

Preliminary Program

**Sixth International Conference
on Irrigation and Drainage**

*The Struggle for Efficiency —
Actions and Consequences*



USCID

The U.S. society for irrigation and drainage professionals

**November 15-18, 2011
San Diego, California**

Preliminary Program

Tuesday, November 15

7:00 a.m. - 5:30 p.m. **Registration**

8:00 a.m. - 11:30 a.m. **Field Tour**

The Field Tour will visit facilities of the San Diego County Water Authority. A tour of SonTek/YSI Incorporated will also be featured..

12:00 noon - 1:15 p.m. **Lunch with Speaker**

Moderator — **Jerrold D. Gregg**, USCID President, and Bureau of Reclamation, Boise, ID

Keynote Address — Growing Enough Food Without Enough Water: Can Irrigation Deliver the Goods?

David Molden, International Water Management Institute, Colombo, Sri Lanka

1:30 p.m. - 5:00 p.m. **Opening Plenary Session**

Moderator — **Laura A. Schroeder**, Conference Co-Chairman, Schroeder Law Offices, P.C., Portland, OR

Water Use Efficiency

Jack Keller, Keller-Bleisner Engineering, LLC, Logan, UT

The New Focus on Water Supply Reliability & Sustainability

Steven C. Macaulay, West Yost Associates, Davis, CA

Modernization Processes for an Irrigation District — The Case of San Luis Canal Company

Alejandro Paolini, Henry Miller Reclamation District #2121, Dos Palos, CA

3:00 p.m. - 3:30 p.m. **Break**

Drip Irrigation System Cost Sharing by Irrigation Districts for Water Conservation

Charles M. Burt, California Polytechnic State University, San Luis Obispo, CA

The San Joaquin River Restoration and Potential Impacts to Adjacent Crop Production

Roger Burnett, Bureau of Reclamation, Denver, CO

The Imperial Irrigation District — San Diego County Water Authority Water Transfer, Water for Transfer by Efficiency Conservation — Actions and Consequences

John R. Eckhardt, Imperial Irrigation District, Imperial, CA; and **David L. Osias**, Allen Leck Gamble Mallory & Natsis LLP, Los Angeles, CA

5:00 p.m. - 5:30 p.m. **Meet the Exhibitors**

5:30 p.m. - 7:30 p.m. **Networking Reception and Exhibition**

Wednesday, November 16

7:00 a.m. - 5:30 p.m. **Registration**

7:00 a.m. - 8:00 a.m. **Continental Breakfast in Exhibit Hall**

8:00 a.m. - 10:00 a.m. **Plenary Session 1 — Emergency Response**

Moderators — **Charles M. Burt**, California Polytechnic State University, San Luis Obispo, CA; and **Joseph I. Burns**, Consultant, Sacramento, CA

Reordering Agricultural Activities in the Mexicali Valley in Response to the 2010 Earthquake

Angel López-López, Universidad Autónoma de Baja California; **Carlos Ramón Orozco-Riezzo**, Secretaría de Fomento Agropecuario de Baja California; **Concepción Carreón-Díazconti**, **Silvia Mónica Avilés-Marín** and **Roberto Soto-Ortiz**, Universidad Autónoma de Baja California; and **Gerardo García-Saille**, Comisión Nacional del Agua

Institutional Response to Natural Events of Great Magnitude Affecting Hydraulic Infrastructure: Case of the April 2010, Earthquake in the Mexicali Valley, Baja California

Carlos Ramón Orozco-Riezzo, Secretaría de Fomento Agropecuario de Baja California; **Angel López-López**, Universidad Autónoma de Baja California; **Concepción Carreón-Díazconti**, **Silvia Mónica Avilés-Marín** and **Roberto Soto-Ortiz**, Universidad Autónoma de Baja California; and **Gerardo García-Saille**, Comisión Nacional del Agua

Irrigation Engineering in Seismic Zones — Mexicali Valley, Mexico

Alan Dennis Gracia and **Humberto Ivan Navarro**, Ingeniería Dennis, Mexicali, Mexico; and **Charles Burt**, California Polytechnic State University, San Luis Obispo, CA

IID Response to April 2010 Earthquake Damages

Vince Brooke, Imperial Irrigation District, Imperial, CA

10:00 a.m. - 10:30 a.m. **Break in Exhibit Hall**

10:30 a.m. - 12:00 noon **Plenary Session 1 — Emergency Response (continued)**

Near Failure of the All American Canal Due to a 7.2 Magnitude Earthquake in April 2010

Robert L. Dewey, Bureau of Reclamation, Denver, CO

Decision Making Uncertainties During the Tennessee Flood of 2010

W. Martin Roche, Consulting Engineer, Grass Valley, CA

Corps of Engineers Response to May 2011 Mississippi River Floods

TBA

12:00 noon - 1:15 p.m. **Buffet Lunch in Exhibit Hall**

1:30 p.m. - 3:00 p.m. **Plenary Session 2 — Water Transfers/Legal Issues**

Moderators — **Darren B. Cordova**, MBK Engineers, Sacramento, CA; and **Khaled M. Bali**, University of California Cooperative Extension, Holtville, CA

Water Use and Urbanization: The Truckee River Operating Agreement

Therese A. Ure, Schroeder Law Offices, P.C., Reno, NV

Irrigation District/Municipal Cooperation to Address Urbanization Issues

Charles Borda, Bureau of Reclamation, Denver, CO

Converted Wetlands: Unintended Consequences

Cortney Duke and **Nathan Forbes**, Schroeder Law Offices, P.C., Portland, OR

3:00 p.m. - 3:30 p.m. **Break in Exhibit Hall**

3:30 p.m. - 5:30 p.m. **Plenary Session 2 — Water Transfers/Legal Issues** (continued)

Pueblo de Cochiti: A Case Study in the Struggle for Irrigation Efficiency

Viola Sanchez, Bureau of Reclamation, Albuquerque, NM

Bureau of Reclamation Dixie Valley, Nevada, Ground Water Export Study

Mark Spears, Bureau of Reclamation, Denver, CO

Central Utah Project Water Development and Stream Flows

Reed R. Murray, U.S. Department of the Interior, Provo, UT

Environmental Compliance for Irrigation Dam Repair in Yolo County, CA

Sarah McIlroy and **George V. Sabol**, Stantec Consulting Services Inc., Phoenix, AZ

6:30 p.m. - 7:00 p.m. **Reception**

7:00 p.m. - 9:30 p.m. **Dinner with Speaker**

Moderator — **Jerrold D. Gregg**, USCID President, and Bureau of Reclamation, Boise, ID

Speaker — TBA

Thursday, November 17

7:00 a.m. - 5:00 p.m. **Registration**

7:00 a.m. - 8:00 a.m. **Continental Breakfast and Poster Session**

Assessment Effect of Different Irrigation and Nitrogen Management Scenarios on Spatial Distribution of Wheat Water Use Efficiency in Varamin Plain Using CropSyst Model

Samira Ashaeri and **Aliasghar Montazar**, University of Tehran, Tehran, Iran

More Crop Per Drop: An Indian Perspective

Suman Lata and **Hifzur Rahman**, Aligarh Muslim University, Aligarh, India

8:00 a.m. - 10:00 a.m. **Concurrent Session 3A — More Crop per Drop**

Moderators — **Darren R. Fillmore**, Imperial Irrigation District, Imperial, CA; and **Bryan P. Thoreson**, Davids Engineering, Inc., Davis, CA

Water Use Efficiency of Alfalfa Under Drip Irrigation in the Imperial Valley

Khaled M. Bali, **Daniel Buenrostro**, **Rob Thomas** and **Jack Cato**, University of California, Holtville, CA

More Crops per Drop: True Success Story of Jain Hills — An Ideal Integrated Model of Rain Water Harvesting to Crop Harvesting

Dilip Yewalekar and **Manisha Kinge**, Jain Irrigation Systems Ltd., Jalgaon, Maharashtra, India

CIMIS Updates

Bekele Temesgen, **Kent Frame** and **Simon Eching**, California Department of Water Resources, Sacramento, CA

Potential Energy Savings for Irrigation Pumps in Central California

Luis Pérez Urrestarazu, University of Seville, Seville, Spain; and **Charles M. Burt**, California Polytechnic State University, San Luis Obispo, CA

8:00 a.m. - 10:00 a.m. **Concurrent Session 3B — Applications of Technology I**

Moderators — **Todd L. Hillaire**, California Department of Water Resources, Red Bluff, CA; and **Dick Tzou**, Madera Irrigation District, Madera, CA

Multi-Decadal Analysis of Irrigated Acreage in the Lower Rio Grande Valley

David Jordan, INTERA Incorporated, Albuquerque, NM; and **Peggy Barroll**, New Mexico Office of the State Engineer, Santa Fe, NM

Impact of Use of GIS as a Real Time Decision Support System for Irrigation Districts in Texas

Gabriele Bonaiti, **Eric Leigh** and **Guy Fipps**, Texas A&M University, College Station, TX

Moving from Simple to Complex SCADA Projects in Irrigation Districts, Case Study — Hidalgo County Irrigation District No.6

Askar Karimov and **Guy Fipps**, Texas A&M University, College Station, TX

Hidden Gems of Efficiency Improvements

Dan Charlton, Coachella Valley Water District, Coachella, CA; and **Wayne Dahl**, Dahl Consultants, Folsom, CA

10:00 a.m. - 10:30 a.m. **Break with Poster Papers**

10:30 a.m. - 12:00 noon **Concurrent Session 3A — More Crop per Drop** (continued)

Deficit Irrigation Practices for Water Conservation in the Palo Verde Valley

Khaled M. Bali, University of California Cooperative Extension, Holtville, CA; **Fadi Kamand**, Metropolitan Water District of Southern California, Los Angeles, CA; and **Blaine R. Hanson**, University of California, Davis, Davis, CA

Evapotranspiration of Alfalfa in Commercial Fields, California

Blaine R. Hanson, University of California, Davis, Davis, CA; **Steve Orloff**, University of California Cooperative Extension, Yreka, CA; **Khaled Bali**, University of California Cooperative Extension, Holtville, CA; **Blake Sanden**, University of California Cooperative Extension, Bakersfield, CA; and **Dan Putnam**, University of California, Davis, Davis, CA

Regulated Deficit Irrigation of Wine Grapes

James E. Ayars, Agricultural Research Service, USDA, Parlier, CA; and **Anji Perry**, J. Lohr Wines and Vineyard, Paso Robles, CA

10:30 a.m. - 12:00 noon **Concurrent Session 3B — Applications of Technology I** (continued)

Flow Measurements in Shallow Open Channels Using an Acoustic Pulsed Doppler Sensor

Mike Cook and **Craig Huhta**, SonTek/YSI Incorporated, San Diego, CA

Flow Measurement Using Acoustic Doppler Current Profilers on an Irrigation Canal

Hening Huang, Teledyne RD Instruments, Poway, CA

Automation Saves Water and Energy Case Study: The Dalles Irrigation District

Bridget Bailey, Schroeder Law Offices, P.C., Portland, OR; and **Mike Omeg**, Omeg Orchards and Agsys Northwest, The Dalles, OR

12:00 noon - 1:15 p.m. **Lunch with Speaker**

Moderator — **Jerrold D. Gregg**

Speaker — **Terry Fulp**, Deputy Regional Director, Lower Colorado Region, Bureau of Reclamation, Boulder City, NV

1:30 p.m. - 3:00 p.m. **Concurrent Session 4A — Uncertainties in Decision Making**

Moderators — **Delbert M. Smith**, Bureau of Reclamation, Denver, CO; and **Ian C. Tod**, Ian Todd Associates, Highland, CA

Oregon's Scenic Waterway Act: A Type of Instream Flow Requirement

Therese A. Ure, Schroeder Law Offices, P.C., Reno, NV; and **Nathan Forbes**, Schroeder Law Offices, P.C., Portland, OR

Tile Drainage the Source of Additional Irrigation Water and Sustainable Crop Production: A Case Study of Farmer and Agency-Managed Systems in Sindh, Pakistan

Bakhshal Lashari, Mehran University of Engineering and Technology Jamshor, Sindh, Pakistan

Aqua-Cides: To Permit or Not to Permit, That is the Question

Sarah R. Liljefelt, Schroeder Law Offices, P.C., Portland, OR

1:30 p.m. - 3:00 p.m. **Concurrent Session 4B — Applications of Technology II**

Moderators — **Eduardo Bautista**, Agricultural Research Service, USDA; and **Samuel W. Schaefer**, GEI Consultants, Bookman-Edmonston Division, Bakersfield, CA

Canal Lining Project Evaluation Updates and Methodologies

Eric Leigh and **Gabriele Bonaiti**, Texas A&M University, College Station, TX; **Martin Barroso, Jr.**, Texas A&M University, Weslaco, TX; and **Guy Fipps**, Texas A&M University, College Station, TX

Southern Utah Water SCADA Project and Dispelling Myths Regarding 900MHz Spread Spectrum Technology

Daniel G. Steele, FreeWave Technologies, Inc., Boulder, CO

Pipeline and Canal Downstream Control System for Recirculation — Patterson ID Case Study

John I. Sweigard, Merced Irrigation District, Merced, CA; **Charles M. Burt**, California Polytechnic State University, San Luis Obispo, CA; and **Peter Rietkirk**, Patterson Irrigation District, Patterson, CA

3:00 p.m. - 3:30 p.m. **Break with Poster Papers**

3:30 p.m. - 5:30 p.m. **Concurrent Session 4A — Uncertainties in Decision Making** (continued)

Multiple Scenarios of Future California Water Demand

Mohammad Rayej and **Rich Juricich**, California Department of Water Resources, Sacramento, CA; **David Groves**, RAND Corporation, Oakland, CA; and **David Yates**, National Center of Atmospheric Research, Boulder, CO

Evaluating CPC Long Range Precipitation Forecasts in the Northern Sierra Nevada

Maurice Roos, California Department of Water Resources, Sacramento, CA

West-Wide Climate Risk Assessments: Bias-Corrected and Spatially Downscaled Surface Water Projections

Subhrendu Gangopadhyay, Bureau of Reclamation, Denver, CO

Water Use Efficiency of Irrigation Projects in India and Strategy for its improvement — an Overview

A. K. Bajaj and **A. K. Jain**, Central Water Commission, Ministry of Water Resources, New Delhi, India

**3:30 p.m. - 5:00 p.m. Concurrent Session 4B —
Applications of Technology II (continued)**

*Main Canal Decision Support System for Scheduling Flow
Changes on Main Canals — Imperial Irrigation District
Efficiency Conservation Program*

Bryan P. Thoreson, Davids Engineering, Inc., Davis, CA;
Andrew A. Keller, Keller-Bliesner Engineering, LLC, Logan,
UT; and **Merlin Kidwell** and **John R. Eckhardt**, Imperial
Irrigation District, Imperial, CA

*Evaluation of Flow Measurement Sites on the North Platte
River Near the Wyoming-Nebraska State Line*

Brian T. Wahlin, WEST Consultants, Inc, Tempe, AZ.; and
Richard Belt, Aqua Engineering, Inc., Fort Collins, CO

*Performance of Existing Submerged Orifice Gates for Farm
Delivery Measurement in Reclamation District 108 Relative
to Pending Measurement Accuracy Standards*

Jeffrey C. Davids, Davids Engineering, Inc./H2oTech,
Chico, CA; and **Grant G. Davids**, Davids Engineering, Inc.,
Davis, CA

Friday, November 18

8:00 a.m. - 5:00 p.m. Field Tour

This day-long tour will feature a visit to Imperial Irrigation
District, including lunch at the University of California
Cooperative Extension Office in Holtville.

(Updated May 12, 2011)