

S&C Division

Annual General Meeting

Thomas A. Adams II
S&C Division Chair
2019

Agenda

1. New members (3 mins)
2. Treasury Report (2 mins)
3. Review of Past Activities
 1. Media and Communications (1 min)
 2. Living Archive for Process Systems Engineering
 3. Membership “Drive”
 4. Emerging Leaders
4. New Initiatives for 2019-2020
 1. IDAES Workshop
 2. ISO Standard Development
5. Elections

New members

- ▶ Are you new? Introduce yourselves!

Treasury report

► Jinfeng

Media and communications

- ▶ Listserv still hovering around 400 emails
 - ▶ Encourage your students to join
- ▶ Job posts continue to be popular
- ▶ syscon.mcmaster.ca
- ▶ Want someone to take it over and put some love into it!!!

The screenshot shows a web browser window with the URL `syscon.mcmaster.ca/?page_id=32`. The page features a navigation menu with links for 'About Us', 'Awards', 'Conferences', 'Education', 'Listserv', and 'Recorded Seminars'. Below the menu is a banner image of an industrial facility with the text 'Systems & Control Division' and 'Canadian Society for Chemical Engineering'. The main content area is titled 'Listserv' and contains the following text: 'We are proud to announce the Systems & Control Division listserv!', 'Sign up for the Listserv', and 'This is your first step to staying informed with division activities.' There is a text input field labeled 'Enter email address to join!' and a blue 'Subscribe!' button. Below the button, it says 'If you are having a problem subscribing, visit this link.' and 'Sign up to:'. A bulleted list item is partially visible: '▪ Get important messages and announcement about Systems & Control Division news, events, and deadlines'. On the right side, there is a search bar and a 'Recent Posts' section with the following items: 'S&C Division Annual General Meeting', 'McMaster Tenure-Track Position in Bioengineering and Other Areas', 'S&C Division Graduate Studies Webinar Now Posted', 'Graduate School Webinar March 21 2017', and '2017 DG Fisher Nominations due March 15 2017'. At the bottom right, there is a 'Meta' section.

LAPSE Update

- ▶ Pre-print / Post-print repository for the Process Systems Engineering Community
- ▶ Made to help satisfy NSERC / tri-council open access requirements
- ▶ Over 2000 submissions and going
- ▶ Put your conference talks on it!
- ▶ PSEcommunity.org/LAPSE

LAPSE
Living Archive for Process Systems Engineering

Type search text: all fields

Logout | My Dashboard | Submit New | About | Contact Us | Help

Browse

Most Recent (67)
Unverified Submissions (0)
Subject

- Biosystems (151)
- Education (9)
- Energy Management (136)
- Energy Policy (153)
- Information Management (32)
- Intelligent Systems (121)
- Interdisciplinary (65)
- Materials (201)
- Modelling and Simulations (222)
- Numerical Methods and Statistics (30)
- Optimization (49)
- Other (159)
- Planning & Scheduling (126)
- Process Control (149)
- Process Design (212)
- Process Monitoring (75)
- Process Operations (67)
- Reaction Engineering (83)
- System Identification (9)
- Uncategorized (2)

Keyword

- Adsorption (13)
- Biomass (22)
- Carbon Dioxide Capture (9)
- Computational Fluid Dynamics (22)
- Dynamic Modelling (9)
- Energy (17)
- Energy Efficiency (37)
- Energy Storage (15)
- Ethanol (9)
- Genetic Algorithm (12)
- Hydrogen (9)
- Industry 4.0 (11)
- Machine Learning (11)
- Model Predictive Control (18)

Recent Submissions

New records verified within the last 30 days

Showing records 1 to 25 of 67. [First] Page: 1 2 3 Last

- Conference Presentation**

LAPSE:2019.1078

1. LAPSE:2019.1078
Optimal Design of a Distillation System for the Flexible Polygeneration of Dimethyl Ether and Methanol Under Uncertainty

Thomas A Adams II, Tokiso Thatho, Matthew C Le Feuvre, Christopher LE Swartz

October 18, 2019 (v1)
Subject: **Process Design**
Keywords: **Dimethyl Ether, Distillation, Flexible polygeneration, Methanol, Optimization, Polygeneration, Process Design Under Uncertainty**

This presentation concerns the promising new area of flexible polygeneration, a chemical process design concept in which a chemical plant is able to change its product outputs throughout its lifetime in response to changing market conditions, business objectives, or other external factors. In this talk we present a new flexible polygeneration process system that can switch between dimethyl ether (DME) or methanol production, depending on need. Classic flexible polygeneration systems typically utilize separate process trains for each product, in which whole process trains are turned on or off (or up or down) depending on the current product. However, our proposed process combines the two process trains into one, in which most of the process equipment is always used during either mode of production, but with different operating conditions. In this work, we show how this significantly reduces capital expenditure, reduces the plant footprint, and ultimately is more economical than a tradit...
[\[more\]](#)
- Conference Presentation**

LAPSE:2019.1076

2. LAPSE:2019.1076
POSTER: Lessons Learned from Renovation of NJIT's Chemical Engineering Curriculum through an Infusion of Computation and Multiphysics Modeling

Roman Voronov

October 6, 2019 (v1)
Subject: **Education**
Keywords: chemical engineering, computation, Computational science, comsol, Curriculum, Education, Graphical user interface, multiphysics, STEM Outreach, survey

This poster was presented by me at the CACHE 50th Anniversary meeting on the Future of Cyber Assisted Chemical Engineering Education: <http://cache50th.org/?page=youngfaculty>

It summarizes my experiences with renovating the New Jersey Institute of Technology's Chemical Engineering Curriculum through an Infusion of Computation and Multiphysics Modeling. It also proposes the use of COMSOL Multiphysics Apps as a teaching visual aide.
- Published Article**

LAPSE:2019.1075

3. LAPSE:2019.1075
Investigating the Dynamic Impact of CO2 Emissions and Economic Growth on Renewable Energy Production: Evidence from FMOLS and DOLS Tests

Muhammad Waris Ali Khan, Shrikant Krupasindhu Panigrahi, Khamis Said Nasser Almuniri, Mujeeb Inhal Soomro, Nawar Hussain Mirjat, Fica Salim Alqaoudi

Membership Drive

- ▶ Tried campaign to increase membership
- ▶ Won't know until end of year if it worked

New Initiative: Emerging Leaders

- ▶ Identified 3 Strong Early Career Researchers in PSE at Canadian Universities
 - ▶ Nicholas Hudon (Queens)
 - ▶ Céline Vaneeckhaute (Laval)
 - ▶ Kamil Khan (McMaster)
- ▶ Arranged for keynote lectures at this conference
 - ▶ Video (hopefully I remembered...)
 - ▶ Special Issue invitation in *Can J Chem Eng* (Emerging Leaders Series)

IDAES Workshop

- ▶ March 12, 2020
- ▶ Fields Institute of Mathematics (Toronto)
- ▶ Daylong workshop
- ▶ Instructors: US NETL, Pittsburgh



IDAES
Institute for the Design of
Advanced Energy Systems

New initiative: ISO Standard Development

- ▶ We're leading a CSChE Initiative for the development of a new ISO standard
- ▶ eco-Technoeconomic Analyses (eTEAs)
- ▶ Would standardize how we conduct eTEAs
 - ▶ Standard basis of comparison
 - ▶ Standard metric definitions
 - ▶ Standard supply chains
 - ▶ Standard financial parameters
 - ▶ Standard LCA Framework
- ▶ Scope is chemical and energy systems
- ▶ Makes systems research immediately cross-comparable
- ▶ Easier to value and identify good technologies
- ▶ Lowers investment risk
- ▶ Join the mailing list if you want to be a part of this project at the link below or contact me.
- ▶ Find out more at:
PSEcommunity.org/standards

And now... Elections

Zukui Li will conduct

- ▶ Secretary
- ▶ Treasurer
- ▶ Vice-Chair
- ▶ Chair