

## CALL FOR PAPERS

### Symposium on Antimicrobial Agents and Sustainability

239<sup>th</sup> ACS National Meeting & Exposition  
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Antimicrobial agents are lifesaving products of applied chemistry that frequently are divided into two categories, biocides and antibiotics. Biocides act non-specifically to inhibit or kill microbial contaminants or pests. Antibiotics have distinct mode of actions, which enable them to selectively inhibit the growth and survival of targeted pathogens, while causing no or minimal side effects in the patients or animals treated. Some antimicrobial agents, such as triclosan, combine both biocidal and antibiotic properties and thus blur the distinguishing line between the two groups of chemicals.

A world without effective antimicrobials is difficult to envision. Biocides are used widely in hospitals and other health care settings to prevent or minimize the spread of infectious diseases. If a microbial infection does occur, antibiotics are used in the battle for life or death.

Indiscriminate use of antimicrobials can be risky, however. Over-prescription of antibiotics is known to foster the emergence of multi-drug resistant infections that are difficult to contain and treat. Unwanted exposures to antimicrobials in the general populations have been confirmed via the detection of antimicrobial agents in drinking water, house dust, food, blood and breast milk. Similarly, the widespread use of biocidal agents in household products of daily use is now recognized to cause persistent and widespread environmental contamination of aquatic and terrestrial environments and biota. Little is known about the effects of antimicrobial contaminants on the health and productivity of agricultural soils and other affected environments. The necessity to protect the effectiveness of antibiotics used in human medicine is universally agreed upon, but whether attaining this goal will require restrictions on the use of antimicrobials in agriculture, aquaculture and daily life is the subject of ongoing discussions.

This symposium seeks to define sustainable uses of antimicrobials and to examine potential paths for accomplishing this goal. Platform and poster presentations will provide the latest research findings on the occurrence and effects of antimicrobial agents in the natural and built environment. Contributions from representatives of the chemical industry, agriculture, health care professionals, state and local governments, and academia are solicited to define the state of knowledge of sustainable use of antimicrobials and to identify research and policy needs for protecting human health and natural ecosystems.

#### Symposium Organizers

Rolf Halden, The Biodesign Institute at Arizona State University, Center for Environmental Biotechnology, P.O. Box 875701, Tempe, AZ 85287-5701 Phone: (840) 727-0893; Fax: (480) 727-0889;  
Email: [rolf.halden@asu.edu](mailto:rolf.halden@asu.edu)