



Baton Rouge Newsletter

Year 25, Number 6

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February 6, 2015

January Meeting Recap	2
February Meeting Abstract & Speaker	2
February Speaker Biography	3
Industry Panel Dialogue Announcement	4
From the Section Chair's Pen	5
Call for Coates award nominations	5
2015 Section Contacts	6

The *AIChE Baton Rouge Newsletter* is published monthly, from September to June, by the AIChE Baton Rouge Section, 110 Chemical Engineering, LSU, Baton Rouge, LA 70803. It is distributed free of charge to members of the Baton Rouge Section of the American Institute of Chemical Engineers.

Membership Fee: \$15.00/yr.

February 2015 Joint Meeting with Southwest Catalytic Society

Date: Thursday, February 19, 2015

Place: El Magey Mexican Restaurant, 8290 Siegen Ln., Baton Rouge, LA 70810

Speaker: **Daniel Shantz, Ph.D.**, Chemical & Biomolecular Engineering Professor, Tulane University

Topic: *Controlling Zeolite Composition: Implications for Catalysis*

Agenda:
5:30 PM - Social hour
6:00 PM - Dinner begins with chapter announcements
6:15 PM - Speaker begins
7:15 PM - Meeting adjourns

Menu: A buffet of Mexican and TexMex food.

Cost: \$15 per AIChE/SWCS member (\$20 per guest, \$8 per student member)

Professional Engineering Certification

The subject of this meeting is an acceptable activity for continuing Professional Development as defined by LAPELS and is **approved for one (1) PDH unit**.

The Baton Rouge AIChE chapter is NOT responsible for individual record keeping of PDH credits. Certificates must be obtained at the meeting by the individual.

RESERVATIONS

Please make your reservation with chapter secretary, William Buck, **by 5:00 PM on Wednesday, February 18th, 2015** at William.Buck@willbros.com or by calling 225-612-6224.

Upcoming 2015 Events / Speakers...

- 03/05:** Third Annual Industry Panel Dialogue with LSU AIChE
- 03/19:** Private Tour & Trivia Night at Tin Roof Brewery
- 04/23:** BASF at Geismar site
- 05/01:** Spring Seminar (tentative)

If you or your colleague(s) would like to give a technical presentation at an upcoming chapter meeting for 2 professional development hours (PDHs), please contact Chapter Chair, Stephen Reilly, at stephen.reilly@prosys.com to schedule a meeting date and time.

January Meeting Recap...



Professor Nandakumar of the LSU chemical engineering department gave us a most interesting talk on the impact of computers in society and in the chemical engineering profession. He told us about the EPIC (Enabling Process Innovation through Computation) research cluster at LSU. The goals of EPIC are to interact with industry to foster collaboration and creativity in solving real industrial problems through industry-funded research projects and graduate student internships. One specific problem he is working on is the modeling of multiphase flows in tray columns to predict their effect on separation efficiencies. EPIC sponsors a bi-weekly seminar series at LSU with speakers from other universities.

Dr. Kumar also told us about his use of computers in the classroom to promote interaction with the students and maintain their attention. He pointed out the historical development in chemical engineering from the McCabe-Thiele graphical procedure in 1925 through the availability of desk-top process simulators since 1981 to the current availability of advanced process simulation tools to help design and improve processes.

One of his slides illustrated how the industrial revolution has been leveled off for a long time while the machine-learning revolution is currently growing exponentially.

February 2015 Meeting Abstract...

Zeolites occupy an important role industrially as catalysts, adsorbents, and ion-exchange materials. However improved control of zeolite properties, such as composition, is necessary for zeolites to meet new and emerging technological challenges. As a chemical engineer, the ability to control the composition of matter in most instances appears trivial. However, as this talk will demonstrate that is not the case for zeolitic solids.

This talk will have three related parts. The first will be demonstrating the challenges of synthesizing zeolites as phase-pure materials with desired compositions using the synthesis of germanium- and tin-containing zeolites as examples. The main conclusion from this part of the talk will be the clear demonstration that controlling composition of zeolitic materials is often non-trivial, and validating material homogeneity requires the use of several analytical methods.

The second part of the talk will take these findings and show that catalyst activation, while not impacting matter composition, can lead to changes in the local coordination environment of catalytically active centers (in this case tin) in zeolites, rendering the material catalytically inactive. This will again be shown to be highly dependent on the preparation method employed.

The talk will finish with some future prospects on the application of these issues to current and emerging technological challenges.

Biography for Dr. Daniel F. Shantz

Dan joined the Department of Chemical and Biomolecular Engineering at Tulane in July 2014 as the Entergy Chair of Clean Energy Engineering. A native of Muskegon, Michigan, Dan obtained his B.S. (ChE, 1995) from the University of Florida and Ph.D. (ChE, 2000) from the University of Delaware.

Dan was an Alexander von Humboldt Postdoctoral Fellow for 18 months following his Ph.D. Prior to joining Tulane, Dan worked for two years at SABIC (Saudi Basic Industries), first as a Chief Scientist and then as a Senior Manager in SABIC's Corporate Research and Innovation Future Feedstocks group.

Prior to joining SABIC, Dan was a faculty member in the Chemical Engineering Department at Texas A&M, starting as an assistant professor and ultimately holding the Ray Nesbitt Professorship and the rank of full professor. Dan's lab at Texas A&M was internationally recognized for its work in zeolite nucleation, biomimetic materials, and hybrid materials for catalysis and separations.

Dan's lab at Tulane will develop materials that address problems in sustainability, energy storage, and solar energy capture for use in chemical conversions.







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ADCO Companies, LTD. began in 1963, as a one-man service operation. We have grown today to be the largest boiler company in Alabama and Louisiana, serving businesses throughout our respective territory and throughout the Southeast.



Third Annual Industry Panel Participants Needed!

Attention, chemical engineers living and working in the Baton Rouge area! The chapter's third annual industry panel discussion with the LSU chapter will be held on Thursday, March 5th, on the LSU campus, and we want YOUR participation!

Promote your former and current companies; highlight your career accomplishments; wax nostalgic on your undergraduate days; comment on current chemical engineering industry topics; savor a free dinner; and most importantly, provide a perspective that current chemical engineering students don't receive from their course lectures but which will enhance their own career pursuits.

If you are interested in participating in this highly-anticipated event, e-mail your reservation to chapter vice chair, Lauren Hartley, at lhartley@trinityconsultants.com as soon as possible. *(Note: The panel will be limited to 10 professionals generally on a first-call basis. Previous panel participants are welcome to join again, but priority may be ceded to new individuals.)*

Looking to promote an upcoming job opportunity, conference, or other company event?

Consider sponsoring the Baton Rouge AIChE chapter to get newsletter and website exposure, among other chapter benefits! If interested, please send an inquiry to chapter Chair, Stephen Reilly, at stephen.reilly@prosys.com to find out more.



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From the Section Chair's Pen...

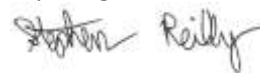
Theodore M. Hesburgh once proclaimed, "The very essence of leadership is that you have to have vision. You can't blow an uncertain trumpet." It's a quote I read a number of years ago that has stuck with me since and has shaped how I lead any group or project. With AIChE, the biggest certainty I know is that running the chapter requires a full slate of officers to fulfill all the initiatives we pursue, but as things stand currently, we have three vacancies that could use more local member participation to fill in.

First, while I am grateful that Executive Committee Member and Past Chair, Jimmy Orr, is leading the Seminars Committee on an interim basis, there are certainly more people needed if the chapter and its seminar participants expect us to host full-day training courses twice a year as we previously have. It's usually a challenge to coordinate one speaker for a chapter meeting, so it's especially an uphill climb to coordinate three to four presentations over a full day!

Second, I'm thankful that Vice Chair Lauren Hartley is similarly leading the Education Committee on an interim basis, but we aim to promote chemical engineering to the community beyond just the annual Super Science Saturday fair, so having another individual step up and explore other possibilities would be a great help.

Last but not least, the chapter has appreciated what current Awards Committee Chair, Cameron Proper, has contributed to the past few months, but his employer-required relocation to Oregon at the end of February has opened up an urgent vacancy that I would like to see filled soon. That way, we can make sure the chapter properly recognizes our 50-year members and select our best rising LSU senior and best dissertation awards at the Coates Banquet in May, as well as help apply for various grant and sponsorship funding to keep chapter events at a low cost for everyone.

Thus, if you would like to contribute more to the chapter, these are some great ways to get involved!



Call for Nominations for the Coates Award

You are invited to submit a nomination for the 2015 Charles E. Coates Memorial Award. The award alternates between members of the Baton Rouge sections of the American Chemical Society and AIChE and this year a member of ACS is expected to receive the award. It is awarded on a record of contributions to the society, to the profession and to the community. If you know a member of ACS whom you think is deserving of the award, contact Cameron Proper, Cameron.Proper@momentive.com, for instructions on the nomination process. The deadline is February 15.

2015 Section Contacts

Officers

Chair: Stephen Reilly, Stephen.Reilly@ProSys.com
Vice Chair: Lauren Hartley, LHartley@TrinityConsultants.com
Secretary: William Buck, William.Buck@Willbros.com
Treasurer: Oscar Alfaro, Oscar.Alfaro@Jacobs.com

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Committees

Awards: Cameron Proper, cameron.proper@momentive.com
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Professional Development: Randy Goodman, Randy.Goodman@LA.gov
Seminars: (OPEN POSITION)
Membership: Glenn Bryson, BGBryson@BellSouth.net

Why Should You Join the Local AIChE Chapter?

1. It is a welcoming presence to new chemical engineers in the area.
2. It provides a neutral ground mentorship toward career directions and other life topics.
3. It facilitates a better understanding of local, state, and federal policies related to our professions.
4. It offers a smooth transition for graduating chemical engineers from LSU, ULL, and other nearby universities who start working in the area.