

2015 University of Oklahoma International WaTER Conference

NCED Conference Center and Hotel, Norman, OK

September 21-23, 2015

Conference Program:

Sunday, September 20, 2015

Evening events:

6:30-9:00 pm Registration available and oral presentation submission

7:15-9:00 Opening General Reception – meet, greet, eat and repeat!

Monday, September 21, 2015

7am-2:00 pm Registration available and presentation submission

8:30-9:00 Welcoming Remarks

9:00-9:40 Keynote Speaker 1 – Christine Moe, Emory University

9:40-10:20 Keynote Speaker 2 – Ani Vallabhaneni, Sanergy

10:20-10:50 Break

10:50-11:50 Concurrent Oral Presentations – Group 1

Session 1: Capacity-Building in WASH I [Moderator: Jose Alfaro]

- **Super-Service Provider: Strengthening Capacity of Water Supply and Sanitation Boards for Provision of Sustainable Water Solutions**
Magara (IRC International Water and Sanitation center - Uganda)
- **WASH Capacity Building and Action Research in Developing Countries – A Collaboration Between the Desert Research Institute, Drexel University and World Vision**
Apambire (Center for International Water and Sustainability, DRI)
- **Collaborative Engineering Design for Local Production of Low Lift, High Volume Water Pumps in Bangladesh**
Lam (International Maize and Wheat Improvement Center - CIMMYT)

Session 2: WASH Innovation and Design [Moderator: James Smith]

- **Novel Non-Sewered Sanitation Model: A Cheaper and More Efficient Option for Africa**
Adelegan (Global Network for Environment & Econ Dev Research, Nigeria)
- **WASH Action Research With Academia- Development of On-Site Waste Water Treatment Using Anaerobic Baffled Reactor (ABR) Coupled With Anaerobic Peat Filter (APF)**
Naveed (WaterAid)
- **Numerical Models of a Silver-Based Drinking Water Treatment Technology**
Kahler (University of Virginia)

Session 3: Climate Change Impacts and Adaptation [Moderator: Yang Hong]

- **Climate Change Effects on the Water Resources of the Banaue Rice Terraces, a World Heritage, Philippines**
Campos (University of the Philippines Open University)
- **The Performance of Satellite Precipitation Products for Water Resources Applications in the Upper Blue Nile Basin**
Anagnostou (University of Connecticut)
- **Spatial Differentiation of Climate Change Impacts of Water Sources in the Magdalena-Cuaca's Basin, Colombia**
Ochoa (Universidad El Bosque)

Session 4: Assessments of WASH Interventions I [Moderator: Robert Dreibelbis]

- **Establishing a Monitoring and Evaluation Plan for World Water Relief in the Dominican Republic and Haiti**
Stanfill (Emory University)
- **Impact of Bacteria and Pharmaceutically Active Compounds on Slow Sand Filtration**
D'Alessio (Nebraska Water Center)
- **Hydrophilanthropy Reexamined – Differences Between Failure and Success**
Kreamer (University of Nevada, Las Vegas)

11:50-1:00 pm Lunch

1:00-1:40 Keynote Speaker 3 – Pawan Labhasetwar, NEERI

1:40-2:20 Keynote Speaker 4 – Kerstin Danert, RWSN

2:20-2:50 Break

2:50-3:50 Concurrent Oral Presentations – Group 2

Session 5: Capacity-Building in WASH II [Moderator: Mike Bellamy]

- **Hydrological Capacity Building and Model Training in Namibia**
Saharia (CIMMS/University of Oklahoma)
- **Creating a Hydrogeologic Database for Capacity-Building on Water Services Management with the District Assemblies of Ghana**
Apambire (Desert Research Institute)
- **Expressed Needs and Observed Needs: The Importance of “Discovery Trips” in Sustainable Water Development Efforts**
Alfaro (University of Michigan)

Session 6: Social Entrepreneurship and Market-Based Approaches [Moderator: Lowell Busenitz]

- **Container-Based Sanitation: An Entrepreneurial Approach to Managing Wastes in Low-income Urban Areas**
Davis (Stanford)
- **Rural Water Shops: Entrepreneurial Solutions for Basic Infrastructure at the BoP Markets in Nepal**
Mahato (Nexus Technology Private Limited)

- **Market Development, an Evolutionary Process for Rural Sanitation in Bihar, India**
Sinha (PSI - Population Services International)

Session 7: Water Resiliency, Reuse and Resources-Global Context [Moderator: Emmanouil Anagnostou]

- **The Africa-Born Business Solution to Rural Drinking Water Quality in Oklahoma**
Butel (Community Water Solutions)
- **Distributed Hydrologic Modeling in Trans-boundary Basins; a Case Study of Mangla Sub-watershed, Pakistan**
Waqas (National University of Sciences and Technology Pakistan)
- **Future Water Requirements in the Energy Sector: A State-by-State Assessment in the United States and the Implications of Climate Change**
Lu Liu (University of Maryland)

Session 8: Assessments of WASH Interventions II [Moderator: Alexandra Lutz]

- **Electrochemical Removal of Iron in Ugandan Refugee Camp Drinking Water**
Wilson (Southern Methodist University)
- **Change in Water Quality from Source to Consumer During Urban Drinking Water Supply**
Meshram (CSIR-NEERI)
- **A Metric for Assessing the Sustainability of Safe Water Provision in Healthcare Facilities**
Robb (The Center for Global Safe Water at Emory University)

3:50-5:00	Poster Session/Social (and Ethiopian Coffee Ceremony)
5:40	Buses depart for Sam Noble Oklahoma Museum of Natural History
6:00-9:15	Banquet and 2015 University of Oklahoma Water Prize Presentation (Sam Noble Oklahoma Museum of Natural History)

Tuesday, September 22, 2015

7:00-10:00 am	Registration available and oral presentation submission
9:00-10:00	Concurrent Oral Presentations – Group 3

Session 9: Fluoride Effects and Mitigation I [Moderator: Laura Brunson]

- **Impact of Endemic Fluorosis on Early Retirement of the Work force of Wonji/Shoa Sugar Factory: The Case Study of Wonji/ Shoa Area, the Ethiopian Rift Valley**
Alemu (Ministry of Science and Technology - Ethiopia)
- **Parameters Governing the Efficiency and Economics of the Electrolytic Defluoridation Process – Experience in India**
Andey (NEERI)
- **The Biological, Social, and Economic Impacts of Fluorosis: A Comparative Study of Ethiopia and India**
Kroeger (University of Oklahoma)

Session 10: Water Resources and Supply [Moderator: Robert Knox]

- **Grey Water Treatment and its Reuse Using Vertical Wall System**
Bagde (WT&MD, CSIR-NEERI)
- **Greywater Treatment for Reuse by Sand Filtration: A Study on the Microbial and Physico-Chemical Analysis**
Singh, M. (PhD Scholar)
- **Application of Remote Sensing for Water Resource in Data-Poor Regions: Case Study Nile Basin.**
Hasan (Hydros group, University of Oklahoma)

Session 11: Groundwater Resources and Well-Drilling Challenges I [Moderator: Michael MacCarthy]

- **New Signs of an old Problem: High Iron Concentrations, Corrosion of Hand-Pump Components in Aggressive Groundwater, and Lessons From WaterAid's Recent Experiences in Uganda.**
Carpenter (Independent WASH Consultant)
- **Investigating the Potential of Field-Based Water Quality Testing to Assess Groundwater Aggressivity and Corrosion Potential of Hand-Pump Boreholes in Northern Uganda**
Brett (Mercer University)
- **Mapping of Contaminants in Developing World Aquifers for Origination and Risk Assessment**
Hamilton (Southern Methodist University)

Session 12: Experience of NGOs and Charitable Organizations I [Moderator: James Weaver]

- **Capacity Building in WASH in World Vision Kenya and Resulting Achievements**
Abourached (World Vision US)
- **Community Monitoring for Sustainable WASH: The Case of Twachiyanda, Zambia**
Opong (World Vision Southern Africa Region)
- **Challenges and Successes Integrating NGO WASH Programs With Government: Experiences From the Millennium Water Alliance in Latin America, Ethiopia, and Kenya**
Callejas (Millennium Water Alliance)

10:00-10:30 Break

10:30-11:30 Concurrent Oral Presentations – Group 4

Session 13: Fluoride Effects and Mitigation II [Moderator: Teshome Yami]

- **Fluoride and Vanadium Groundwater Contamination in Refugee Camps in East Africa: Field Characterization and Lab-Based Testing of Removal via Hydroxyapatite**
Aleto (Southern Methodist University)
- **Preparation, Characterization, and Regeneration of Aluminum Hydroxide Amended Molecular Sieves for Fluoride Adsorption From Drinking Water**
Du (University of Oklahoma)
- **Defluoridation with Electrocoagulation Followed by Activated Alumina Adsorption for Rural Areas**
Haldar (IIEST Shibpur)

Session 14: Gender and Social Equity [Moderator: Christine Moe]

- **Small Steps Big Changes: Gender Sensitive WASH Interventions in Coastal Bangladesh**
Naznin (Program Specialist-WASH & Gender, Gender and Water Alliance (GWA), Bangladesh)
- **Measuring Impacts of WASH on Women's Well-being**
Ogden (CARE)
- **Water-Related Research in India: Fresh Eyes on Ancient Problems**
Mattingly (University of Oklahoma)

Session 15: Groundwater Resources and Well-Drilling Challenges II [Moderator: Kerstin Danert]

- **How Can we Increase Drilling Success Rates?**
Lutz (Desert Research Institute - USA)
- **Low-Cost Groundwater Supplies in Northern Mali: Lessons from Technology Introduction in a Complex Context (2006 - 2015)**
MacCarthy (Mercer University)
- **Promoting Safe and Sustainable Well Construction in Malawi**
Schneider (National Ground Water Research & Educational Foundation)

Session 16: Experience of NGOs and Charitable Organizations II [Moderator: John Harris]

- **Outcomes and Evidence From Investing in Improving Sanitation Delivery Models: A Portfolio Overview**
Rosenboom (Bill & Melinda Gates Foundation)
- **Participatory Implementation of WaSH Projects in Indigenous Communities of Ecuador.**
Santamaria (ONG - MAP INTERNATIONAL)
- **The Problems, Failures, and Bolivian Solutions to Sustainability of Donor-Based Engineering Development in the Third World; a Bolivian Perspective**
Stephenson (Engineers In Action & Fundacion Ingenieros EnAccion)

11:30-12:45 pm Lunch

12:45-1:25 Keynote Speaker 5 –Afreen Siddiqi, MIT/Harvard

1:25-2:10 Panel Discussion – Climate-Water-Energy-Food Nexus: Challenges and Opportunities Across Sectors

2:10-2:40 Break

2:40-3:40 Concurrent Oral Presentations – Group 5

Session 17: Fluoride Effects and Mitigation III [Moderator: Braimah Apambire]

- **Efficiency of Bone Char Community Fluoride Filters in Ethiopia**
Samuel (Oromo Self Help Organization)
- **Chemically Activated Cow Bone for Increased Fluoride Removal in the Context of Life Cycle Assessment of Fluoride Adsorbents**
Yami (University of Oklahoma)
- **Assessment of impact of fluoride in ground waters, used for irrigation in India, on soil and crops**

Khadse (NEERI, India)

Session 18: Water Resiliency, Reuse and Resources – US Context [Moderator: Randy Kolar]

- **Spicewood Beach – an Innovative and Collaborative Solution to Community Water Supply Challenges during Record Drought in Central Texas**
Yanoshita (Corix Utilities Inc.)
- **Water Use Patterns in a Small Southern Oklahoma City During Dry and Near-Normal Years**
Weaver (U.S. EPA)
- **Arsenic Removal Utilizing Precipitation and Adsorption on a Catalytic Oxidative Media**
Myers (Myers Engineering, Consulting Engineers, Inc.)

Session 19: POU Drinking Water Treatment [Moderator: Jenna Davis]

- **Low Cost Water Purification Systems for Developing Countries and Humanitarian Assistance**
D'Alessio (Nebraska Water Center)
- **Long-Term Performance of the Sawyer PointONE™ Filter as Household Point of Use Water Treatment**
Soerens (Messiah College)
- **Pottery Inspired Nano-Enabled Ceramic Filters for Point-of-use Water Treatment**
Saleh (University of Texas at Austin)

Session 20: Socioeconomic Context: Affordability and Social Equity [Moderator: Daniele Lantagne]

- **Relating the Financial Management Skills of Savings and Internal Lending Communities (SILC Groups) With Water Management Committees in the DRC**
Seremet (Catholic Relief Services)
- **Biochar for Control of Synthetic Organic Contaminants in Low-Cost Water Treatment**
Kearns (University of Colorado)
- **The Cost of Compliance**
Coe (Myers Engineering, Consulting Engineers, Inc)

3:40-4:10 Break

4:10-4:50 Concurrent Oral Presentations – Group 6

Session 21: Arsenic Effects and Mitigation [Moderator: Steve Schneider]

- **Evaluation of Electrocoagulation and Fenton's Reagent for Arsenic Removal From Drinking Water**
Jadhav (NEERI)
- **Safe Handling and Disposal of Arsenic-Bearing Drinking Water Treatment Wastes in Bangladesh**
Reddy (University of Michigan)

Session 22: Educational Initiatives in WASH [Moderator: David Olukanni]

- **Laboratory Exercises Developed to Create Sustainable Water-Treatment Projects in Developing Countries**
Bellamy (Northwest Missouri State University)

- **Introducing! A new Minor in “Water and Sanitation for Health and Sustainable Development”**

Chamberlain (University of Oklahoma)

Session 23: Coping with Adversity – Water and Sanitation in India [Moderator: Pawan Labhasetwar]

- **Psychosocial Stress and Sanitation Work in India**
Dreibelbis (University of Oklahoma)
- **Paying or Not Paying for Safe Water? Insights from Arsenic-Affected Communities in India**
Delaire (University of California at Berkley)

Session 24: Assessment of WASH Interventions III [Moderator: David Kreamer]

- **How do Efficacious Water Treatment Products Become Effective Products in Real-World Circumstances?**
Lantagne (Tufts University)
- **The Importance of Effective WASH Support in Combatting Infectious Diseases: Case Studies in Haiti, Sierra Leone, and Liberia**
Beadle (Engineers in Action)

4:50-5:20 Conference Closing

Wednesday, September 23, 2015

Optional Workshops

9:00-Noon Workshop 1 Field Methods (Fears Structural Engineering Laboratory, south campus)

8:00-Noon Workshop 2 Social Entrepreneurship (CCEW office, south campus)

Side-Event

1:30-5:30 pm Water4 Tour (Water4 headquarters, Oklahoma City)