

Department of Mechanical Engineering
presents

“Integrated Early Wildfire Detection and Notification in the Suburban Intermix Using Ground Based Sensor Systems”

Dave Winnacker

Fire Chief, Moraga-Orinda Fire District

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2:00 p.m.

3110 Etcheverry Hall

ABSTRACT

The suburban intermix is characterized by high fuel loads and minimal setbacks from potential fire start points calling for reliable, low cost, persistent fire detection systems with little to no latency or temporal/spatial coverage gaps. Further, the majority of California communities lack standing emergency operations centers and the rapid initial spread of destructive wildfires is outpacing the decision making cycle of emergency managers. As a result, following initial fire detection the integration of fire spread modeling, evacuation notifications, and preparation of evacuation routes must occur in near real time with minimal human inputs. MOFD is developing a system to address these needs and has recently conducted live fire testing to validate the detection elements of the system.

BIOGRAPHY

Chief Winnacker has been in the fire service for 15 years in Fresno City, Alameda County, and Moraga-Orinda Fire District. He was a first responder as a strike team leader to the Napa Fires in 2017 and has been developing comprehensive wild fire risk reduction plans for Moraga-Orinda using early warning, fire spread modeling, terrain and vehicular access analysis, and prescribed fire in conjunction with traditional fuels mitigation techniques. He also served on active duty as a Marine Corps Infantry officer from 1997-2003 and has remained in the reserves. As a reserve officer he served as the commanding officer of 4th Force Reconnaissance Company from 2014-2016 and currently serves as the executive officer of 23d Marine Regiment in San Bruno, CA. He is a Colonel (sel) and was recently selected to serve as the Deputy Commander of the regiment commencing May 2019.