2014 AIChE Himmelblau Award Winner

John Hedengren, Assistant Professor in Chemical Engineering at Brigham Young University, was recently awarded the 2014 David Himmelblau Award for Innovations in Computer-Based Chemical Engineering Education. This prestigious award recognizes an individual or group making novel contributions to computer aids for chemical engineering education.

Hedengren developed the foundations of Advanced Process Monitor (APMonitor) during his Ph.D. work at The University of Texas at Austin with Professor and mentor Tom Edgar. APMonitor is currently used by hundreds of thousands of visitors to the website that hosts an optimization language interface (www.APMonitor.com). At a rate of 500,000 views per year, users of the website include students and researchers from across the world and across a wide-range of disciplines seeking tutorials and applications in Unit Operations Lab, Separations, Process Control, and Engineering Optimization.

Carl Laird, Associate Professor in Chemical Engineering at Purdue, states, "This tool (APMonitor) will become increasingly important for education as more of the chemical engineering community evolves from the more traditional design-based capstone course towards problem solving in both design and operation problems."

In addition to the optimization suite of MATLAB and Python tools, Hedengren has facilitated webinars by experts on modeling and optimization topics since 2011.Videos of the webinars are posted online together with tutorial videos on topics of interest in process systems engineering and have been viewed on YouTube over 100,000 times. By making the resources (source code, video tutorials, webinars, discussion groups) available to such a large community, the impact of this software development in teaching and applying process systems engineering has been great.

Hedengren is recognized by his colleagues as an exceptional educator and mentor. Randal Beard (Brigham Young University) cites Hedengren's willingness to help students and colleagues problem-solve. One of Beard's students had difficulty finding an ideal solution to a complex aerospace modeling problem. With Dr. Hedengren's guidance, they used APMonitor to address several aspects of the problem with excellent results. "While I have been very impressed with the functionality of John's APMonitor software, I have been even more impressed with the time and effort that John has spent in mentoring my student."

The Himmelblau Award is sponsored by the CACHE Corporation (www.cache.org) and will be presented to Dr. Hedengren at the upcoming AIChE Annual Meeting CAST Division dinner.