

Kristin Byrd

Research Physical Scientist

Kristin Byrd is a Research Physical Scientist at the U.S. Geological Survey in Menlo Park, CA, with expertise in applied landscape ecology and remote sensing. I lead landscape studies of natural and working lands, with a focus on wetlands, rangelands, climate and land use change in the Central Valley of California and in estuaries throughout the U.S. My research stems from training in vegetation ecology, geospatial analysis, and outreach. In many projects I use remote sensing of wetland vegetation to quantify habitat quality for ecological forecasting and wetland carbon stocks for greenhouse gas inventories. I also develop integrated scenarios of land use, climate and hydrological change to assess potential impacts to ecosystem services in California rangelands, and to identify opportunities for rangeland conservation, increased carbon sequestration and drought resilience. I prioritize the use of open data and open source software to aid tool development for decision makers, and all my projects include outreach to land managers to support conservation and restoration planning and land management. I have a Ph.D. in Environmental Science, Policy and Management from U.C. Berkeley, an M.A. in Ecology and Systematics from San Francisco State University, and a B.S. in Environmental Science from Cornell University.

E. Terrence (Terry) Slonecker

Research Geographer

Terry Slonecker is a research geographer with the United States Geological Survey's National Civil Applications Center. He has over 30 years of experience in remote sensing and geospatial analysis including positions with the U.S. Air Force, the U.S. Environmental Protection Agency, private industry, and the U.S. Geological Survey. His current research interests include hyperspectral analysis of heavy metals, hazardous substances, hydrocarbons, and related vegetation stress. He was part of the Spring Valley Federal Partnership team from 1998 to 2007 where he was responsible for the analysis of historical aerial photographs and other geospatial analysis of the American University and surrounding area for WW1 unexploded ordnance. In 2011 and 2013, he taught hyperspectral remote sensing at the Afghanistan Geological Society in Kabul and has been involved in several emergency response efforts including the Deepwater Horizon spill in 2010. He received his master's degree in Geographic and Cartographic Sciences, and his doctorate in Environmental Science and Public Policy from George Mason University, in Fairfax, Virginia. He is currently working on mapping and measuring the landscape effects of natural gas development and monitoring of harmful algal blooms. On several occasions, he has served as an expert witness for the U.S. Federal Government on remote sensing related matters.

Raymond Kokaly

Research Geophysicist

Raymond Kokaly is an expert in applying imaging spectrometer data to characterize and map vegetation and to identify and map minerals in rocks and soils. His research encompasses laboratory investigations into the spectral signatures of materials, field-based hyperspectral imaging, and the development of remote sensing methods for geologic, biologic, and environmental studies. Mr. Kokaly received his B.S. degree in Aerospace Engineering from the University of Texas at Austin in 1991 and his M.S. in Aerospace Engineering Sciences from the University of Colorado at Boulder in 1993. From 1994 to 1996, he was a Professional Research Assistant at the National Snow and Ice Data Center at the University of Colorado at Boulder. Since 1996, he has been a Research Geophysicist at the U.S. Geological Survey in Denver, Colorado.

Isabella Mariotto

Dr. Isabella Mariotto is a Geospatial Scientist, currently leading a project on hyperspectral remote sensing of vegetation for the NASA HypIRI mission to study vegetation health. Isabella has conducted her postdoc at the USGS in Flagstaff AZ on a NASA project of hyperspectral and multispectral RS of crop and water productivity of key world crops for which she has developed hyperspectral vegetation indices of crop types and biophysical parameters. She was awarded the 2012 ESRI award for best GIS publication in 'Photogrammetric Engineering & Remote Sensing' journal; the 2012 AGU_NASA Terrestrial Hydrology award for outstanding paper on energy balance of evapotranspiration modeling awarded to 5 young scientists; and the USGS Powell fellowship on Global croplands productivity and water use.

Michael Thomas Marshall

My research advances our understanding of how agroecosystems impact the environment and Earth system. It is also used to inform global climate change and food security policy. I answer my research questions by developing empirical or semi-empirical models that integrate ground-based, Earth observation, and other geospatial data in a Geographic Information System (GIS). The models estimate: 1) the extent of agricultural cover; 2) evapotranspiration; or 3) biomass/yield. Earth observation in my case includes multispectral broadband and hyperspectral remote sensing

Ittai Herrmann

My lab is the Plant Sensing Laboratory. We use a collection of Remote and Proximal Sensing techniques and scales in the open field as well as more controlled environments, to obtain non-destructive data and imagery. A variety of techniques including Machine Learning and Image Processing are implemented. The ability to nondestructively assess plant traits is explored and used to detect a-biotic and biotic stresses, predict yield and assess plant phenology among other applications. Matched with spatial information the potential of Precision Agriculture management tools is studied as well. We also use similar techniques to study plant phenotyping for plant breeders.