

Department of

Chemical and Environmental Engineering

2015—2016 Distinguished Seminar Series

Friday, October 2, 2015

9:30-10:30 AM

WCH 205/206



Stanley Grant

Professor

Civil and Environmental Engineering

Chemical Engineering and Materials Science

University of California, Irvine

Toward a LEED Certified Urban Watershed

Catchment urbanization perturbs the water and sediment budgets of streams, degrades stream health and function, and causes a constellation of flow, water quality, and ecological symptoms collectively known as the urban stream syndrome. In this talk I describe what might be called a “LEED Certified urban watershed”; namely, an urban watershed that is designed and managed so as to simultaneously optimize storm water capture and reuse, stream function and health, receiving water quality, human water security, and energy and carbon footprints. I will focus on the engineering science tools needed to support this new vision, draw on examples from Southeast Australia where a decade long drought precipitated fundamental changes in urban water systems, and speculate how the current drought in California might spur similar transitions closer to home.

BioSketch: Dr. Stanley Grant is a Professor in the Departments of Civil and Environmental Engineering (primary) and Chemical Engineering and Materials Science (courtesy) at the University of California, Irvine. Dr. Grant is also a Visiting Chair of Hydrology and Water Resources in the Department of Infrastructure Engineering at the University of Melbourne (Australia). Dr. Grant received his B.S. with distinction in Geology from Stanford University in 1985; and his M.S. and Ph.D. in Environmental Engineering Science (with a minor in Applied Biology) in 1989 and 1992, respectively, from the California Institute of Technology.

His professional interests include human and ecosystem water security, coastal and drinking water quality, and environmental fate and transport modeling. In 2013, Professor Grant and his team were awarded a five-year \$4.8M grant from the National Science Foundation to study the technologies and policies put in place by Australia during the Millennium Drought, and their potential adoption in the Southwest U.S. to mitigate water supply shortages. In 2015, Professor Grant and his team received a \$600,000 grant from the National Science Foundation for a Research Experience for Teachers (RET) Site entitled, “Research Opportunities for Community College Teachers (ROCCT) to Fight Drought with Innovation.”