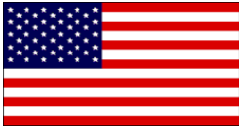




MONASH University



## 2015 UCI-Water PIRE UPP Down Under Agenda



### Week 1:

#### **Monday, June 15th: Orientation & Overview - Engineering Gateway 4171**

**8:30AM-9:00AM:** Breakfast (Provided) - **Order 38811 - Muffins/Fruit/Coffee/Tea**

**9:00AM-9:45AM:** Welcome and Overview of PIRE Research and Program - S. Grant

**10:00AM-10:50AM:** Urban Water Supply and Wastewater Systems of Southern California - S. Grant

**11:00AM-11:50AM:** Introduction to the Governance, Regulatory, and Planning Contexts for Stormwater and Wastewater-U.S. vs. Australia - D. Feldman

**11:50AM-12:50PM:** Lunch (Provided) - **Order 38829 - Sandwich Bar/Garden Salad/Soda**

**1:00PM-1:50PM:** Meet w/ Graduate Students (E. Parker, E. Gomez, K. Low (Skype), C. Patel, M. Azizian, A. Askarizadeh, K. Lim)

**2:00PM-3:30PM:** Fun and Games - J. Beam

**3:30PM-3:45PM:** SmartStart Introduction & Overview - J. Martone, M. Schmalstig

**3:45PM-4:45PM:** Administrative Paperwork

**4:45PM-5:00PM:** Travel to Gina's Pizza

**5:00PM:** Dinner with 2013/14 Cohort

#### **Tuesday, June 16th: Careers in Environmental Engineering & Direct Potable Reuse - Engineering Gateway 4171**

**8:30AM-9:00AM:** Breakfast (Provided) - **Order 38812 - Mini Muffins/Danishes/Scones/Coffee/Tea**

**9:00AM-9:50AM:** Urban Water Sustainability: Definitions and Applications - D. Feldman

**10:00AM-11:30AM:** Panel Discussion: What Are the Varieties of Careers in Environmental Engineering? - D. Feldman (Ashmita Sengupta, Jian Peng, Rita Garcia, Mark Hill)

**12:00PM-1:25PM:** Lunch with Panel Participants (Provided) - **Order 38831 - Hamburger Bar/Soda**

**1:25PM-2:15PM:** Detecting Human Pathogenic Viruses, Bacteria, and Protozoans I - S. Jiang

**2:30PM-4:00PM:** Panel Discussion: Direct Potable Reuse - S. Jiang (Shivaji Deshmukh, Menu Leddy, Monica Gasca)

**4:00PM-5:00PM:** Cohort Interaction with Panel Participants

#### **Wednesday, June 17: Constructed Wetlands, Flood Risk & Drainage Systems of Orange County - Engineering Gateway 4171**

**7:45AM-8:00AM:** Breakfast (Provided) - **Order 38813 - Bagels/Yogurt/Coffee/OJ**

**8:00AM-8:50AM:** Climate and Hydrology of Southern California and Southeast Australia - A. AghaKouchak

**9:00AM-9:50AM:** Constructed Wetlands for Wastewater Treatment - P. Bowler

**10:00AM-10:50AM:** Flood Risk and Drainage Systems of Southern California and Southeast Australia - B. Sanders

**11:00AM-11:50AM:** Climate Change and Non-stationary Processes: Detection and Modeling - A. AghaKouchak

**11:50AM-12:50PM:** Lunch (Provided) - **Order 38832 - Chicken Salad/Tuna Salad/Sandwiches/Salad/Chips/Soda**

**1:00PM-5:00PM:** Tour of OC Drainage Systems - C. Crompton, J. Peng

#### **Thursday, June 18th: Tours of IRWD & UCI's San Joaquin Marsh Systems - Engineering Gateway 4171**

**8:30AM-9:00AM:** Breakfast (Provided) - **Order 38815 - Donuts/Fruit/Coffee/Tea**

**9:00AM-9:30AM:** Travel to IRWD San Joaquin Marsh System

**9:30AM-11:30AM:** Tour of IRWD San Joaquin Marsh System - Ian Swift

**11:30AM-12:00PM:** Travel to UCI's North Campus

**12:00PM-12:50PM:** Lunch (Provided, Boxed) - **Order 38833 - Sandwiches (Boxed)**

**1:00PM-1:50PM:** Constructed Wetlands for Stormwater Treatment - P. Bowler

**2:00PM-4:50PM:** Tour of UCI's San Joaquin Marsh System, Newport Back Bay, Bonita Creek, and San Diego Creek - P. Bowler

**4:50PM-5:00PM:** Travel back to UCI Main Campus

#### **Friday, June 19th: LID's & Microbiology - Engineering Hall 2430 (Colloquia Room)**

**9:00AM-9:30AM:** Breakfast (Provided) - **Order 38817 - Donuts, Fruit Salad, Coffee**

**9:30AM-10:20AM:** Little Stringybark Creek Overview - Vjeko Matic via Skype

**10:30AM-11:50PM:** LID Panel Discussion - D. Feldman/K. Low

**12:00PM-12:50PM:** Lunch with Panel Participants (Provided) - **Order 38837 - Sandwiches, Salad, Soda**

**1:00PM-1:50PM:** Public Perception of Water Risks: U.S. vs Australia - J. Saphores

**2:00PM-2:50PM:** Molecular Approach & Direct Counting Methods for Pathogen Detection - E. Gomez & E. Huang

**3:00PM-3:50PM:** Digital PCR Technology & Its Application In The Environment - Y. Cao

**4:00PM-4:50PM:** Public Health Risk Associated With Exposure To Waterborne Pathogens - K. Lim

#### **Sat/Sun, June 20th & 21st: Free Days**



## **Week 2:**

### **Monday, June 22nd: Tours of the Orange County Sanitation and Water District Facilities - Engineering Gateway 4171**

**8:00AM-8:45AM:** Breakfast (Provided) - **Order 38822 - Muffins/Danishes/Scone/Cinnamon Buns/Fruit/Coffee/Tea**

**8:45AM-9:00AM:** Travel to OCWD GWRS/OCSD

**9:00AM-10:30PM:** Tour of OCSD

**10:45-11:00AM:** Travel to OCWD GWRS

**11:00AM-1:00PM:** Tour OCWD GWRS

**1:00PM-1:15PM:** Travel back to UCI

**1:15PM-2:00PM:** Lunch (Provided) - **Order 38839 - Sandwich Bar/Garden Salad/Soda**

**2:00PM-2:50PM:** What do "Natural" and "Conventional" Treatment Systems have in Common? - B. Winfrey

**3:00PM-3:50PM:** Application of Ecological Theory to Biofilter Design - L. Levin - via Skype

**4:00PM-4:50PM:** Urban Stream Syndrome - R. Ambrose

### **Tuesday, June 23rd: Biofilters- Engineering Gateway 4171**

**8:30AM-9:00AM:** Breakfast (Provided) - **38823 - Egg, Salsa, Pico De Gallo**

**9:00AM-9:50AM:** Pollutant Removal in Biofilter Systems: Are There Tradeoffs? - M. Rippey

**10:00AM-10:50AM:** Plant and Animal Communities in Biofilters: Are They Sustainable? - B. Winfrey and A. Mehring

**11:00AM-11:30AM:** **Order 39720 - Sandwich Bar/Ceaser Salad/Sodas**

**11:30AM-12:00PM:** Travel to CalTrans Biofilter

**12:00PM-3:00PM:** Tour of CalTrans Biofilter-B. Winfrey and Bhaskar Joshi (or other CalTrans representative)

**3:00PM-3:30PM:** Travel back to UCI

**3:30PM-4:30PM:** Biofilter Systems in the U.S. and Australia: a Trans-Continental Comparison - B. Winfrey and A. Mehring

### **Wednesday, June 24th: Tour of the Aquarium of the Pacific- Engineering Gateway 4171**

**8:30AM-9:00AM:** Breakfast (Provided) - **Order 38825 - Frittata (Egg/Veggie/Cheese)/Fruit/Coffee/Tea**

**9:00AM-9:50AM:** Introduction to Anomalous Diffusion & Application to Biofilters - M. Azizian, E. Parker, C. Patel

**10:00AM-10:50AM:** Objective, Experimental Protocol, and Data Collection - M. Azizian, E. Parker, C. Patel

**11:00AM-11:50AM:** Introduction to G.L.U.E. - A. Askarizadeh

**12:00PM-12:50PM:** Mobile-Immobile Zone Demonstration - A. Askarizadeh, M. Azizian, E. Parker, C. Patel

**1:00PM-1:50PM:** Lunch (Provided) - **Order 38841 - Wraps/Potato Salad/Greens/Soda**

**2:00PM-3:00PM:** Travel to Aquarium of the Pacific

**3:00PM-5:30PM:** Enjoy the Aquarium - Carrie Abrahams

**5:30PM-6:30PM:** Return to UCI

### **Thursday, June 25th:- Engineering Gateway 4171**

**8:30AM-9:00AM:** Breakfast (Provided) - **Order 38826 - Donuts/Croissants/Fruit/Coffee/Tea**

**9:00AM-10:00AM:** Tour of UCI Stormwater Capture Reuse Projects - R. Demerjian or Matt Deines

**10:00AM-10:20AM:** Travel to South Coast Research and Extension Center

**10:30AM-12:00PM:** Tour of Pilot Homes at South Coast Research and Extension Center - T. Majcherek

**12:00PM-12:50PM:** Lunch (Provided) - **Order 38842 - Sandwich Bar/Potato Chips/Soda**

**1:00PM-1:30PM:** Overview Of Upcoming Project In Australia - K. Low

**1:30PM-2:00PM:** Field Experience & Qualitative Research Methods - T. Dornfield

**2:00PM-4:50PM:** Interviewing, Participant Observation, Questionnaires, Coding & Analysis - K. Low, D. Feldman, T. Dornfield

### **Friday, June 26th: Statistical Analysis- Engineering Gateway 4171**

**8:30AM-9:00AM:** Breakfast (Provided) - **Order 38827 - Muffins/Fruit/Coffee/Tea**

**9:00AM-11:00AM:** Statistical Approaches for Experimental Design and Data Analysis - M. Rippey, A. Mehring and B. Winfrey

**11:10AM-12:00PM:** Advanced Statistical Tools for Data Analysis - M. Rippey, A. Mehring and B. Winfrey

**12:00PM-12:50PM:** Lunch (Provided) - **Order 38843 - Sandwiches/Potato Chips/Soda**

**1:00PM-1:50PM:** Valuation Techniques to Assess Environmental Benefits - J. Saphores

**2:00PM-2:50PM:** Intro to Structural Equation Modeling (SEM's) - M. Rippey, A. Mehring and B. Winfrey

**3:00PM-3:50PM:** Intro to R and Matlab Programming Languages - M. Rippey, A. Mehring and B. Winfrey

**4:00-4:50PM:** Statistics Practice Hour: SEM's, Bootstrap, MLR - M. Rippey, A. Mehring and B. Winfrey

### **Saturday, June 27th: Travel to Australia- Engineering Gateway 4171**

**4:30PM – 6:55PM:** Early Dinner, Confirmation of Paperwork, Movie

**6:55PM:** Board Shuttles to LAX

**10:35PM:** Flight Departure

### **Sunday, June 28th: Day Lost In Time Vortex**



### **Week 3:**

#### **Monday, June 29th: Arrive in Australia**

7:25AM: Land in Melbourne  
 9:00AM: Board Sky Bus & Travel to University of Melbourne  
 10:00AM-11:00AM: Check into Housing  
 11:00AM+: Free Day to Acclimate

#### **Tuesday, June 30th: Rest Day**

#### **Wednesday, July 1st: Lunch with U of Melb Faculty - Tour of Melbourne Water Facilities**

8:00AM-9:00AM: Travel to MELB Water Plant (WERRIBEE) from U of Melb  
 9:00AM-11:00AM: Tour MELB Water Plant  
 11:00AM-12:00PM: Travel to U of Melb  
 12:00PM-2:00PM: Lunch with Head of Infrastructure Engineering Department - Abbas Rajabifard, Eileen Shea

#### **Thursday, July 2nd: Tour of Western Water Plant**

✓ 9:00AM-10:00AM: Travel from UoM to Western Water Plant (Gisborne)  
 ✓ 10:00PM-3:00PM: Tour Western Water Plant  
 3:00PM-4:00PM: Travel to U of Melb

#### **Friday, July 3rd: Tour of Little Stringybark Creek Project (T. Fletcher)**

10:00AM-11:00AM: Travel to Little Stringybark Creek  
 11:00AM-11:30AM: Lunch (Boxed)  
 11:30AM-2:00PM: Tour of Little Stringybark Creek Project  
 2:00PM-3:00PM: Travel to U of Melb

#### **Sat/Sun, July 4th & 5th: Free Days**

### **Week 4:**

#### **Monday, July 6th: Introduction to Biofilter Experiment & Lab Space (Monash University)**

8:30AM-10:00AM: Travel to Monash University  
 10:00AM-11:50PM: Introduction to Biofilters, Lab Space, Protocols & Experiment Plan  
 12:00PM-1:00PM: Lunch (Boxed)  
 1:00PM: Begin 55 hour pulses of Sewage/Nitrate  
 1:00PM-9:00PM: Shift 1  
 9:00PM-5:00AM: Shift 2

#### **Tuesday, July 7th: Continue Pulses of Sewage/Nitrate in Biofilters**

At Monash University	At Melbourne University
5:00AM-1:00PM: Shift 3 1:00PM-9:00PM: Shift 4 9:00PM-5:00AM: Shift 5	10:00AM: Meet for Social Science Experiments Out At Local Parks - Kathleen Low

#### **Wednesday, July 8th: Complete Pulses of Sewage/Nitrate in Biofilters, Begin NaCL Pulses**

At Monash University	At Melbourne University
5:00AM-1:00PM: Shift 6 1:00PM-8:00PM: Shift 7 8:00PM: Complete Sewage/Nitrate Pulses 9:00PM: Begin 55 hour pulses of NaCL 9:00PM-5:00AM: Shift 1	10:00AM: Meet for Social Science Experiments Out At Local Parks - Kathleen Low



**Thursday, July 9th: Continue Pulses of NaCl in Biofilters**

At Monash University	At Melbourne University
<b>5:00AM-1:00PM:</b> Shift 2 <b>1:00PM-9:00PM:</b> Shift 3 <b>9:00PM-5:00AM:</b> Shift 4	<b>10:00AM:</b> Meet for Social Science Experiments Out At Local Parks - Kathleen Low

**Friday, July 10th: Continue Pulses of NaCl in Biofilters**

At Monash University	At Melbourne University
<b>5:00AM-1:00PM:</b> Shift 2 <b>1:00PM-9:00PM:</b> Shift 3 <b>9:00PM-5:00AM:</b> Shift 4	<b>10:00AM:</b> Meet for Social Science Experiments Out At Local Parks - Kathleen Low

**Saturday, July 11th: Complete Pulses of NaCl in Biofilters (Monash University)**

**4:00AM:** Complete NaCl Pulses

**1:40PM:** Australian Rules Football Match (optional) - Essington vs. Melbourne. At Melbourne Cricket Ground

**Sunday, July 12th: Free Day**

**Week 5:**

**Monday, July 13th: Free Day**

**Tuesday, July 14th (Travel to USA)**

**6:00AM:** Travel to Melbourne Int'l Airport

**9:10AM:** Flight Departure

**6:35AM:** (US Time): Arrival at LAX

**7:45AM:** Shuttle Pickup to UCI

**Wednesday, July 15th:**

**8:00AM-12:00PM:** Recovery Time

Engineering (Biofilter Design) - Team 1	Microbiology - Team 2	Social Sciences - Team 3
<b>9:00AM-5:00PM:</b> Work on Final Deliverable With PI & Grad Students	<b>9:00AM-5:00PM:</b> Work on Final Deliverable With PI & Grad Students	<b>9:00AM-5:00PM:</b> Work on Final Deliverable With PI & Grad Students

**Thursday, July 16th**

Engineering (Biofilter Design) - Team 1	Microbiology - Team 2	Social Sciences - Team 3
<b>9:00AM-2:50PM:</b> Work on Final Deliverable With PI & Grad Students	<b>9:00AM-2:50PM:</b> Work on Final Deliverable With PI & Grad Students	<b>9:00AM-2:50PM:</b> Work on Final Deliverable With PI & Grad Students

**3:00PM-3:50PM:** Best Practices in Creating a Technical Talk - S. Artis - EG4171

**4:00PM-4:50PM:** The In's and Out's of a Scientific Poster - S. Artis - EG4171

**Friday, July 17th**

Engineering (Biofilter Design) - Team 1	Microbiology - Team 2	Social Sciences - Team 3
<b>9:00AM-5:00PM:</b> Work on Final Deliverable With PI & Grad Students	<b>9:00AM-5:00PM:</b> Work on Final Deliverable With PI & Grad Students	<b>9:00AM-5:00PM:</b> Work on Final Deliverable With PI & Grad Students

**Sat/Sun, July 18th & 19th: Free Days**



## **Week 6:**

### **Monday, July 20th**

<b>Engineering (Biofilter Design) - Team 1</b>	<b>Microbiology - Team 2</b>	<b>Social Sciences - Team 3</b>
<b>9:00AM-5:00PM:</b> Work on Final Deliverable With PI & Grad Students	<b>9:00AM-5:00PM:</b> Work on Final Deliverable With PI & Grad Students	<b>9:00AM-5:00PM:</b> Work on Final Deliverable With PI & Grad Students

### **Tuesday, July 21st**

<b>Engineering (Biofilter Design) - Team 1</b>	<b>Microbiology - Team 2</b>	<b>Social Sciences - Team 3</b>
<b>9:00AM-5:00PM:</b> Work on Final Deliverable With PI & Grad Students	<b>9:00AM-5:00PM:</b> Work on Final Deliverable With PI & Grad Students	<b>9:00AM-5:00PM:</b> Work on Final Deliverable With PI & Grad Students

### **Wednesday, July 22nd**

<b>Engineering (Biofilter Design) - Team 1</b>	<b>Microbiology - Team 2</b>	<b>Social Sciences - Team 3</b>
<b>9:00AM-2:50PM:</b> Work on Final Deliverable With PI & Grad Students	<b>9:00AM-2:50PM:</b> Work on Final Deliverable With PI & Grad Students	<b>9:00AM-2:50PM:</b> Work on Final Deliverable With PI & Grad Students

**3:00PM-3:50PM:** Strategies for Applying to Graduate School - S. Artis - EG4171

**4:00PM-4:50PM:** Fellowship Opportunities for Graduate School - S. Artis - EG4171

### **Thursday, July 23rd**

<b>Engineering (Biofilter Design) - Team 1</b>	<b>Microbiology - Team 2</b>	<b>Social Sciences - Team 3</b>
<b>9:00AM-5:00PM:</b> Work on Final Deliverable With PI & Grad Students	<b>9:00AM-5:00PM:</b> Work on Final Deliverable With PI & Grad Students	<b>9:00AM-5:00PM:</b> Work on Final Deliverable With PI & Grad Students

### **Friday, July 24th**

<b>Engineering (Biofilter Design) - Team 1</b>	<b>Microbiology - Team 2</b>	<b>Social Sciences - Team 3</b>
<b>9:00AM-5:00PM:</b> Work on Final Deliverable With PI & Grad Students	<b>9:00AM-5:00PM:</b> Work on Final Deliverable With PI & Grad Students	<b>9:00AM-5:00PM:</b> Work on Final Deliverable With PI & Grad Students

### **Saturday, July 25th - EH 2430 (Colloquia Room)**

**11:00AM-11:30AM:** Group 1 Presentation

**11:45AM-12:15PM:** Group 2 Presentation

**12:15PM-12:45PM:** Group 3 Presentation

**12:45PM-1:00PM:** Closing Remarks-S. Grant

**1:00PM-2:00PM:** Reception