

Grover Selected for 2018 Himmelblau Award

CACHE trustee Martha Grover has been awarded the [David Himmelblau Award](#) for Innovations in Computer-Based Chemical Engineering Education. The Himmelblau Award is one of five division awards from the [Computer and Systems Technology \(CAST\)](#) division of AIChE, and includes a \$1000 award supported by an endowment from CACHE. The award citation is: for contributions to education in process control through scalable free-choice learning via a series of screencasts on an exemplary process.



Professor Grover first created the screencasts for her own undergraduate process control class, to illustrate the key concepts of the course with a single example of a blending process. Through collaboration with CACHE trustee John Falconer and [LearnChemE](#), Grover later produced a series of seventeen short [screencasts](#) on the blending process for LearnChemE's [process control](#) screencast section. These screencasts are also accompanied by [MATLAB, Python, and Simulink examples](#). This material was presented and distributed at the 2017 ASEE Chemical Engineering Summer School.

The Blending Process: Dynamic Modeling

Handwritten equations for Total Mass:

$$\frac{d}{dt}(m) = w_1 + w_2 - w$$
$$\frac{d}{dt}(\rho V) = \rho \frac{d}{dt}(V)$$

3:25 / 7:18

Biography: [Martha Grover](#) is a Professor in the School of Chemical & Biomolecular Engineering at Georgia Tech. She earned her BS in Mechanical Engineering from the University of Illinois, Urbana-Champaign, and her MS and PhD in Mechanical Engineering from Caltech. She joined Georgia Tech as an Assistant Professor in 2003, and

received an NSF CAREER award in 2004. In 2011 she received the Outstanding Young Researcher Award from the Computing and Systems Technology Division of AIChE. Her research program is dedicated to understanding, modeling, and engineering the self-assembly of atoms and small molecules to create larger scale structures and complex functionality. Her approach draws on process systems engineering, combining modeling and experiments in applications dominated by kinetics, including surface deposition, crystal growth, polymer reaction engineering, and colloidal assembly. She is a member of the NSF/NASA Center for Chemical Evolution, and the Georgia Tech Decision and Control Laboratory. Her professional service includes roles as the Secretary/Treasurer of the AIChE CAST Division, trustee of the CACHE Corporation, and program chair for the 2020 American Control Conference.