WRRC Seminar Series  
Spring 2015

Where: POST 126, UH Manoa  
When: April 16, 2015 (Thursday) 3:00- 4:00 PM

Challenges in evaluating microbial water quality in Hawaii: Things you should know but cannot google (yet).

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Abstract: This seminar summarizes unpublished results from several original microbial water quality focused research projects completed 2013-2015 at the WRRC. First, we will discuss the potential of new molecular methods (USEPA methods 1609 and 1611) to be used for rapid beach notification purposes and to identify a serious issue with the method’s implementation in Hawaii. Second, we will evaluate two source specific microbial markers (human specific Bacteroides and human polyomaviruses) for specificity and prevalence in the host population (sensitivity) relevant to Hawaii as well as evaluate the decay rates of these markers and indicator bacteria in marine and freshwater mesocosms. Third, we determine indicator bacteria and marker concentrations in treated and untreated sewage. Once we have marker evaluation data, we will use these source specific markers to evaluate microbial water quality on 12 beaches of Oahu and in the Manoa watershed (one year of monthly data will be discussed). At the end of the seminar, we'll discuss the potential of an ultrafiltration device (PMACS) to recover various microorganisms based on ground- and surface water samples collected in Hawaii.

Keywords: rapid methods, microbial source tracking, recreational water quality, Hawaii.

Bio: Dr. Marek Kirs is a microbiologist at the Water Resources Research Center at the University of Hawaii. His research focuses on microbial water quality and public health issues. Marek received his BSc from Tartu University (Estonia), MSc from the University of Edinburgh (UK), PhD from the University of Rhode Island and completed his postdoctoral training at the University of North Carolina at Chapel Hill. He was a recipient of Fulbright and British Council scholarships.