistry,
National Taiwan University**

Zueng-Sang Chen is the Distinguished Professor of pedology and soil environmental quality (2007 to now), Department of Agricultural Chemistry (DAC) of National Taiwan University (NTU). He primarily studied the soil genesis, soil environmental quality, the behavior and bioavailability of heavy metals in the soil-crop system, and using the phytoremediation on metals-contaminated sites.

Distinguished invited steering Committee members and scientific committee members of working group, and distinguished experts and guests from Asian countries, USA, Australia, Sri Lanka, Ladies and Gentlemen:

It is my great pleasure to say some words at the opening ceremony of the 4th business meeting of the Working Group on Remediation for Soil and Groundwater Pollution of Asian and Pacific Region (WG ReSAGPAPR). On behalf of the working group of ReSAGPAPR and Taiwan EPA, I would like to extend my sincerely welcome all of you, including **11 country members of Steering Committee of government officers, some delegates from countries members** of this working group and also include some experts from USA and New Zealand. Your participations are very welcome, and will contribute a great deal to the success future of our working group

to maintain our good environmental quality and human health in this region.

In the last (3rd) business meeting of the working group held on **November 2, 2012**, at Taipei, Working Group approved some important issues for the activities in 2013 and 2014. In order to promote the benefits of the country members, the working group also approved the **Australia and Sri Lanka** included as the new country members of working group and affectively started on January 1st, 2013. We welcome the new delegates to join this meeting.

In the last business meeting of the working group, we also **approved 2 major items** to be followed, including (1) the topics of workshop and training course and communication types of the WG in 2013 and 2014 and (2) the visiting program organized by the WG in

2012-2014. **Taiwan EPA and Korea Ministry of Environment had signed the Memorandum of Understanding (MOU)** on August 28, 2012, at Taipei. Both country also created a 50,000 US\$ to start the cooperation visiting programs on May 20-23, 2013, in Seoul, Korea. Taiwan EPA also has a project to sign the MOU after communication with Ministry of Environments of Thailand and also with Vietnam in 2013.

In this business (4th) meeting, Working Group will discuss some very important issues for the Working Group activities in 2014, including the **international conference and exhibition, and also the summit meeting** of the Director General level in 2014. In order to promote the benefits of the country members, the working group wants to include more countries to join our working group, such as **New Zealand to be included into the**

Working Group in 2013. One representative governmental officer is also come here now.

Finally, I would like to express my grateful thanks to **Mr. Hung-Teh Tsai**, who is the technical super-intendant and executive secretary of the Soil and Groundwater Remediation Fund Management Board of Taiwan EPA and also thank his government officers of the Fund management Board for their strong support for this business meeting in the first two terms of our WG.

I also thank all of you to here to promote our activities of the WG for good environmental quality and health life in the Asian countries. I also hope you have a very good time in Taipei.

Thank you.



Program on June 24, 2013

4th Business Meeting of

Working Group on Remediation for Soil and Groundwater Pollution of Asian and Pacific Region

Date: June 24, 2013

Venue: Alexandria Chamber, GIS Convention Center, National Taiwan University, Taipei, Taiwan

Time	Topics	Chairman / Speaker
08:50 – 09:15	Registration	
09:15 – 09:20	Opening Ceremony	Prof. Zueng-Sang Chen Chairman of WG
09:20 – 09:30	Opening Ceremony: Division Chief of Soil and Groundwater Pollution Remediation Fund Management Board, Taiwan EPA (SAGPR/FMB)	Mr. Jeng-Ren HO Division Chief SAGPR/FMB. Taiwan EPA
09:30 – 09:40	1. Introduction of the participants of WG: <ul style="list-style-type: none"> ● Steering Committee members of WG ● Scientific Committee members of WG ● Observers from New Zealand 2. Brief introduction of the programs in 2013 and 2014	Prof. Zueng-Sang Chen Chairman of WG ReSAGPAPR
09:40 – 10:20	Keynote speech: Activities and development of Taiwan Association of Soil and Groundwater Environmental Protection (TASGEP)	Prof. Jimmy C.M. KAO, President of TASGEP
10:20 – 10:50	Break	
10:50 – 11:30	Keynote speech: International Cooperation Activities on Remediation of Soil and Groundwater Pollution between Taiwan and Korea	Dr. Spock C.Y. HUANG General Manager of MWH, Taiwan Branch
12:00 – 14:00	Lunch	
14:00 – 14:10	Welcome Address	Mr. Hung-Teh TSAI Director General, AGPR/FMB., Taiwan EPA (represented by Mr. Jeng-Ren HO)
14:10 – 16:00	Discussion on the activities of working group ReSAGPAPR	Prof. Zueng-Sang Chen Chairman of WG
16:00 – 16:10	Closing Ceremony	Prof. Zueng-Sang Chen Chairman of WG

Program on June 26, 2013

Workshop on Permeable Reactive Barriers (PRBs) for Contaminated Sites (1st Day)

Date: June 26, 2013

Venue: Conference Hall, South Wing of National Science and Technology Museum, Kaohsiung City, Taiwan

Time	Topics	Speaker
09:00 – 09:30	Registration	
09:30 – 09:45	Opening Remarks	(1) Mr. Hung-Teh TSAI Taiwan EPA (2) Ms. Jennifer Chen Kaohsiung EPB, Taiwan (3) Mr. Mark Kasman USEPA
09:45 – 10:45	Permeable Reactive Barrier and Ground Water Remediation Research	Dr. David Jewett
10:45 – 11:00	BREAK	
11:00 – 12:00	Long-Term Performance of a Zero-valent Iron PRB for Cr/TCE	Dr. Richard Wilkin
12:00 – 13:00	LUNCH	
13:00 – 14:00	Site Characterization and PRB Design, Installation, and Monitoring	Dr. David Jewett
14:00 – 14:45	Hydrologic Evaluation of the Elizabeth City PRB	Dr. Richard Wilkin
14:45 – 15:00	BREAK	
15:00 – 16:00	Reactive Materials and Contaminant Treatment	Dr. Ralph Ludwig
16:00 – 17:00	Review of Performance Issues for Zero-valent Iron PRBs	Dr. Richard Wilkin
17:00 – 17:30	Day One Discussion	All
17:30	Day One Concludes	Dr. Hao-Chun Hung Taiwan EPA

Program on June 27, 2013

Workshop on Permeable Reactive Barriers (PRBs) for Contaminated Sites (2nd Day)

Date: June 27, 2013

Venue: Conference Hall, South Wing of National Science and Technology Museum , Kaohsiung City, Taiwan

Time	Topics	Speaker
09:00 – 10:30	PRB Technology for the Treatment of Arsenic in Groundwater	Dr. Richard Wilkin
10:30 – 10:45	BREAK	
10:45 – 11:30	Overview of Alternative PRB Materials	Dr. Ralph Ludwig
11:30 – 12:00	Treatment of Contaminants Using Organic Carbon Based PRBs	Dr. Ralph Ludwig
12:00 – 13:00	LUNCH	
13:00 – 14:00	Evaluations of the Delatte and Columbia Nitrogen PRBs	Dr. Ralph Ludwig
14:00 – 15:00	Hydrologic Assessments of Delatte and Columbia Nitrogen PRBs	Dr. David Jewett
15:00 – 15:15	BREAK	
15:15 – 16:15	Treatment of Nitrate using Haystraw	Dr. Richard Wilkin
16:15 – 17:00	Questions and Discussion	Dr. Hao-Chun Hung Taiwan EPA
17:00	Workshop Ends	

Minutes of 4th Business Meeting of WG ReSAGPAPR

4th Business Meeting of

Working Group on Remediation for Soil and Groundwater Pollution of Asian and Pacific Region

09:15 - 16:10, June 24, 2013

Alexandria Chamber, GIS Convention Center, National Taiwan University, Taipei, Taiwan

Website for downloading the handbook of this meeting:

URL : <http://sqw.epa.gov.tw/resaq/Public/ShowMessage.aspx?id=56>

Present:

Dr. Zueng-Sang Chen (Chairman, Taiwan), Mr. Andrew Pruszinski (Australia),
Mr. Achmad Gunawan (Indonesia), Dr. Masanori Kobayashi (Japan),
Dr. Sung Won Yoon (Korea), Ms. Mira IM (Korea),
Mr. Tuan Rusli Mohamed (Malaysia), Dr. Kithsiri B. Ranawana (Sri Lanka, on behalf of Mr. K.A.D.I. Silva),
Mr. Anukoon Suthapan (Thailand), Dr. Chayawee Wangcharoenrung (Thailand),
Ms. Pham Thi Thuy Hanh (Vietnam, on behalf of Mrs. Nguyen Thi Thu Hong),
Ms. Tran Minh Ha (Vietnam), Mr. Jeng-Ren Ho (Taiwan, on behalf of Mr. Hung-Teh Tsai),
Dr. Hao-Chun Hung (Taiwan),

In Attendance:

Mr. Bruce Croucher (New Zealand), Senior Analyst
Dr. Richard Wilkin (USA), geochemist
Dr. Ralph Ludwig (USA), environmental engineer
Dr. David Jewett (USA), hydrologist, Chief Subsurface Remediation Branch
Dr. Chih Huang (Taiwan), Mr. Zih-Sin Wang (Taiwan)
Dr. Jimmy C.M. Kao (Taiwan), Mr. Spock C.Y. Huang (Taiwan),

Absent:

Dr. Rashid Hasan (India), Dr. Makoto Nakashima (Japan, arrived in Taiwan on June 25)
Dr. Atty. Ernesto D. Adobo, Jr. (Philippines)



Minutes of 4th Business Meeting of WG ReSAGPAPR continued

Opening Ceremony at 09:15 - 09:30

The Chairman, Dr. Zueng-Sang Chen, delivered an opening address and welcomed all invited participants.



2. The Chairman welcomed Mr. Jeng-Ren Ho, who is the Division Chief of Soil and Groundwater Remediation Fund Management Board of Taiwan EPA, and Dr. Hao-Chun Hung, who is the senior environmental technology specialist of Soil and Groundwater Remediation Fund Management Board of Taiwan EPA.

Introduction of Participants and WG ReSAGPAPR Programs in 2013 and 2014 at 09:30 - 09:40

3. The Chairman introduced all the participants, including the Steering Committee members of WG, the Scientific Committee members of WG, the invited observers and the invited speakers.



Mr. Jeng-Ren Ho (Taiwan)



Dr. Hao-Chun Hung (Taiwan)

Minutes of 4th Business Meeting of WG ReSAGPAPR continued



Mr. Andrew Pruszinski
(Australia)



Mr. Achmad Gunawan
(Indonesia)



Dr. Masanori Kobayashi
(Japan)



Dr. Sung Won Yoon
(Korea)



Ms. Mira IM
(Korea)



Mr. Tuan Rusli Mohamed
(Malaysia)



Mr. Bruce Croucher
(New Zealand)



Dr. Kithsiri B. Ranawana
(Sri Lanka)

Minutes of 4th Business Meeting of WG ReSAGPAPR continued



Left: Mr. Anukoon Suthapan /
Right: Dr. Chayawee Wangcharoenrung
(Thailand)



Ms. Pham Thi Thuy Hanh
(Vietnam)



Ms. Tran Minh Ha
(Vietnam)



Dr. Richard Wilkin
(USA)



Dr. Ralph Ludwig
(USA)



Dr. David Jewett
(USA)



Left: Mr. Spock C.Y. Huang / Right: Dr. Jimmy C.M. Kao
(Taiwan)



Dr. Chih Huang
(Taiwan)

Minutes of 4th Business Meeting of WG ReSAGPAPR continued

4. The Chairman briefly introduced the programs in 2013 and 2014.

Keynote Speeches at 09:40 - 12:00



5. Prof. Jimmy C.M. Kao made a presentation on Activities and development of Taiwan Association of Soil and Groundwater Environmental Protection (TASGEP).

Dr. Jimmy C.M. Kao (高志明)

President

Taiwan Association of Soil and Groundwater Environmental Protection

Distinguished professor

Institute of Environmental Engineering, National Sun Yat-Sen University

Prof. Jimmy C.M. KAO is a distinguished professor at the Institute of Environmental Engineering of National Sun Yat-Sen University, Taiwan. Prof. Kao is also the President of Taiwan Association of Soil and Groundwater

Environmental Protection. Dr. Kao is a fellow member of American Society of Civil Engineers, a fellow member of American Association for the Advancement of Science, and a fellow member of Environment and Water Resource Institute. He is a Registered Professional Engineer in the branch of Civil Engineering, a Certified Ground Water Professional, and a Professional Hydrologist in the United States. He is a diplomate of the American Academy of Environmental Engineers and a diplomate of American Academy of Water Resources Engineers.

6. Mr. Spock C.Y. Huang shared the experience of International Cooperation Activities on Remediation of Soil and Groundwater Pollution between Taiwan and Korea.

Mr. Spock C.Y. Huang (黃建源)

Chief Secretary

Taiwan Solid & Groundwater Environmental Protection Association

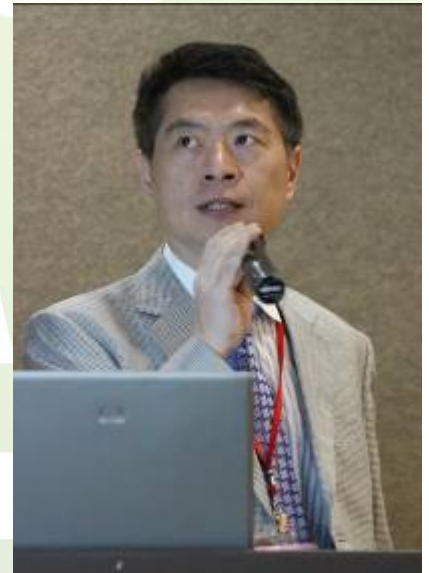
Chief Secretary

Taiwan Solid & Groundwater Industry Strategic Alliance

Chairman

Taipei Environmental Engineers Association

Mr. Spock C.Y. Huang Spock oversees the overall operation of MWH Taiwan and MWH China G&I. He is a water and wastewater process expert with over 20-year experience. His fortes are including planning and design of water treatment work, sewer pipeline and treatment work, industrial wastewater treatment facility and life support system (LSS) of sea world and aquarium. He also has considerable experience in advanced water and wastewater treatment in terms of ozonation, activated carbon filtration, softening (pellet reactor), membrane technology (for seawater desalination, wastewater reclamation and reuse) and biological nutrients (N&P) removal.



Minutes of 4th Business Meeting of WG ReSAGPAPR continued

Business Meeting at 14:00 - 16:00

7. On behalf of Mr. Hung-Teh Tsai, Mr. Jeng Ren Ho extended welcome to all participants.

Mr. Jeng-Ren Ho (何建仁)
Scientific Committee Member of WG ReSAGPAPR
Division Chief
Technology Evaluation Section
Soil and Groundwater Fund Management Board
Environmental Protection Administration, R.O.C. (Taiwan)



Discussion Item 1: Including New Zealand as a country member of working group



8. Every member agree to accept New Zealand to be as the country members of WG ReSAGPAPR and start on July 1st, 2013.

Joint resolution to accept for New Zealand to be as the country member of WG ReSAGPAPR and start on July 1st, 2013. Then the country members will grow to 12 including Australia, India, Indonesia, Japan, Korea, Malaysia, Philippines, Sri Lanka, Taiwan, Thailand, Vietnam, and New Zealand.

Discussion Item 2: Working Group Activities to be held in 2014

9. June, 2014: International Workshop on Systematic Soil Sampling Strategies (workshop to cooperate the activities of Taiwan EPA and USEPA).
10. October, 2014: 2014 International Conference on "Remediation and Management of Soil and Groundwater Contaminated Sites and Environmental Exhibition on soil and groundwater pollution" (3 days program).
11. October, 2014: Invite 40 international experts from 20 countries to share their knowledge, experience and technologies to the country members of working group and also call for papers to attract more scholars and scientific people to attend this conference and exhibition. The target foreign participants will be more than 150 persons from more than 50 countries of the world.

Minutes of 4th Business Meeting of WG ReSAGPAPR continued

12. There will be a 3-day study tour following the international conference.
13. It is suggested that providing some booths for member countries to participate in 2014 Taipei Soil and Groundwater Environmental Exhibition at their own expense.

Discussion Item 3: Summit Meeting of Director General Level

14. In order to promote the activities to share the experience on the sustainable management strategies and actions on the soil and groundwater pollution sites of the Asian and Pacific region, the working group will hold a Summit Meeting of Director General Level of country members of Working Group in 2014.
15. The proposed main theme of the Summit Meeting is “International Exchange of Strategies, Management and Experience on Remediation of Soil and Groundwater Contaminated Site.”
16. The proposed suitable time to holding the Summit Meeting is the day before 2014 International Conference and Environmental Exhibition.
17. At least two delegates for each country member shall be invited to participate in the Summit Meeting. One is the government official of Director General Level, and the other is the steering committee member.
18. Every member country shall report the possibility of the attendance at the Summit Meeting of Director General Level to the chairman of Working Group before July 31, 2013.
19. The member discussed the tentative one-day program of the Summit Meeting.

Discussion Item 4: Chairman of the 3rd term of Working Group

20. Taiwan was elected chairman country of the third and fourth terms (2015 to 2018) of the Working Group of ReSAGPAPR. The vice-chairman will be nominated and elected at next steering committee meeting in June, 2014.

Any Other Business

21. Sep. 29 to Oct. 12, 2013: Training Course on the Survey and Remediation of Soil and Groundwater Pollution. Ten days of intensive course (70 hours) and one day of study tour are arranged for this training course. Ten distinguished lectures will be invited for this course.
22. The working group will invite 16 delegates from country members of the working group to participate in this training course and offer the round-trip economic ticket and accommodation in Taipei during the 2 weeks of this training course.

Minutes of 4th Business Meeting of WG ReSAGPAPR continued

23. The working group still consider to accept more participants from different countries of the working group and also accept register from Taiwan. The total participant number will be up to 40 persons.
24. Every member country may nominate no more than 4 persons to participate in this training course at one's own expense. The nominated name list shall be submitted to the chairman of Working Group before July 31, 2013.
25. Every member country shall refer the major concerns related to soil and groundwater pollution in his or her own country to the chairman of Working Group before July 31, 2013. It would be helpful for arranging the topics of this training course.

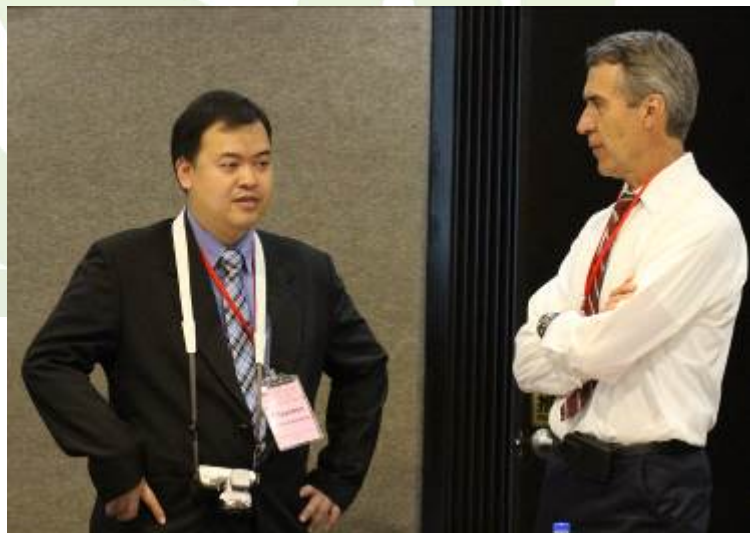


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Interesting Sidelights at 4th Business Meeting of WG ReSAGPAPR



Interesting Sidelights at 4th Business Meeting of WG ReSAGPAPR continued



Interesting Sidelights at 4th Business Meeting of WG ReSAGPAPR continued



Interesting Sidelights

Lunch at Chopstix (筷子) Restaurant on June 24, 2013



Interesting Sidelights at 4th Business Meeting of WG ReSAGPAPR continued



Interesting Sidelights

Welcome Dinner Party at Ji Pin Shuan (極品軒) Restaurant on June 24, 2013



Seminar Report – Opening Remarks

Workshop on Permeable Reactive Barriers (PRBs) for Contaminated Sites

09:30 - 09:35, June 26, 2013

Conference Hall, South Wing of National Science and Technology Museum, Kaohsiung City, Taiwan



Distinguished USEPA speakers, **Dr. David Jewett, Dr. Richard Wilkin and Dr. Ralph Ludwig**, Government officers and experts of the Working Group on Remediation of Soil and Groundwater Pollution of Asian and Pacific Region (WG ReSAGPAPR), Ladies and Gentlemen:

It's my great honor to address at the opening ceremony of the "International Workshop on the **Permeable Reactive Barriers (PRBs)** for Contaminated Sites" for the Asian and Pacific

Region. On behalf of the Taiwan EPA and Working Group of ReSAGPAPR, I would like to welcome all of the distinguished delegates and attendants, especially including **3 experts from USEPA, 14 government officers and scientific committee members from the member countries** of the Working Group, including **Australia, Indonesia, Japan, Korea, Malaysia, Sri Lanka, Thailand, Vietnam, and New Zealand** as a new observer this time. Your participation is very important to contribute to the successful future to of our regional sustainable environmental quality and human health.

This workshop is organized by Taiwan EPA, USEPA and the Working Group. As the contamination sites are getting complicated, the integration of diverse technologies are common in remediation strategy, such as combining active and passive remediation engineering. The **Permeable Reactive Barriers (PRBs)** is one of the well employed passive remediation technologies. The permeable zone containing or creating a reactive treatment area oriented to intercept and remediate a contaminant plume. The remove the contaminants from the ground water can be done by physical, chemical or biological processes used in the reactive zone. The PRB technology has established its foundation in the real world remediation engineering.

This workshop will provide us the **scientific, engineering and regulatory information** designed to help government regulators and scientists to apply PRBs technology in contaminated site remediation and management. The workshop will also explore **the advantages and limitations of the PRB technology and will highlight the PRB** technologies for different applications. The contents of this workshop will not only cover the introduction to the **basic scientific knowledge but also real world application with**

Seminar Report – Opening Remarks continued

case studies and hands-on exercises to bridging the scientific and engineering parts of the application. This workshop shall bring us advanced PRB implementation knowledge. I believe that it can have great impacts to our advancement in regional groundwater contamination remedy and management.

Finally, I would like to again express my sincerely gratitude to three experts from USEPA, **Dr. David Jewett, Dr. Richard Wilkin and Dr. Ralph Ludwig** and **organizing committee members** for their efforts on this workshop. I hope all the participants can enjoy this workshop and the beautiful landscape, culture and foods of Kaohsiung city in next two days.

Thank you.



Seminar Report – Opening Remarks continued

Workshop on Permeable Reactive Barriers (PRBs) for Contaminated Sites

09:35 - 09:40, June 26, 2013

Conference Hall, South Wing of National Science and Technology Museum, Kaohsiung City, Taiwan



Ms. Jennifer Chen (陳琳樺)

Deputy Director

Environmental Protection Bureau

Kaohsiung City Government

- MA Environmental Science and Technology, The International Institute for Infrastructural, Hydraulic, and Environmental Engineering
- MA Environmental Engineering, National Chung Hsing University
- BA Environmental Engineering, National Chung Hsing University



Seminar Report – Opening Remarks continued

Workshop on Permeable Reactive Barriers (PRBs) for Contaminated Sites

09:40 - 09:45, June 26, 2013

Conference Hall, South Wing of National Science and Technology Museum, Kaohsiung City, Taiwan

Mr. Mark Kasman

Senior Advisor of

US Environmental Protection Agency

- Senior Information Officer and Thailand Project Manager
- Senior International Information Officer
- Asia-Pacific Program in the Office of International Affairs



Seminar Report – Invited Speakers

Workshop on Permeable Reactive Barriers (PRBs) for Contaminated Sites

June 26 - 27, 2013

Conference Hall, South Wing of National Science and Technology Museum, Kaohsiung City, Taiwan

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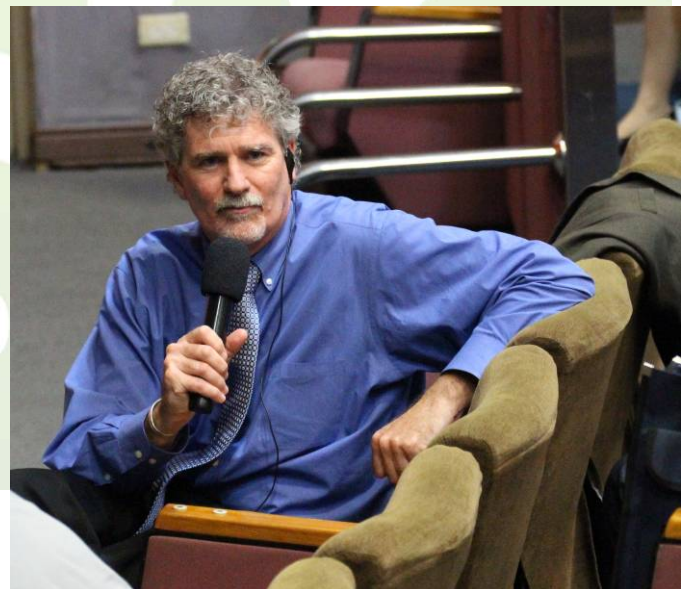
URL : <http://sgw.epa.gov.tw/resaq/Public/ShowMessage.aspx?id=56>

Dr. David Jewett



Dr. David Jewett is a hydrogeologist with the U.S. EPA's Office of Research and Development (ORD), where he serves as the Chief of the Subsurface Remediation Branch of the National Risk Management Research Laboratory's Ground Water and Ecosystems Restoration Division (GWERD). Dr. Jewett leads a team of scientists and engineers conducting research and providing technical support related to subsurface characterization and remedial technology development in order to protect and restore groundwater, surface water, and ecosystem

resources. His research interests include the water-energy nexus, ground water/surface water interactions, subsurface site characterization, and solute fate and transport. Dr. Jewett holds a Ph.D. in hydrology from the Department of Hydrology and Water Resources at The University of Arizona.



Seminar Report – Invited Speakers continued

Workshop on Permeable Reactive Barriers (PRBs) for Contaminated Sites

June 26 - 27, 2013

Conference Hall, South Wing of National Science and Technology Museum, Kaohsiung City, Taiwan

Website for downloading the slide:

URL : <http://sqw.epa.gov.tw/resag/Public/ShowMessage.aspx?id=56>

Dr. Ralph Ludwig

Ralph Ludwig is an Environmental Scientist/Engineer with U.S. EPA's Office of Research and Development at the Ground Water and Ecosystem Restoration Division in Ada, Oklahoma. He received his B.Sc. in Biology, and M.Sc. and Ph.D. in Environmental Engineering from McGill University in Montreal. He provides technical assistance to EPA Regional offices and conducts applied field research in the area of in situ groundwater remediation. His projects have included evaluation of compost-iron filings PRB mixtures for treatment of arsenic, lead, cadmium, and acidity; evaluation of cow manure/wood chip/limestone PRB mixtures for treatment of lead and acidity; and evaluation of ferrous iron based in situ redox zones for treatment of hexavalent chromium.



Seminar Report – Invited Speakers continued

Workshop on Permeable Reactive Barriers (PRBs) for Contaminated Sites

June 26 - 27, 2013

Conference Hall, South Wing of National Science and Technology Museum, Kaohsiung City, Taiwan

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URL : <http://sqw.epa.gov.tw/resag/Public/ShowMessage.aspx?id=56>

Dr. Richard Wilkin



Dr. Richard Wilkin is an environmental geochemist at EPA's National Risk Management Research Laboratory. His research deals primarily with groundwater contaminants and the biogeochemical processes controlling the fate of these contaminants. A major focus of his work has been the application and development of permeable reactive barriers and monitored natural attenuation for remediation of groundwater impacted by metals and radionuclides. Dr. Wilkin received a Ph.D. in Geosciences from the Pennsylvania State

University. He serves on the editorial boards of the journals: Chemical Geology, American Mineralogist, and Geochemical Transaction



Seminar Report – Question and Discussion

Workshop on Permeable Reactive Barriers (PRBs) for Contaminated Sites

June 26 - 27, 2013

Conference Hall, South Wing of National Science and Technology Museum, Kaohsiung City, Taiwan



Dr. Zueng-Sang Chen (陳尊賢)
Professor, National Taiwan
University, Taiwan



Prof. Dr. Colin S. CHEN (陳士賢)
National Kaohsiung Normal University
Taiwan



Mr. Kuan-Ying Huang(黃冠穎)
Jetpro Technology Co.,Ltd.
Taiwan

Seminar Report – Question and Discussion continued

Workshop on Permeable Reactive Barriers (PRBs) for Contaminated Sites

June 26 - 27, 2013

Conference Hall, South Wing of National Science and Technology Museum, Kaohsiung City, Taiwan



Dr. Masanori Kobayashi
Yokohama National University
Japan



Dr. Chih Huang (黃智)
ERM - Taiwan



Speaker: Dr. David Jewett
USA EPA



Mr. Bing-Nan Wang (王炳南)
Sinotech Engineering Consultants, Inc.
Taiwan

Seminar Report – Question and Discussion continued

Workshop on Permeable Reactive Barriers (PRBs) for Contaminated Sites

June 26 - 27, 2013

Conference Hall, South Wing of National Science and Technology Museum, Kaohsiung City, Taiwan



Speaker: Dr. Richard Wilkin
USA EPA



Taiwan



Speaker: Dr. Ralph Ludwig
USA EPA



Mr. Achmad Gunawan Widjaksana
Ministry of Environment
Indonesia

Seminar Report – Question and Discussion continued

Workshop on Permeable Reactive Barriers (PRBs) for Contaminated Sites

June 26 - 27, 2013

Conference Hall, South Wing of National Science and Technology Museum, Kaohsiung City, Taiwan



Mr. Bruce Croucher
Ministry for the Environment
New Zealand



Dr. Shawntine Lai (賴宣婷)
MWH Americas Inc.
Taiwan Branch



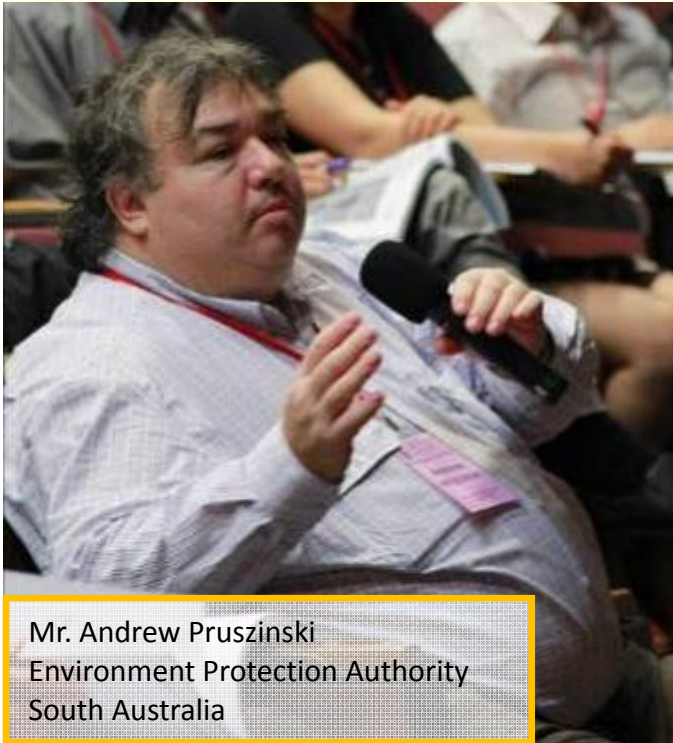
Dr. Pei-Yao Wu (吳培堯)
Industrial Technology Research Institute
Taiwan

Seminar Report – Question and Discussion continued

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Mr. Andrew Pruszinski
Environment Protection Authority
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Dr. Satnam Singh (辛士南)
Postdoctoral Researcher
National Chung Hsing University
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Mr. Tim Chu (朱天民)
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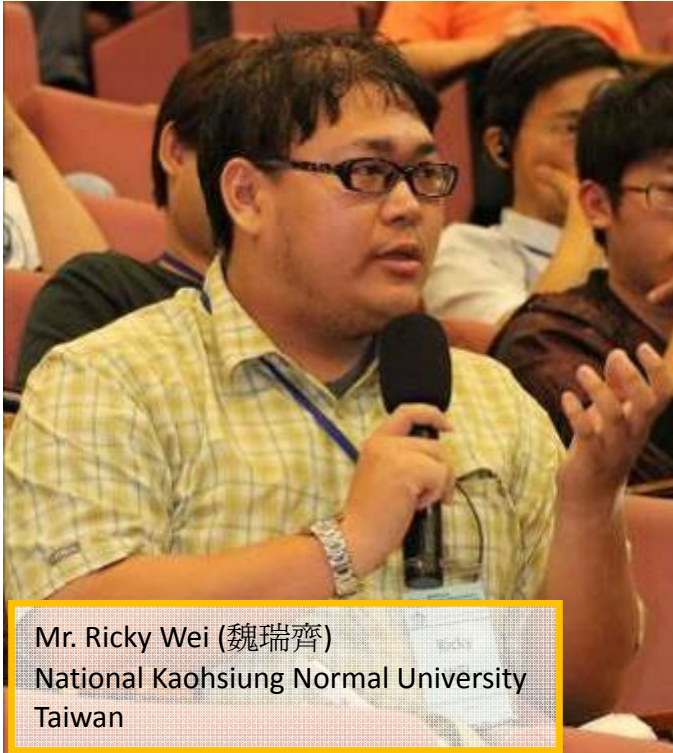
Taiwan

Seminar Report – Question and Discussion continued

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Mr. Ricky Wei (魏瑞齊)
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Dr. Hao-Chun Hung (洪豪駿)
Taiwan EPA

Seminar Report – Question and Discussion continued

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USEPA Speakers



Taiwan



Taiwan

Seminar Report – Question and Discussion continued

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Dr. Shih-Cheng Pan (潘時正)
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USEPA Speakers

Seminar Report –Interesting sidelights

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Seminar Report –Interesting sidelights continued

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Seminar Report –Interesting sidelights continued

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Study Tour to Taiwan Soil Exhibition Museum in Middle Taiwan and Soil and Groundwater Contaminated Sites in Southern Taiwan

Date: June 25, 2013

Time	Program
07:15-07:45	3 USEPA speakers check out the hotel before 07:15 am, departure at 07:20 am and arrive Just Sleep@NTU hotel before 7:45 am
07:45-08:00	Check out the hotel before 07:30 am and get on the bus before 08:00 am
07:50-09:30	Departure from Just sleep @NTU Hotel to Taichung city by #1 highway and stop at Cheer-Ting Rest Area (take a rest for 20 minutes), then move to Wufeng
09:30-11:00	Visit the National Soil Exhibition Center of Taiwan Agricultural Research Institute (TARI).
11:00-12:00	Lunch at the restaurant of Taiwan Agricultural Research Institute (TARI).
12:00-14:00	Departure from TARI to Kuang-Maou rest area by #3 highway (take a rest for 20 minutes) , then move to Kaohsiung city
14:00-14:30	Kaohsiung city to petroleum contaminated site
14:30-15:10	Brief introduction of contaminated sites and remediation techniques for the site at the meeting room of Ling-Yuan park of China Petroleum Company (CPC).
15:10-16:00	Field study at the CPC contaminated site.
16:00-16:30	Open for general discussion at the meeting room of Ling-Yuan park of China Petroleum Company (CPC).
16:30-17:00	CPC Petroleum contaminated site to Kao-Ga Restaurant near Hsio-Kang
17:00-18:30	Dinner party at Kao-Ga Restaurant
18:30-19:00	Kao-Ga Restaurant to the LEES HOTEL and check in

Study Tour to Taiwan Soil Exhibition Museum of TARI

Date: June 25, 2013



Study Tour to Taiwan Soil Exhibition Museum of TARI continued

Date: June 25, 2013



Study Tour to Taiwan Soil Exhibition Museum of TARI continued

Date: June 25, 2013



Study Tour to Soil and Groundwater Contaminated Sites in Southern Taiwan

Location: CPC Corporation Lin-Yuan Petrochemical Plant (Lin-Yuan District, Kaohsiung City, Taiwan)

Date: June 25, 2013



Study Tour to Soil and Groundwater Contaminated Sites Continued

Location: CPC Corporation Lin-Yuan Petrochemical Plant (Lin-Yuan District, Kaohsiung City, Taiwan)

Date: June 25, 2013



Study Tour to Soil and Groundwater Contaminated Sites Continued

Location: CPC Corporation Lin-Yuan Petrochemical Plant (Lin-Yuan District, Kaohsiung City, Taiwan)

Date: June 25, 2013



Study Tour to Soil and Groundwater Contaminated Sites Continued

Location: CPC Corporation Lin-Yuan Petrochemical Plant (Lin-Yuan District, Kaohsiung City, Taiwan)

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