

The V-letter

MONTHLY NEWSLETTER OF THE VIRTUAL LOCAL SECTION OF AIChE

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Meeting Begins 9:00 pm EDST/ 8:00 pm CDST/ 7:00 pm MDST/ 6:00 pm PDST

Thursday, July 26, 2018

Multi-Physics Simulations in Chemical Engineering with COMSOL

by

Ed Fontes

Chief Technology Officer

COMSOL, Inc

Mathematical modeling is a powerful tool for understanding, designing, and predicting processes and process equipment in the chemical industry. The equations for the conservation of momentum, energy, and material form the basis for high-fidelity descriptions that can be used to understand and improve these processes. The numerical models implemented in computer software can describe chemical reactions, composition, fluid flow, and temperature distribution in three dimensions and time. The benefits are improved designs and new ideas for a fraction of the costs compared to pure experiment-based development. In this webinar, we will demonstrate the use of numerical modeling of reactors and other process equipment using the Chemical Reaction and the CFD Modules in COMSOL Multiphysics.

Mr. Ed Fontes is the chief technology officer at COMSOL, Inc. He has been with COMSOL since 1999, and was previously the lead developer for the CFD, heat transfer, and chemical engineering products. He received his PhD in chemical engineering from the Royal Institute of Technology, Stockholm.

The WebEx meeting invitation has been sent to all VLS members, or you can click the link below: When it's time, [join the meeting](#) and use Meeting number (access code): 792 824 950 or you can join by phone using one of the numbers listed below:

1-866-469-3239 Call-in toll-free number (US/Canada)

+1-650-429-3300 Call-in toll number (US/Canada)

OUR NEW SECTION OFFICER

Vice Chair Kirsten Rosselet

The Section Leadership team accepted the resignation of Arian Aghajanzadeh as Vice Chair on June 30, 2018. As specified in the section bylaws, the Leadership Team elected Kirsten Rosselet to serve as Vice Chair of the Virtual Location Section until December 31, 2018.

Ms. Kirsten Rosselet is a licensed professional chemical engineer and a member of AIChE. She has been an environmental consultant for over 20 years and specializes in assisting clients with questions that thermodynamics can help answer. Her clients often need help with understanding emissions or releases that are technically difficult to estimate or with determining which of the substances or processes at their facility should be the focus of reduction, efficiency, and/or substitution efforts.

For many years, she has been a regular member of technical peer review panels for EPA scholarships and SBIR grants.

She taught upper division/graduate student elective courses on pollution prevention in the chemical engineering department at California State University, Long Beach for two years and has co-authored many handbooks, textbooks, and other teaching and outreach materials.

Please welcome Kirsten as the new Vice Chair.

AMATEUR BREWMEISTERS

The Virtual Local Section will sponsor one or more teams competing in the AIChE Annual Beer Brewing Contest at the 2018 National Meeting on October 28, 2018. At least one member of the team must be under 35 and one or more members must belong to the Virtual Location Section. Entry forms and additional information are located at www.aiche.org/brewbeer. Questions can be answered by sending an email to event coordinators at abbc.ypc@gmail.com.

OUTREACH PROJECT

Part of AIChE's mission is to encourage precollege students to consider engineering especially chemical engineering as a career. Often AIChE works with other technical societies such as Society of Women Engineers (SWE) and American Society of Civil Engineers (ASCE) to present programs and hands-on activities to elementary/primary and high school/secondary school students.

One of these activities is the showing of the IMAX film, "Dream Big" as part of a career development program or science class. Based on the positive response by parents and educators who saw the film during the US Engineers Week in February 2018, the ASCE is collaborating with EngineersDreamBig.org to provide a copy of the film with associated teacher's toolkit to every public school in the United States. Donations can be made by clicking EngineersDreamBig.org and following the instructions on webpage. There even is an option to donate to a specific public school or district, private or parochial schools and outside the US.

The toolkit is a two-disc set that includes the full-length feature film in English, French, Spanish, and closed-captioned, *licensed for educational screenings only*, the complete teacher's guide, all companion videos, and downloadable files for classroom use.

For section members located outside the United States who wish have the film and toolkit sent to a local school, Engineers Dream Big created a form to complete at: <https://www.engineersdreambig.org/international>

If you are a Netflix subscriber, you and your family can watch the film starting July 1.

NATIONAL NEWS

The AIChE hosts and co-hosts technical conferences around the world. Check www.aiche.org/conferences for registration and presentation information for this year's events.

Dates	Location
August 10-11	2018 India Student Regional Conference VIT University, Near Katpadi Road, Vellore, Tamil Nadu, India 632014
August 12-14	2nd Natural Gas Utilization Workshop College Station, Texas
Sep 16-20	63th Ammonia Plant Safety Symposium Toronto, Ontario, Canada
Oct 26-29	Annual AIChE Student Conference Pittsburgh, Pennsylvania
Oct 28 – Nov 2	2018 AIChE Annual Meeting Pittsburgh, Pennsylvania
Nov 4-6	International Conference on Microbiome Engineering Boston MA
Dec 2-4	Food Innovation and Engineering (FOODIE) Conference Napa, California
March 31 - April 4	2019 Spring National Meeting & CCPS Global Congress on Process Safety New Orleans, Louisiana

Future Webinar Topics

August 16, 2018
 Atomically Precise Manufacturing
 Sept 27, 2018
 Student Internship Presentation
 October 18, 2018
 Engineering Estimating
 November 15, 2018
 RAPID Manufacturing Institute
 December 20, 2018
 Open

CALL FOR NOMINATIONS

The Nominating Committee is looking for section members to run for **vice-chair**, **treasurer** and **two open director positions**. If you are interested in running for one of these positions, contact Dan Miller by August 5 at millerd54@comcast.net.

STUDENT PRESENTATION COMPETITION

There is still time to enter the 2018 Student Co-op/Internship Presentation Competition. Abstracts are due by August 17, 2018 and the presentation is due September 17, 2018. Virtual presentations (<10 mins) and awards (\$500, \$250, \$100) will take place September 27, 2018. More information and the entry form are available at <https://www.aiche.org/community/sites/local-sections/virtual-local-section/events/student-co-op-and-internship-presentation-competition-1>. Contact the organizer, Noah Meeks, at NoahChemE@icloud.com if you have any questions or need more information.

Help Wanted

Senior Process Engineer – Emeryville CA

Zymergen Inc. is looking for a Senior Downstream Process Engineer with a BS/MS/PhD in Chemical Engineering and 10+ yrs experience in process development at bench and pilot scale, transfer processes to commercial scale, and support initial commercial scale production. More information is at www.zymergen.com.

EHS Manager— Cincinnati, OH area

A global food manufacturing company is looking for an EHS manager with responsibility for 3 manufacturing locations. This person will report to the Director of Engineering. Requires BS in Environmental Sciences/Engineering with 7+ years experience as an EHS professional in a manufacturing environment managing others. Contact paul@psassociatesinc.net for more information.



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SECTION OFFICERS

Chair:	Sabine Brueske sbrueske@energetics.com
Vice Chair:	Kirsten Rosselot ksrosselot@processprofiles.com
Secretary:	Laura Gimpelson, P.E. lg_environmental@bellsouth.net
Treasurer:	Neil Yeoman loretta.neil@yahoo.com
Executive Committee	
Director 1:	Louis Mielke cartal@global.co.za
Director 2:	Paul Shuey paul_c_shuey@hotmail.com
Director 3:	Open (Expires 12/31/2018)
Director 4:	Walter Goldstein GoldConsul@aol.com
Director 5:	Dan Miller millerd54@comcast.net
Director 6:	Paul Adamson paul.adamson.01@gmail.com

Attendance at a Virtual Section Meeting is open to AIChE Virtual Local Section Members, AIChE members and interested persons. Attendees are required to log into

<http://virtual.aiche.org/content/join>

to receive the login link and password.

Visit <http://virtual.aiche.org> for more information on AIChE Virtual Section missions, activities and membership.

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Contact the New York Office for Permanent Address Corrections at xpress@aiche.org or 1-800-242-4363.

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Send your name and PE State and number to lg_environmental@bellsouth.net to receive one hour of continuing education credit for attending our monthly webinar.