

CACHE Wrapup: 2018-19

The Center for Applied Collaboration on Human Environments (CACHE) was established in early 2016 by seed funding from iSEE, the Department of Civil and Environmental Engineering (CEE), and the College of Engineering. In its third and final year, under the Directorship of CEE Professor Tami Bond, the Center reported:



SPHERE Workshop brings together academics, industry, and nonprofits

SPHERE, one of CACHE's research thrusts, stands for Sustainable Performance of Healthy and Efficient Residential Environments. Projects within SPHERE are motivated by the desire to improve indoor environmental quality. Humans live and spend a majority of their time inside.

On Oct. 29-30, thirty individuals representing three universities, nonprofit organizations working on healthy home issues, and industry representatives with practical knowledge on home systems met at the University of Illinois' Indoor Climate Research and Training (ICRT) facility in Champaign. Led by CACHE Director Tami Bond with planning and involvement from many other CACHE members, the two-day workshop included vision-sharing, discussions about partnerships that cross academic boundaries, and potential initiatives.

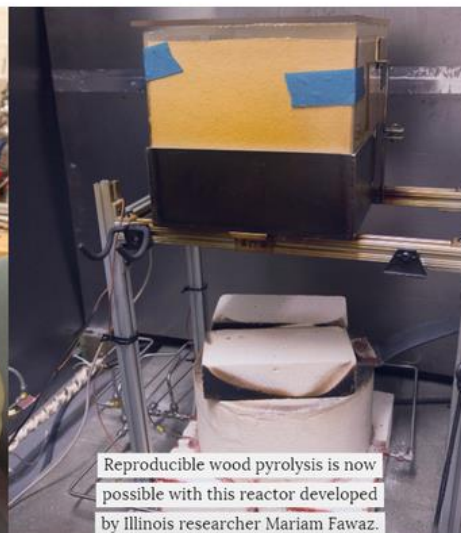
This was the first in a series of three workshops designed to develop focused initiatives to benefit residential indoor environments.

Pre-Ignition Emission Study Testing

In August 2018, CACHE researchers Mariam Fawaz and Tami Bond hosted Aerodyne Research Inc. for a two-week experiment at Illinois' ICRT facility. The collaboration on "pre-ignition emissions," supported by the National Science Foundation, explores the complex chemistry that occurs in wood during the moments just before it bursts into flames. The collaboration between Illinois and Aerodyne brings a combustion-based understanding of pyrolysis kinetics together with state-of-the-science atmospheric chemistry measurements.



Anita Avery, Aerodyne researcher, prepares a calibration for the Aerosol Mass Spectrometer.



Reproducible wood pyrolysis is now possible with this reactor developed by Illinois researcher Mariam Fawaz.