CAST Division Newsletter

Spring 2018

Contents

April Highlights

[CAST Division Award](#) nominations are due on April 15, 2018, and nominations for the [Best Student Presentation](#) Award are due on April 25. The deadline for abstract submissions for the [AIChE Annual Meeting](#) is April 18.

CAST organized [six technical sessions](#) at the 2018 Spring AIChE meeting, featuring 18 presentations on Tuesday April 24 and Wednesday April 25.

Stay in Touch with CAST

Please visit the CAST webpage for more information about CAST:
http://www.castdiv.org/
and join the CAST listserv for continued updates
https://listserv.umd.edu/archives/cast10.html

Follow CAST on social media using the handle @AIChECAST10
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Student Awards at the 2017 Annual Meeting

This year CAST participated in the [Undergraduate Student Poster Competition](#). Submissions to the "Computing and Process Control" Topical Area were judged by CAST officers Selen Cremashi, Karl Schnelle, and Martha Grover. CAST gave awards for the first ($100) and second ($50) place posters.

Left to right: Prof. Ryan Toomey, San Dinh, Yacine Faliachi, Dylan Colli, Prof. Martha Grover

1st place: San Dinh, Illinois Institute of Technology, "Modeling and Control of Renewable Energy Sources with Energy Storage System for Smart Grid Application" (with Don Chmielewski)

2nd place: Dylan Colli, University of Kentucky, "An Unbiased Classification Algorithm for Transverse Tubule Remodeling within Murine Heart Failure Models" (with Peter Kekenes-Huskey)

3rd place: Yacine Faliachi, University of West Virginia, "Design and Simulation of Pollution Control Units for Improving Sustainability" (with Fernando Lima)

CAST held a single session for the eight Graduate Student Presentation Award Finalists on Sunday afternoon at the Annual Meeting. The finalists were Christina Lara, Jianping Li, Yunyuan Yin, Anirudh Subramanyam, Jiyao Gao, Dominik Bongartz, Kristen Severson, and Marc Martin-Casas.

The winner of the Graduate Student Presentation Award, for the best oral presentation at the 2017 Annual Meeting is:

Dominik Bongartz from RTH Aachen for his presentation "A Sequential Approach to Global Flowsheet Optimization Using McCormick Relaxations."

The winners of the 2017 CAST Director's Award for best poster are: Brian Baillie from the University of Connecticut for his poster "Term Elimination and Optimal Experiments for Model Reduction" (co-authored with George Bollas) and Ray Adomaitis from the University of Maryland for his poster "Physically Based Dynamic Modeling for Predictive Modeling of a Zero-Net Home" (co-authored with Alan Uy).

Congratulations to all the student winners!

Best Student Presentation Award in 2018

Graduate students, please consider applying for the 2018 CAST Best Student Presentation Award. This year we will not give monetary awards to the finalists, but rather will give monetary awards for the first, second, and third place presentations. Applications are due on April 25, 2018.

AIChE Young Professionals

Congratulations to our CAST members who were selected for AIChE's 35 Under 35 Award: Ali Mesbah, Ruth Misener, and Ashlee Ford Versypt. More information about AIChE's Young Professionals (YP) community can be found at their website, including the YP Mixer on April 22 at the upcoming Spring AIChE Meeting.

Stay tuned for more information about AIChE's new initiative called for first-year young professionals. The first year of professional membership in AIChE will be provided free, and each year after that it is increased by $50 per year until it reaches the regular member rate. The Career and Education Operating Council is working on engaging and retaining these members. For more information please contact Monica Mllinger, Senior Membership Associate, monis@aiche.org.

Meet the New CAST Officers

Our newest CAST officers include the 2020 CAST Programming Coordinators, as well as two new Directors and the new Second Vice President.

2020 CAST Programming Coordinators

Programming coordinators (2020)
10a: Charles Solvason
10b: Antonios Armaou
10c: Zukui Li
10d: Joseph Scott
10e: Bethany Nicholson

2018-2020 Directors: Selen Cremaschi and Alexander Mitsos

Selen Cremaschi is B. Redd Associate Professor of chemical engineering at Auburn University. Her research interests are risk management, optimization, and process synthesis under uncertainty. Her research group works at the intersection of operations research and chemical engineering, and develops systems analysis and decision support tools for complex
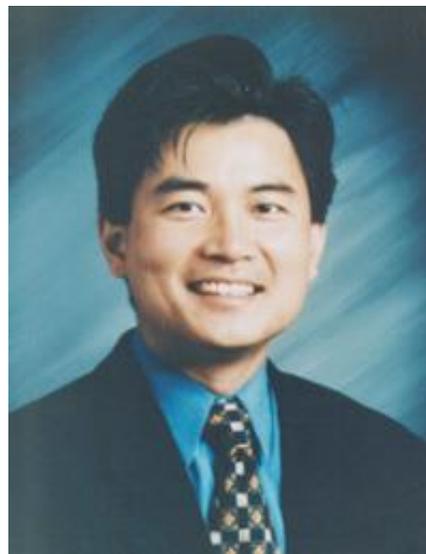
systems, mainly focusing on pharmaceutical and energy industry. Prior to joining Auburn University, she was a faculty member of the Russell School of Chemical Engineering at The University of Tulsa. She was the recipient of a Tulsa Tau Beta Pi Teaching Excellence award (2010), an NSF CAREER award (2011), and a Zelimir Schmidt Award for Outstanding Researcher (2013) among others. Her research work has been consistently supported by industrial collaborations in addition to federal agencies. She earned her Ph.D. degree from Purdue University, and both her B.S. and M.S. degrees from Bogazici University (Turkey), all in chemical engineering.

Alexander Mitsos is a Full Professor (W3) in RWTH Aachen University, and the Director of the Laboratory for Process Systems Engineering (AVT.SVT), comprising 40 research and administrative staff. Alexander received his Dipl-Ing from University of Karlsruhe in 1999 and his Ph.D. from MIT in 2006, both in Chemical Engineering. Prior appointments include military service, free-lance engineering, involvement in a start-up company, a junior research group leader position in the Aachen Institute of Computational Engineering Science and the Rockwell International Assistant Professorship at MIT. His research focuses on optimization of energy and chemical systems and development of enabling numerical algorithms.

Second Vice-President: Jay Lee

Jay H. Lee obtained his B.S. degree in Chemical Engineering from the University of Washington, Seattle, in 1986, and his Ph.D. degree in Chemical Engineering from California Institute of Technology, Pasadena, in 1991. From 1991 to 1998, he was with the Department of Chemical Engineering at Auburn University, AL, as an Assistant Professor and an Associate Professor. From 1998-2000, he was with School of Chemical Engineering at Purdue University, West Lafayette and then with the School of Chemical Engineering at Georgia Institute of Technology, Atlanta. In 2010, he joined Korea Advanced Institute of Science and Technology (KAIST) as the Head of the Chemical and Biomolecular Engineering Department. He is currently serving as the Associate Vice President of International Office and the founding director of Saudi Aramco-KAIST CO2 Management Center there. He has held visiting appointments at E. I. Du Pont de Numours, Wilmington, in 1994 and at Seoul National University, Seoul, Korea, in 1997. He was a recipient of the National Science Foundation's Young Investigator Award in 1993 and also the AIChE CAST Computing in Chemical Engineering Award in 2013. He was elected as an IEEE Fellow in 2011, an IFAC Fellow in 2011, and an AIChE

Fellow in 2013. He is an elected member of both the Korean National Academy of Science and Technology and the National Academy of Engineering Korea. He published over 170 manuscripts in SCI journals with more than 11000 Google Scholars citations (with h-index of 48). His research interests are in the areas of state estimation, robust control, model predictive control, planning/scheduling, and reinforcement learning with applications to energy systems and CCUS.

Recap of the 2017 CAST Awards Banquet at the AIChE Annual Meeting

CAST recognized past chair Stratos Pistokoupoulos for his service.

Student award winners from the 2016 Annual Meeting were recognized: (left) Ian Moskowitz for his 2016 CAST Directors' Best Poster Award and (right) Nikos Lappas for his 2016 CAST Graduate Student Presentation Award.

Student award winners from the 2017 Annual Meeting were also recognized: (left) Brian Baillie and Ray Adomaitis for their 2017 CAST Directors' Best Poster Awards and (right) Dominik Bongartz for his 2017 CAST Graduate Student Presentation Award.

2017 CAST Division Awards

The 2017 CAST Division Awards were recognized at the CAST Banquet. CAST Chair Carl Laird presented the five award winners with a plaque and an award check. The winners are listed below.

David Himmelblau Award for Innovations in Computer-Based Chemical Engineering Education, **Jason Bara**

Computing Practice Award, **Rahul Bindlish**

Sponsored by the CACHE Corporation

Sponsored by Aspen Technology Inc. and the ExxonMobil Chemical Company

W. David Smith Graduate Publication Award, **Srinivas Rangarajan**

Sponsored by Process Systems Enterprise, Inc.

CAST Outstanding Young Researcher Award, **Michael Baldea**

Computing in Chemical Engineering Award, **Prodromos Daoutidis**

Sponsored by Air Products and Chemicals, Inc.

Sponsored by the Dow Chemical Company

Prodromos Daoutidis, Computing in Chemical Engineering Award Winner, also gave the award talk (right), with introduction by Christos Georgiakis (left).

Prodromos Daoutidis with his former student Michael Baldea and his former postdoc Srinivas Rangarajan.

Congratulations again to all our CAST award winners.

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