

您好：

行政院環保署將於 2015 年 12 月 08-09 日 (星期二~三) 於臺中市國立公共資訊圖書館，與美國環保署合作舉辦「2015 地下水污染之調查與監測國際講習會(2015 International Workshop: Contaminated Groundwater Characterization & Monitoring)」，將邀請兩位來自美國的專家與我們分享美國在地下水污染調查與整治之經驗與技術，會中並邀請「亞太土壤及地下水污染整治工作小組」(ReSAGPAPR WG<http://www.resagpac.org/>) 各會員國成員來臺，共同參與學習及討論。

本講習會課程可申請環境教育學習時數與土壤污染評估調查人員訓練時數，現場並有同步中英語口譯，免報名費，機會難得，誠摯歡迎各界人士踴躍參與！

以下附上本次講習會相關資訊

## 講習會資訊

- 主題：  
2015 地下水污染之調查與監測國際講習會  
2015 International Workshop: Contaminated Groundwater Characterization & Monitoring
- 課程內容：  
詳細議程與課程大綱請參閱附檔(若有調整將不另通知)。
- 時間：  
2015 年 12 月 08 日 (二) 上午 09:30 至下午 05:00  
2015 年 12 月 09 日 (三) 上午 09:00 至下午 05:00
- 地點：  
臺中市國立公共資訊圖書館 (臺中市南區五權南路 100 號)  
(位置圖及交通指引請參考臺中市國立公共資訊圖書館官方網頁 <http://goo.gl/qPWwJg>)
- 報名資訊：  
本講習會報名時間自即日起至 2015 年 11 月 25 日止(若額滿則提前截止)，報名及報到相關資訊請見附檔，本講習會線上報名網址為 <http://tinyurl.com/q7wvauy>，報名完成後，請於 2 個工作日後前往 <https://goo.gl/B83KO9> 確認報名是否成功。
- 講習會活動網址：  
<http://workshop.resagpac.org/>

若有任何問題請洽：

張庭瑀 小姐 Tel：(02)3366-4807, E-mail：[changty93@gmail.com](mailto:changty93@gmail.com)

祝您萬事順心。

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陳尊賢 (國立臺灣大學農業化學系 特聘教授)

Zueng-Sang Chen, Ph.D.

Chairman of Working Group on the Remediation of

Soil and Groundwater Pollution of Asian and Pacific Region (WG ReSAGPAPR) (2011-2016)

c/o

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# 【2015 年臺美講習會】

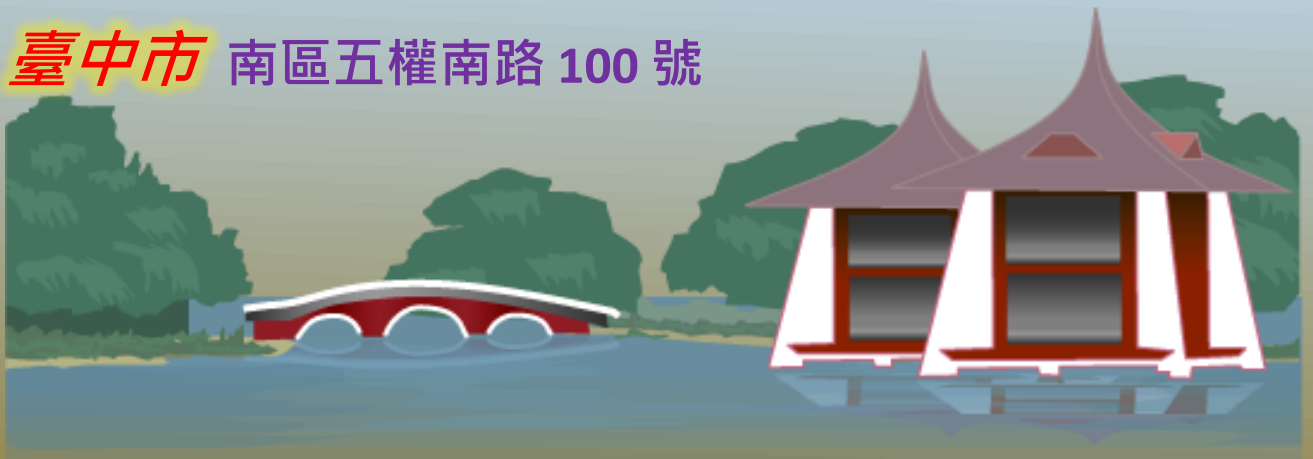
## 2015 地下水污染之調查與監測國際講習會 2015 International Workshop: Contaminated Groundwater Characterization & Monitoring



2015 年 12 月 8-9 日

國立公共資訊圖書館 2 樓  
國際會議廳

臺中市 南區五權南路 100 號



2015  
國際土壤年



活動網址 <http://workshop.resagpac.org/>

線上報名網址 <http://tinyurl.com/q7wvauy>



# 2015 International Workshop: Contaminated Groundwater Characterization & Monitoring

## Day 1

Taiwan  
8-9 December 2015

### DRAFT AGENDA

<b>TUESDAY, 8 DECEMBER 2015</b>			
<b>Time</b>	<b>Duration (min)</b>	<b>Topic</b>	<b>Speaker</b>
09:00 – 09:30	30	Registration	
09:30 – 09:45	15	Opening Remarks	Taiwan EPA
09:45 – 10:00	15	Course Introduction and Overview	U.S. EPA
10:00 – 10:45	45	Background on High Resolution Site Characterization	U.S. EPA
10:45 – 11:00	15	<b>BREAK</b>	
11:00 – 11:30	30	High Resolution Site Characterization Implementation	U.S. EPA
11:30 – 12:00	30	Impacts of Subsurface Heterogeneity; Hydrogeology Review	U.S. EPA
12:00 – 1:15	75	<b>LUNCH</b>	
1:15 – 2:15	60	Impacts of Subsurface Heterogeneity; Contaminant Fate and Transport Review	U.S. EPA
2:15 – 2:30	15	<b>BREAK</b>	
2:30 – 3:00	30	Scale Appropriate Groundwater Sampling	U.S. EPA
3:00 – 3:45	45	Applicable Tools; Soil & Hydrostratigraphy	U.S. EPA
3:45 – 4:45	60	Applicable Tools; Qualitative & Sampling	U.S. EPA
4:45 – 5:00		Questions and Discussion	Taiwan EPA
5:00	<b>DAY ONE CONCLUDES</b>		

# 2015 International Workshop: Contaminated Groundwater Characterization & Monitoring

## Day 2

Taiwan  
8-9 December 2015

### DRAFT AGENDA

<b>WEDNESDAY, 9 DECEMBER 2015</b>			
<b>Time</b>	<b>Duration (min)</b>	<b>Topic</b>	<b>Speaker</b>
9:00 – 9:15	15	Quick Review of Yesterday's Material	U.S. EPA
9:15 – 9:30	45	Multilevel Groundwater Monitoring Systems	U.S. EPA
9:30 – 9:45	15	Case Study	U.S. EPA
9:45 – 10:30	45	Data Use, Management, and Visualization	U.S. EPA
10:30 – 10:45	15	<b>BREAK</b>	
10:45 – 11:30	45	Data Use, Management, and Visualization, cont.	U.S. EPA
11:30 – 12:00	30	Case Study	U.S. EPA
12:00 – 1:15	75	<b>LUNCH</b>	
1:15 – 2:30	30	Tidal Influence on NAPL & Aqueous Phase	U.S. EPA
2:30 – 3:00	75	Groundwater Monitoring	U.S. EPA
3:00 – 3:15	15	<b>BREAK</b>	
3:15 – 4:00	45	Groundwater Monitoring Optimization	U.S. EPA
4:00 – 4:30	30	Case Study	U.S. EPA
4:30 – 5:00	30	Questions and Discussion	Taiwan EPA
5:00	<b>WORKSHOP CONCLUDES</b>		

## Course Outline

1. A workshop on groundwater sampling strategy, placement design, statistical data analysis, including these topics:
  - Introduction to purposes, data quality objectives, and designs of groundwater sampling at different project life cycle stages.
  - What are the background concentrations?
  - Are concentrations above or below a criterion?
  - Are concentrations greater than background concentrations?
  - When will contaminant concentrations reach a criterion?
  - Is there a trend in contaminant concentrations?
  - Is there seasonality in the concentrations?
  - What are the contaminant attenuation rates in wells?
  - How do contaminant concentrations change with distance from the source area?
  - Is the sampling frequency appropriate (temporal optimization)?
  - Is the spatial coverage of the monitoring network appropriate (spatial optimization)?
  - How to design groundwater-sampling strategies to detect hot spots of pollution, characterize pollution area and volume, perform risk assessment, evaluate temporal and spatial trends, and confirm completeness of remediation for site delisting?
  - When shall resampling be performed?
  - What to do with difficult data such as outliers or non-detects?
  - Case studies.
  - Common sources of errors.
  - Technical references and bibliography.
  
2. Discussion (and visiting) on a few cases of contaminated sites in Taiwan.

### **Edward Gilbert, CPG**

Edward Gilbert is a Certified Professional Geologist with twenty years of professional experience in the characterization and remediation of contaminated soil and groundwater at hazardous waste sites. He has over fifteen years experience at the U.S. Environmental Protection Agency (U.S. EPA) managing, overseeing, directing, and participating in all aspects of environmental investigations involving the collection and analysis of soil, groundwater, sediment, surface water, and geologic samples at Superfund sites. His work has also included groundwater monitoring well network design and installation; groundwater flow and contaminant transport modeling; remedial treatability/feasibility studies; treatment technologies' bench scale studies, field scale pilot studies, and full scale remedy implementation.

Mr. Gilbert has served as a national expert/advisor in environmental earth science and on technical issues concerning the assessment, treatment, and remediation of hazardous substance releases, oil spills, and hazardous waste sites throughout the United States. In his present position, he is involved in the evaluation and deployment of innovative remediation technologies for the cleanup of hazardous waste sites. He also provides training and direct hydrogeologic technical support to U.S. EPA and state Remedial Project Managers.

Mr. Gilbert holds a Bachelor of Science in Earth Science from Southern Connecticut State University and a Master of Science in Geological Sciences from the University of Connecticut. He maintains certification as a Professional Geologist through the American Institute of Professional Geologists.

### **Gary Newhart, PG**

Gary Newhart is a Professional Geologist with over thirty years of professional experience in the field of Environmental Sciences and Engineering. Mr Newhart has over twenty years of experience with U.S. EPA Superfund projects, inclusive of eleven years of consulting work directly for US EPA, and eleven years of experience as a US EPA employee. His experience includes hydrogeologic and geotechnical engineering assignments. Specifically, work has included site remedial investigations and implementation of clean-up technologies; extent of contamination investigations; emergency and permanent municipal water supply installation; groundwater monitor well network and production well design and installation; groundwater flow modeling; contaminated groundwater flow modeling; treatment treatability/feasibility studies; treatment technologies' bench scale studies and full scale implementation.

In addition to his public sector work, Mr. Newhart has over seven years of consulting experience in private sector hazardous waste projects, including design and execution of groundwater and soil treatment systems; field pilot testing of remedial technologies; groundwater and soil field sample and data collection; developing and managing a mobile soil gas survey and vapor intrusion sampling team and laboratory; and managing a regional bioremediation program. Mr Newhart has over six years of analytical laboratory experience as a research assistant in aquatic and terrestrial chemistry research, ocean and wetland-salt marsh nutrient cycling research, and ocean physics.

Mr Newhart holds a Bachelor of Science degree in Earth Sciences and a Master of Science in Civil/Geotechnical Engineering, both from Lehigh University.

線上報名網址為 <http://tinyurl.com/q7wvauy>

報名完成後，請於 2 個工作日後前往 <https://goo.gl/B83K09> 確認報名是否成功。

### 報名及報到注意事項:

1. 講習會報到時間為 12 月 08 日(二)上午 09:00-09:30 及 12 月 09 日(三)上午 08:30-09:00
2. 需要任一訓練學習時數者，請務必親自全程參與並配合簽到，事後不予以補辦。
3. 報到時發給當日午餐便當餐券，敬請兩天都確實報到（※餐券發放截止時間為上午 10 點）。
4. 活動相關資料請至 <http://workshop.resagpac.org/> 下載。
5. 講習會講義限量 180 本，現場依報到優先順序發放，會後恕不補發。
6. 現場聽譯耳機數量有限，需要者當日請及早報到，以免向隅。
7. 為響應環保，請自備環保杯。
8. 會議地點為臺中市 國立公共資訊圖書館 2 樓 國際會議廳，位置圖及交通指引請參考臺中市國立公共資訊圖書館官方網頁 <http://goo.gl/qPWwJg>
9. 會場提供 iTaiwan 免費上網，現場需要上網者，請事先上 iTaiwan 官方網站申請個人帳號。
10. 報名聯絡人：張庭瑀 小姐  
Tel : (02)3366-4807, E-mail : changty93@gmail.com

### Attention:

Thank you for registering to participate in the “2015 International Workshop: Contaminated Groundwater Characterization & Monitoring”. Please confirm your registration at the website <https://goo.gl/B83K09> after 2 workdays.

1. Registration time: December 8 (Tue) am 09:00-09:30 and December 9 (Wed) am 08:30-09:00
2. Venue: National Library of Public Information (No.100, Wuquan S. Rd., South Dist., Taichung City 40246, Taiwan)
3. Please visit <http://workshop.resagpac.org/> to download workshop agenda.
4. For map and transportation please visit National Library of Public Information website: <http://goo.gl/M7JOr7>
5. Contact information: Ting-Yu Chang,  
Tel : (02) 3366-4807, E-mail : changty93@gmail.com