**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-4:30PM: SmartStart Introduction & Overview - J. Martone, M. Schmaistig
4:30PM-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. Rippy
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) - 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. Dornfeld
2:00PM-4:50PM: Interviewing, Participant Observation, Questionnaires, Coding & Analysis - K. Low, D. Feldman, T. Dornfeld

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. Rippy, A. Mehring and B. Winfrey
11:10AM-12:00PM: Advanced Statistical Tools for Data Analysis - M. Rippy, 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. Rippy, A. Mehring and B. Winfrey
3:00PM-3:50PM: Intro to R and Matlab Programming Languages - M. Rippy, A. Mehring and B. Winfrey
4:00-4:50PM: Statistics Practice Hour: SEM's, Bootstrap, MLR - M. Rippy, 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-11:50AM: 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**

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<thead>
<tr>
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<tr>
<td>5:00AM-1:00PM: Shift 3</td>
<td>10:00AM: Meet for Social Science Experiments Out At Local Parks - Kathleen Low</td>
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<tr>
<td>1:00PM-9:00PM: Shift 4</td>
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<td>9:00PM-5:00AM: Shift 5</td>
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**Wednesday, July 8th: Complete Pulses of Sewage/Nitrate in Biofilters, Begin NaCL Pulses**

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<td>10:00AM: Meet for Social Science Experiments Out At Local Parks - Kathleen Low</td>
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<td>1:00PM-8:00PM: Shift 7</td>
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<td>8:00PM: Complete Sewage/Nitrate Pulses</td>
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<td>9:00PM: Begin 55 hour pulses of NaCL</td>
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<td>9:00PM-5:00AM: Shift 1</td>
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Thursday, July 9th: Continue Pulses of NaCL in Biofilters

At Monash University

5:00AM-1:00PM: Shift 2
1:00PM-9:00PM: Shift 3
9:00PM-5:00AM: Shift 4

At Melbourne University

10:00AM: Meet for Social Science Experiments Out At Local Parks - Kathleen Low

Friday, July 10th: Continue Pulses of NaCL in Biofilters

At Monash University

5:00AM-1:00PM: Shift 2
1:00PM-9:00PM: Shift 3
9:00PM-5:00AM: Shift 4

At Melbourne University

10:00AM: 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

9:00AM-5:00PM: Work on Final Deliverable With PI & Grad Students 9:00AM-5:00PM: Work on Final Deliverable With PI & Grad Students 9:00AM-5:00PM: Work on Final Deliverable With PI & Grad Students

Thursday, July 16th

Engineering (Biofilter Design) - Team 1 Microbiology - Team 2 Social Sciences - Team 3

9:00AM-2:50PM: Work on Final Deliverable With PI & Grad Students 9:00AM-2:50PM: Work on Final Deliverable With PI & Grad Students 9:00AM-2:50PM: 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

9:00AM-5:00PM: Work on Final Deliverable With PI & Grad Students 9:00AM-5:00PM: Work on Final Deliverable With PI & Grad Students 9:00AM-5:00PM: Work on Final Deliverable With PI & Grad Students

Sat/Sun, July 18th & 19th: Free Days
## Week 6:
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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

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### 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