

**2018 Update Meeting: Celebrating 30 Years of Science for a Safer World  
Jan 30, 2018, David Brower Center, Berkeley**

The UC Berkeley Superfund Research Program (SRP) Center develops and applies innovative research tools and methodologies to improve human and environmental health. It is one of 23 multiproject research centers currently funded by the National Institute of Environmental Health Sciences' (NIEHS) SRP. On Jan 30, 2018, the Berkeley SRP Center held a meeting to celebrate the history of their program throughout their 30 years of continuous funding. They shared their research and successes and perspectives for future research to address evolving environmental and health concerns. The meeting brought together stakeholders from academic research, state and local government, industry, environmental health organizations, and community groups.

**SRP research success stories: from research to policy and action**

Joy Carlson (Principal, J. Carlson Consulting) and Kent Udell (Professor of Mechanical Engineering at University of Utah and Emeritus Professor of Berkeley) demonstrated how SRP research has been applied in a collaborative, multi-disciplinary way to inform policy and action. Carlson gave a history of the emergence of the field of children's environmental health and her work with Children's Environmental Health Network (CEHN) - which she co-founded and directed for many years. CEHN, in concert with Berkeley SRP and other organizations, helped to bring about paradigm shifts in how exposures are viewed in the developing human, engaged in interdisciplinary collaborations, and informed public policy. Udell gave the inaugural *James Hunt Memorial Lecture in Research Translation* in which he reflected on his groundbreaking work with James Hunt and Nicholas Sitar at UC Berkeley in developing the Steam Enhanced Extraction (SEE) technique for remediation of volatile hydrocarbons from soil. This SRP-funded research led to a new national and international industry, informed EPA policy on source removal for soil and groundwater cleanup, provided cross-disciplinary information exchange between engineering and public health, led to the introduction of ethics into the engineering curriculum, and provided engineering support to health-based clean-air advocacy organizations in Utah.

**Panel sessions address complex global challenges**

The Community Engagement Core (CEC) of the Berkeley SRP organized a Panel on "Community Engagement in Research: The Case of the Human Right to Water" which featured Carolina Balazs (Research Scientist, California EPA's Office of Environmental Health Hazard Assessment), Laurel Firestone (Co-Director, Co-Founder and Attorney-At-Law, Community Water Center), and Berkeley SRP's David Sedlak (Plato Malozemoff Professor of Civil and Environmental Engineering and Co-Director of Berkeley Water Center), and Isha Ray (Associate Professor, Energy and resources Group and Co-Director Berkeley water center). The group described research, environmental justice and innovative engineering approaches to fulfill the human right to water in California and beyond. An "Interaction between Socioeconomic Factors and Chemical Exposures" panel featured Berkeley SRP's CEC leader Rachel Morello-Frosch, Margaret Hicken (Faculty Associate, University of Michigan), Brenda Eskenazi (Brian and Jennifer Maxwell Professor of Maternal and Child Health, Director Center for Environmental Research and Children's Health, UC Berkeley), and Neeta Thakur (Assistant Professor, UCSF).

**Zebrafish: a model for human toxicity**

Keynote speakers, Robert Tanguay (Distinguished Professor and Director of The Sinnhuber Aquatic Research Laboratory and The Oregon State University Superfund Center) and Tamara Tal (Principal Investigator, US EPA), described their efforts to apply zebrafish models to understand health effects and mechanisms of toxicants in humans. Their respective research address complex scenarios including developmental toxicity, effects of mixed exposures, and the contribution of the microbiome in mediating toxic phenotypes.

**SRP trainees showcase their work through "lightning" talks and poster presentations**

UC Berkeley SRP trainees showcased their work through a coordinated series of lightning talks and through poster presentations on their individual work and that of the Trainee core. Phum Tachachartvanich and Jean Van Buren won awards for their posters. Phum's work demonstrated

that trichloroethylene has endocrine-disrupting effects through the use of in vitro and in silico approaches. Jean's work demonstrated evidence of unexpected toxic transformation products resulting from treatment of solvent-contaminated water with advanced oxidation processes.