

## 「2019 NGWA Groundwater Week」 행사 계획(안)

### □ 행사개요

○ 행사명 : 2019 NGWA Groundwater Week

\* National Ground Water Association Groundwater Week

- NGWA(미국지하수협회)가 주최하는 세계 최대 규모의 지하수 분야 행사

- 구성

- 본행사 : 현장실무 중심 워크숍, 세미나, 전시회, 미국지하수협회 기술자 양성 교육 (NGWREF), 지하수 등 관련 시설 및 시추장비 관람, 현장 시현(Outdoor Demos)
- 세미나 : 미국 지하수 현황, 미정부 지하수 관리정책, 제도 및 법령, 착정 등 관련 기술, 사업현황, 지열사업 관련 등 주제

- 참여 : 한국지하수·지열협회를 비롯한 전 세계 약 300개 업체, 단체, 연구소, 학계 등 (평균 약 4,000 ~ 5,000명 참관 등록, 2018년 약 5,000명 등록)



○ 일정 : '19. 12. 03.(화) ~ 12. 05.(목), (전시회 4 ~ 5일)

○ 장소 : Las Vegas Convention Center(라스베이거스, 네바다주, 미국)

○ 행사 주요내용

- 워크숍 : 미연방/주 지하수 관리정책, 지하수 착정작업과 정호설치, 급수시설, 안전/규제/인허가, 수질 및 처리기술, 지열 사업 등
- 전시회 : 시추기 및 관련장비, 수중모터펌프, 합마 및 비트(Bits), 스크린 등 시공 소모자재, 그리고 조사 및 측정장비 등 전시 (약 300개 업체 부스 개설·운영)
- 기타행사 : 기조연설 및 NGWA 시상식, 참석자 환영파티, 주요인사 만찬, 폐품 수집, 현장시현회 등

## **[첨부1] 2019 NGWA Groundwater Week 세미나 및 워크숍**

### **[Groundwater Summit Conference Sessions]**

(Only) Tuesday, December 3, 2019

#### **Anything Else Groundwater**

- 10:00 AM Airborne Geophysics for Improved Targeting of Groundwater and Geotechnical Drilling
- 10:20 AM Application of Electrical Resistivity in Investigating Groundwater Potential
- 10:40 AM Failure Analyses of Rehabilitated Production Wells on Guam
- 11:00 AM Where Not To Drill A Well - Application Of Surface Geophysical Methods For Locating Water Production Well Sites
- 11:20 AM Hydrogeologic Survey of Santa Rita Spring, Guam: Determination of Its Natural Capacity and Development Options
- 11:40 AM A New Type of Hybrid Groundwater Energy System
- 12:00 PM More than 75% of Energy and CO2 Savings in Combined Cooling and Heating systems with Aquifer Thermal Energy Storage

#### **Surface Water/Groundwater Interaction**

- 10:00 AM Characterizing Groundwater Seepage in an Urban, Tidal Estuary Using Multiple Lines of Evidence
- 10:20 AM Using Bacteria DNA Sequencing to Identify Nitrate Sources in a Coastal Groundwater Aquifer
- 10:40 AM Surface Water/Groundwater Interaction in an Alluvial Valley: What we think we know and what we need to know
- 11:00 AM Vulnerability analysis for the Mexican Valle de Puebla aquifer supported by the fourth industrial revolution.
- 11:20 AM Modeling and Uncertainty Analysis for Remedy Selection to Address Groundwater Discharging to Surface Water
- 11:40 AM How a Karst Watershed Swallowed Half of the Excess Rainfall in Its Wettest Year Ever

#### **Water Quality and Treatment**

- 10:00 AM Heat-treated biochar impregnated by zero-valent iron nanoparticles for TCE removal from groundwater
- 10:20 AM Neural modeling of biological processes for organic wastewater treatment

## Groundwater Remediation

- 10:00 AM Biological treatment of Acid Mine Drainage at Perry Canyon Mine, Nevada
- 10:20 AM All Along the Waterfront – Case Study Utilizing Various Remedial Strategies for a Large Brownfield Site in Yonkers, NY
- 10:40 AM Groundwater Characterization And Remediation Proposal For A Site Contaminated by Chromium, Northern Mexico City
- 11:00 AM Carbon Based Injectates for the Treatment of Petroleum Hydrocarbons in Groundwater
- 11:20 AM Peroxymonosulfate decomposition with different cobalt-based materials for acetaminophen degradation
- 11:40 AM STAR as an Innovative Alternative for Source Zone Remediation
- 12:00 PM Chromate removal by long life IX resins without continuous pH adjustment
- 01:40 PM Comparative Study of Two Distinct Persulfate Activation Methods Followed by Biologically Mediated Processes
- 2:00 PM Water defluoridation using coupled Moringa oleifera extract and electrocoagulation
- 2:20 PM Remediation actions for the rescue of the Mexican Tecamachalco Valley aquifer
- 2:40 PM Leveraging Remote Telemetry And Data Visualization To Streamline Implementation Of A Thermal Remedy: A Case Study
- 3:00 PM Design Verification Program – Lessons Learned from Pre-Application Assessments at In Situ Remediation Sites
- 3:20 PM Re-sequencing of a Combined Remedy Approach for Sustainable Water Conservation

## Groundwater Monitoring

- 1:20 PM Lessons Learned from Development and Implementation of the National Groundwater Monitoring Network
- 1:40 PM Using the Optical Image Profiler (OIP) and Hydraulic Profile Tool to Visualize Complex Petroleum LNAPL Migration
- 2:00 PM The Internet of Water: How Improved Water Infrastructure Can Answer Fundamental Questions
- 2:20 PM Historic Flow Capacity in Arid Groundwater Basins: Continuing Salinity and Other Environmental Concerns
- 2:40 PM Challenges of Groundwater Resource Development in the Cattle Corridor of Uganda
- 3:00 PM Structural mapping for aquifer delineation; Case study of Buffalo catchment, Eastern Cape, South Africa

## **Sustainability and Planning**

- 1:20 PM Assessing Unconfined Aquifers for Supplemental Potable Ground Water Resources in Central Texas, McLennan County
- 1:40 PM Innovative Solutions for Water Management in Western Nebraska
- 2:00 PM Integrating Monitoring Technology and Psychology to Improve Water Management in a Groundwater Dependent Community
- 2:20 PM Integrating pump duty and flow in the Cloud to quantify gallons pumped from groundwater monitoring networks
- 2:40 PM Socioeconomic and Water Demand Indicators of Municipalities Located in the Recharge Areas of the Guarani Aquifer
- 3:00 PM Toward a Sustainable Management Concept for Coastal and Island Aquifers
- 3:50 PM Provo Aquifer Storage and Recovery – the Path to a Long Term Sustainable Water Supply
- 4:10 PM Characterizing Infiltration Rate Variability Using Distributed Temperature Sensing
- 4:30 PM Using Geophysics to Site “Forebay-Type” Managed Aquifer Recharge Systems in the Wasatch Front of Utah
- 4:50 PM Estimating storage capacity and suitability of Managed Aquifer Recharge on a basin-wide scale in Washington, USA

## **Emerging Contaminants**

- 3:30 PM Colloidal Activated Carbon for in situ Remediation of PFAS: A Review of Multiple Case Studies
- 3:50 PM Installation, Operation and Startup of World’s First Regenerable Resin System for PFAS Removal
- 4:10 PM Ion Exchange Groundwater Treatment System Addresses PFAS Contamination at an Australian Air Base
- 4:30 PM Rapid Deployment of PFAS Removal System for Town Water Supply in Katherine, Australia

## **Geophysics for Groundwater Model Development and Monitoring**

- 3:30 PM Measuring Magnetic Susceptibility as an Indicator of Biochemical Degradation of Oil in the Subsurface
- 3:50 PM New Method For In Situ Vapor Property Monitoring Can Improve Remediation Efficiency
- 4:10 PM Using Geophysics to Identify Groundwater in Arid Regions
- 4:30 PM Using Microgravity and Passive Seismic Methods jointly to Explore the Brazos River Alluvium Aquifer