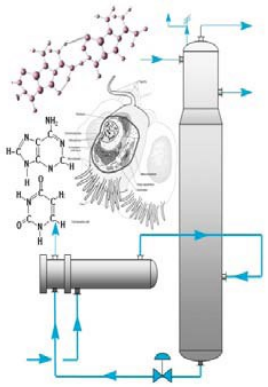
AIChE Chicago Section

May Newsletter

Chicago Section www.aiche.org/Chicago May 2017



Inside this issue:

AIChE Chicago May Meeting

Rapid Advancement in Process Intensification Deployment (RAPID)

US Efforts to Establish a Modular Chemical Process Intensification Manufacturing Institute

Bond Calloway

Associate Laboratory Director @ SRNL & 2017 AIChE President

Date: ***Wednesday May 17, 2017***

Where: ***Francesca's Fiore***

Address: ***7407 Madison St. Forest Park, Illinois***

Cost: AIChE Global and Local Section Member: $40
AIChE Global Member Only: $45
Non-Member: $50
Students: $10 Unemployed/Retired: $15

Registration and Information:

http://www.cvent.com/d/g5qwgj/4W

Agenda

5:30—6:30	Registration and social hour with cash bar
6:30 - 7:30	Dinner
7:30 - 7:45	Announcements
7:45 - 8:45	Technical Presentation
8:45—9:00	Volunteer Recognition

Chair Corner

As this programming year comes to a close, our local section has accomplished an impressive year. Every month we have had a successful dinner meeting in various locations throughout the Chicagoland area. Our dinner meetings included various technical presentations and even a tour of the Advanced Photon Source at Argonne National Laboratory. Last month's student poster competition at Northwestern University led into a presentation by Prof. Bullard who authors Elementary Principles of Chemical Processes; usually the first chemical engineering textbook an undergraduate ChemE student uses. Our Young Professionals group has been active with various meetings, social outings, as well as the annual Whirlyball tournament. Additionally, we had a great winter social at Pollyanna Brewing Company that included an educational in-depth tour of the brewery.

Also, we awarded two scholarships to two deserving students from the University of Illinois System and we had an inspiring high school outreach program at the MRC. Finally, our greatest accomplishment, was the Midwest Regional Conference (MRC) at the University of Illinois at Chicago (UIC). Some of the key volunteers who made this year so successful are listed below. I am sure this list is not complete as there are many more that contributed than this newsletter can hold.

Going forward, I feel it is necessary to continue to invest in activities that develop our youth in STEM (Science, Technology, Engineering, and Math) education. Equally, we must continue to enhance and build upon strengthening our young professionals' technical and leadership skills. Our local section has touched high school students, local college chapters, as well as Young Professionals with our YP group. We need to continue training and mentoring our youth and young professionals to increase our organization's community impact even further. These people represent our future as a local section, our future as an institute, and our future as a chemical engineering profession. I first started in the local section in the YP group as well as many of our current local section leaders.

Beth Carter	Program Chair
Bob Tsai	Program Chair
Nick Guzman	Secretary
Asmara Soomro	House Chair
Bindi Patel	House Chair
Pat Shannon	Treasurer and MRC Finance Chair
Fernando Franco	Young Professionals Chair
Dennis O'Brien	Director At Large
Dan Rusinak	Director At Large
Ellen Kloppenborg	Director At Large and High School Outreach Chair
Don Chmielewski	MRC Program Chair
Adam Kanyuh	MRC Conference Chair
Olha Zvarych	MRC General Arrangements Chair
Azita Ahmadzadeh	Publicity & MRC Fundraising Chair
Janet Werner	Publicity Chair
Liam O'Rourke	MRC Registration Chair
Jerry Wilks	MRC Registration Chair
Rachel Brenc	MRC Hospitality Chair
Rosanna Granata	MRC Student Volunteer Coordinator
Deisy Arrington	MRC Student Volunteer Coordinator
Betul Bilgin	MRC Facilities / HS Outreach Chair

Adam Kanyuh, last year's chair, made great strides at improving value to our local section members and helped lay the foundation leading to this year's success. We are grateful that we hit the ground running this year because of Adam's leadership. For next year, Janet Werner will be the 2017-18 local section chair and we are excited to have such a strong leader as she has contributed immensely to the local section over the years. With Janet's leadership, our volunteers' determination, and our members' continued interest, I am excited to see what next year will bring. Have a great summer and see you in the fall!

Tom King

AIChE Chicago Section Chair

May Meeting

Rapid Advancement in Process Intensification Deployment (RAPID) - US Efforts to Establish a Modular Chemical Process Intensification Manufacturing Institute

ABSTRACT

When it comes to improving energy efficiency and lowering investment requirements in the process industries, modular chemical process intensification (MCPI) has been a long-standing concept. In general, though, energy-intensive industries have not adopted MCPI nor deployed it in manufacturing facilities because of several barriers:

• high capital costs and risk involved in committing to new processes
• high complexity of an intensified, modular system, without simplifying standardization techniques
• a lack of software and design tools to develop intensified processes
• minimal workforce knowledgeable in the design and operation of systems.

The US Department of Energy announced an open funding opportunity announcement to establish a modular chemical process intensification institute with the goal of overcoming these barriers. AIChE and partner institutions established the RAPID Manufacturing Institute in support of this funding opportunity announcement. The status, goals and mission of RAPID will be presented in this paper.

RAPID's (Rapid Advancement in Process Intensification Deployment) vision overcomes these challenges and rapidly advances and deploys process intensification (PI) and modular technologies in U.S. manufacturing. And, RAPID will do so while developing a skilled workforce and creating an organization that it sustainable for the long term. RAPID focuses on impactful projects championed by our broad network of over 120 institutions including corporations, universities national labs, nonprofits and other government agencies, while leveraging resources such as Manufacturing Extension Partnerships. All of RAPID's programs will benefit from the proven management of the American Institute of Chemical Engineers (AIChE).

RAPID's mission centers on advancing MCPI technologies to reduce energy consumption, improve process efficiencies and lower investment requirements required by manufacturing. In doing so, RAPID will enhance the competitiveness of U.S.-based energy intensive industries. RAPID's goals include:

• transitioning innovative technologies into efficient, high-performing manufacturing capabilities that meet DOE metrics
• developing an advanced MCPI workforce, while strengthening U.S. competitiveness
• generating a diverse supply chain that includes small and medium-sized suppliers
• creating a sustainable and inclusive industrial network for continued technology development, deployment and commercialization
• becoming the globally-recognized leader in MCPI technologies

Critical success factors include development of modular system standards; simulation and modeling tools for the design and MCPI capital cost estimation; educational programs to train engineers, technicians and operators; and risk reduction through testbeds for scale-up.

May Meeting

Rapid Advancement in Process Intensification Deployment (RAPID) - US Efforts to Establish a Modular Chemical Process Intensification Manufacturing Institute

BIOGRAPHY

Bond Calloway is an Associate Laboratory Director at the Savannah River National Laboratory, where he leads a team of scientists and engineers conducting energy research. He has more than 30 years of industrial experience in research and development, design, construction, and operation of nuclear/chemical plants.

Bond is currently the 2017 AIChE President. Bond Calloway was elected as the 2016 AIChE President-Elect. Bond was elected to the AIChE Board of Directors (2011– 2013). He was the co-chair of the 2009 AIChE Annual Meeting and the 2014 Natural Gas workshop. Bond currently serves on the AIChE Center for Energy Initiatives Executive Board; the Environmental Progress & Sustainable Energy Journal Editorial Board; the Chemical Engineering Progress (CEP) Editorial Board; the Public Affairs and Information Committee; and as a director of the Nuclear Engineering Division and the Savannah River Local Section. Bond led the RAPID initiative in collaboration with AIChE staff and Ga Tech which culminated in AIChE being awarded a 140 million dollar project to run the RAPID Manufacturing Institute for the Department of Energy.

He also served as member of AIChE's Research and New Technology Committee (2008–2013), including two years as chair; on the Chemical Engineering Technology Operating Council (2008–2012); on the Executive Board of the Program Committee (2009–2010); and on the Nuclear Engineering Div. Executive Committee (2004–present), including three years as chair.

Bond received AIChE's Herb Epstein Award (2008) and Robert E. Wilson Award (2014); the U.S. Dept. of Energy Sustainability Award (2011); and a R&D 100 Award for contributions in engineering and energy research (2001). Bond Calloway was named the Auburn University Chemical Engineering Department's Outstanding Alumnus in 2016.

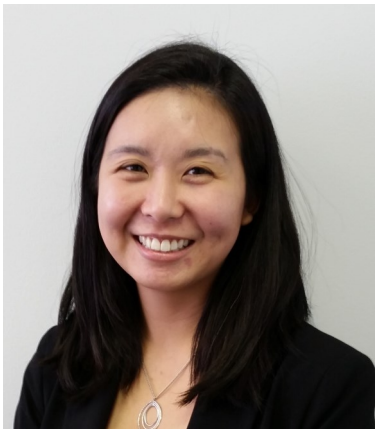
A graduate of Auburn Univ. and a Fellow of AIChE, Bond has authored more than 50 papers on various aspects of energy research and manufacturing.

Registration and Information:

http://www.cvent.com/d/g5qwgj/4W

2017-2018 Elected Officers

Chair - Janet Werner



Janet Werner is a Sr. Process Engineer at Middough. She earned a B.S. in Chemical Engineering from University of Illinois. Janet has served the AIChE Chicago Section in the past as a Newsletter Editor and Webmaster. Janet has also been involved in the Midwest Regional Conference Committee on the Sponsorship Sub-Committee and the Hospitality Sub-Committee. Janet has also volunteered in the AIChE Chicago Young Professionals Committee on the Programming Committee, Membership Committee, and Webmaster. She received an AIChE Shining Star award in 2015 for her contributions to the Chicago Local Section.

Past Chair– Tom King

Tom is currently employed with UOP in Des Plaines, IL as Olefins Technology Manager and has been with UOP for eight years primarily in the Engineering Department. Tom has served the AIChE Chicago Section in the past as Secretary, Young Professionals Chair, Webmaster/Publicity, and on the MRC Committee. On an AIChE National Level, he was Young Professionals Chair from 2008-09 and vice chair the year prior. Within UOP, he has been a member of the Engineering TCO Steering Team since 2012. Tom has BS degrees in Chemical Engineering, Molecular Biology and Biochemistry from the University of Wisconsin – Madison and MS degrees in Chemical Engineering and Bioengineering from the University of Illinois at Chicago. He is a licensed Professional Engineer in the State of Illinois. Tom resides with his wife, two sons, and dog in Villa Park, IL.

Director at Large - *Ellen Kloppenborg* (continuing)

Ellen Kloppenborg is a Development Specialist in the Olefins & Detergents Development group at UOP. She received a BS in Chemical Engineering from IIT and is a registered PE in Illinois. Ellen has worked on many student outreach events with the AIChE Chicago Section and coordinated the high school outreach program at the Midwest Regional Conference in 2015. She received the AIChE Shining Star award in 2010 for student outreach efforts.

Director at Large—Dennis O"Brian

Mr. Dennis O'Brien recently retired as Group Manager at Jacobs Consultancy after 11 years. Prior to joining Jacobs, he spent 34 years at UOP in Engineering (Technical Specialist), computer department and marketing services. He has over 45 years of experience (one year in pilot plants) in petroleum and petrochemical fractionation working in the design, revamp and troubleshooting areas. Dennis has six patents in the distillation area and five papers on distillation in detergent and aromatics plants. He is an AIChE Fellow and Professional Engineer, has served as the SIOC Chair of AIChE in 2012, and as the Chicago Professional Chapter of Engineers without Borders Treasurer from 2011-2013. Dennis O'Brien obtained a BSChE '71 from Tulsa University and a MBA '78 from Roosevelt University.

Proposed Slate for 2017-2018

Chair Elect : Mike Schultz

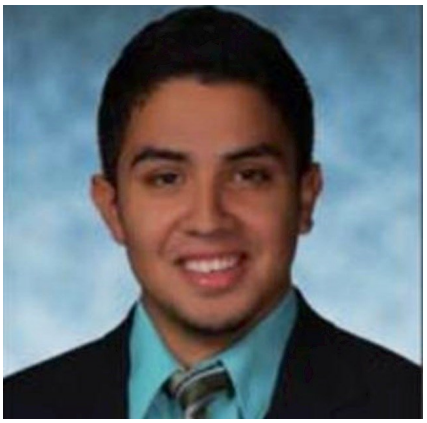
Mike Schultz is Managing Director of PTI Global Solutions, bringing process technology leadership to companies in the fuels, chemicals, and energy space.

Previously Mike was Vice President of Engineering for LanzaTech, where he led the scale-up and commercialization of first of its kind gas fermentation technology for conversion of waste carbon into fuel and chemical products.

Prior to LanzaTech, Mike spent two years with Battelle Science and Technology Malaysia, working closely with PETRONAS to develop the R&D infrastructure and capabilities for a robust sustainable fuel and chemical portfolio. This followed a ten-year tenure at UOP in technology development.

Mike holds a B.S. in Chemical Engineering from the University of Michigan and a Ph.D. in Chemical Engineering from the University of Massachusetts. He received the 2015 EPA Greener Synthetic Pathway award and the 2005 Haden Freeman Award for Engineering Excellence from IChemE. Mike has been granted more than 40 US Patents in his career, and has extensive international experience with postings in Malaysia and New Zealand, and frequent travel throughout his career supporting partners and customers in China, India, Japan, Korea, Russia, SE Asia, and Europe.

Secretary: Nicholas Guzman



Nick Guzman, graduated from the University of Illinois at Urbana Champaign in May 2014 with a Bachelor's degree in Chemical Engineering. He interned with BakerRisk from January of 2013 through August of 2013 and came on full time as an engineering consultant on June 2, 2014. He has experience with FSS/QRA studies, PHA HAZOPs, HF Alky QRA studies, and IRE work.

During his college years, he served as the Vice President of New Member recruitment for a fraternity on campus, and participated in AIChE and the society of Hispanic professional engineers (SHPE). He made the Dean's list during his final semester. He is an active member of Chicago section since 2014.

Co-Vice Chair Meeting Program: Beth Carter

Beth Carter is an R&D engineer in the Process Design Development group at UOP, responsible for the design and optimization of new process technologies. She has been with UOP for eight years, working in Field Services, Technology Services, Manufacturing, and Development. Beth received a BS in chemical engineering from Northwestern University in 2008 and is a licensed Professional Engineer in Illinois. She was the president of the Northwestern AIChE Student Chapter and is looking forward to serving the Chicago Local Section.

Co-Vice Chair Meeting Program: Robert Tsai

Bob Tsai is currently in the Engineering Innovation group at UOP, where he is involved in exploring novel process and equipment improvement opportunities across the company's technology portfolio. Prior to this role, he worked in R&D in UOP's Process Modeling group, developing simulation tools for research and business functions. Bob has been with UOP for over five years and has co-authored eleven patent applications during this time. Bob obtained his BS in Chemical Engineering from the University of Illinois at Urbana-Champaign in 2005 and his PhD in Chemical Engineering from the University of Texas at Austin in 2010. He is a senior member of AIChE and is excited to continue

Co-Vice Chair House Committee: Asmara Soomro

Asmara Soomro started her career as a process engineer at Middough Consulting in 2013. She received her BS in Chemical Engineering from University of Illinois at Chicago in May 2013. She is a registered as Engineering-in-Training (EIT) and passed her PE exam in October 2015. Currently, she is working as a process engineer through Middough for a chemical plant.

Co-Vice Chair House Committee: Arwa Hasan

Arwa Hasan is a Product Development Engineer at Navistar, Inc. since 2016. She received Bachelors of Science in Chemical Engineering from University of Illinois at Chicago. She is part of Material Engineering Group at Navistar and specializing in adhesives applications in the automotive industry.

Director at Large- Adam Kanyuh

Adam Kanyuh is a Technology Specialist within UOP's Engineering Department providing technical support for UOP's Olefins, Detergents and Alkylation technologies. He has spent his entire 20+ year career with UOP / Honeywell serving in various technical roles in the Engineering, Technical Services, Manufacturing, and Research and Development departments within the UOP organization. Adam currently resides in Streamwood, Illinois with his wife Allison and their two sons. He holds a Bachelor of Science Degree in Chemical Engineering from University of Illinois at Chicago. He is Six Sigma Green Belt Certified and holds 3 patents. He was the 2013 Midwest Regional Conference General Arrangements Chair, Chair Elect for 2014-2015 fiscal year, and 2017 Midwest Regional Conference Chair.

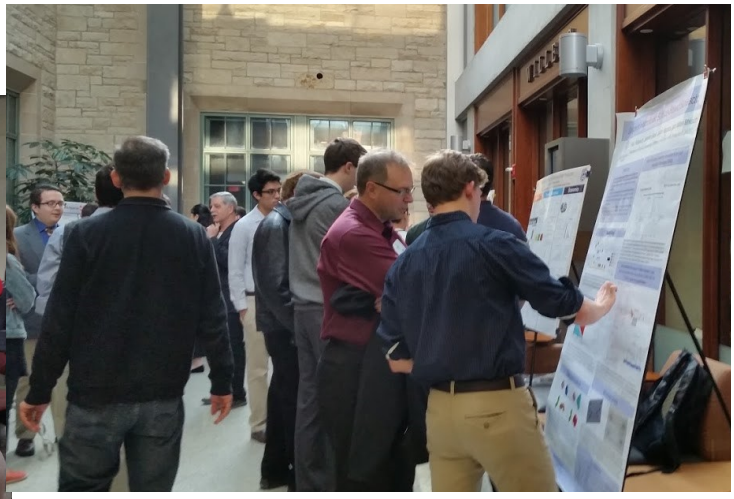
Treasurer: Open Position

April Monthly Meeting Summary

The annual student meeting was held on Thursday April 13 at Northwestern University. The meeting consisted of a student poster session, buffet dinner, presentation of awards and scholarships, and a talk by Dr. Lisa Bullard, Alumni Distinguished Undergraduate Professor and Director of Undergraduate Studies in Dept. of Chemical and Biomolecular Engineering at North Carolina State University. Dr. Bullard's talk was on organizational culture, a topic that was very interesting to both undergraduates and professionals in academia and industry. About thirty students attended the meeting, which led to a great opportunity for networking! A big thank you to Neda Bagheri, Jennifer Cole, Andre Ramirez-Cedeno, and the entire Northwestern AIChE Student Chapter for arranging the venue and for being such welcoming hosts.

Poster Session Summary:

There were a total of seven posters presented, including senior design projects, undergraduate research projects, and graduate research. The first place undergraduate poster was "Get Your Kicks With Nylon 6,6" by Jane Birman, Alex Cash, Mariglen Isufi, and Tania Wilson from UIC. The second place undergraduate poster was "CO2: Greener on the Other Side" by Agni Barbosa, Pierre-Sebastien Beauboeuf, John Colmenares, Ogbeni Ekhomu, and Liwen He from UIC. The first place graduate poster was "Detailed Characterization and Fabrication of 3D Printed Graphene/Polymer Structures for Heterojunction-Devices with MoS2 and Other 2D Nanomaterials" by Deisy Arrington, also from UIC. The authors of all three winning posters received cash prizes and certificates.




WILLENS
WING


CO_2: Greener on the Other Side
Process Description
Objective
Economics
Methanol Production
Wind Power
Environmental Concerns

Congratulations to 2017 McCormack Award Winners

Each year, the McCormack award is given to one chemical engineering undergraduate student at Northwestern University, University of Illinois, and Illinois Institute of Technology based on a combination of excellence in study, research, and extra-curricular activities. This year's winners are:

Recipient: Bader Jarai

University: Illinois Institute of Technology

The Department of Chemical and Biological Engineering at IIT proudly announces Bader Jarai as the 2017 recipient of the Harry McCormack Outstanding Senior Award. In addition to stellar academic performance, he has demonstrated a dedication to the profession through extra-curricular involvement and undergraduate research. Within the AIChE Student Chapter, Mr. Jarai served leader of the ChemE Car team, coordinator of the ChBE awards dinner, coordinator of student volunteers at the MRC and coordinator of the ChemE Car competition at the North Central Regional Conference. Bader also participated in undergraduate research, focusing on biochemical engineering, with Professors Teymour and Hong along with an internship at AllCell Technologies where he focused on electrochemical system. Currently, he is planning to pursue a PhD in Chemical Engineering at the University of Delaware. We are confident that Mr. Jarai will enjoy much success in his career and contribute significantly to the chemical engineering profession.

Recipient: Cristine Li

University: Northwestern University

Cristine Li is majoring in Chemical Engineering while pursuing a Kellogg Certificate in Managerial Analytics. She served as treasurer and class representative for the AIChE chapter at Northwestern. She's a member of Tau Beta Pi and Omega Chi Epsilon, and she recently won the Record Scholarship sponsored by Tau Beta Pi. Last summer, she worked as a consultant at Oliver Wyman, focusing on the aerospace industry. Her previous two summers involved work in a biomaterials lab at Northwestern and in the R&D department of Goodyear Tires and Rubber Company.

Outside of engineering, Cristine has been highly involved in service learning. She served as the treasurer and class trip coordinator for Alternative Student Breaks, obtaining funding and determining the budget for over 20 trips per year. In addition, she has worked as a tutor for Northwestern Athletics for the past two years, focusing on math and science, as well as basic engineering courses. After graduation, Cristine will work at Bain and Company in Chicago, focusing on pharmaceutical and healthcare consulting.

Recipient: Miguel Angel Guevara-Orozco

University: University of Illinois at Chicago

The Department of Chemical Engineering at UIC proudly announces Miguel Angel Guevara-Orozco as our selection for the Harry McCormack Outstanding Senior Award. Miguel will be graduating in May with a 3.97 GPA. Miguel has been active in several student organizations including: Society of Hispanic Professional Engineers, Medicina Scholars, and Peer Health Exchange. In addition to academics, Miguel has also completed two internships as a Process Engineer and R&D Assistant at CFC International and Superior Graphite respectively. In his free time, Miguel enjoys creating technical web applications using Ruby, R, PostgreSQL and JavaScript. He also enjoys tinkering around with micro-controllers for automation applications. Upon graduation, Miguel plans to use his academic, industry, and hobby experience as a Controls Engineer.

2017 Poster Session Competition Winners

Undergraduate Winners

First place:

Get Your Kicks With Nylon 6,6

Jane Birman, Alex Cash, Mariglen Isufi, Tania Wilson

Advisors: Dr. Betul Bilgin, Paolo Palmas

Nylon 6,6 is a synthetic polymer commonly used for a wide variety of commercial applications, including fabrics, ropes, and carpeting, and new uses for Nylon 6,6 are being explored in the automotive and 3D printing industries. The steady growth of the Nylon industry provides opportunities for new manufacturers to enter the market. The goal of this project is to produce Nylon 6,6 from adipic acid and hexamethylene diamine using a process that is cost-effective, energy-efficient, and environmentally conscious. Our process improves on the standard method of manufacturing Nylon 6,6 by using one twin screw extruder reactor instead of three reactors in series, and it uses less water than a typical process by mixing the reactants in stages to achieve a higher solubility of Nylon salt solution.

2nd Place:

CO2: Greener On the Other Side

Agni Barbosa, Pierre-Sebastien Beauboeuf, John Colmenares, Ogbeni Ekhomu, Liwen He

Advisors: Betul Bilgin, PhD

UIC Department of Chemical Engineering

Dennis O'Brien

The goal of this project is to design a plant that will produce methanol from a feedstock of natural gas and CO2 captured from industrial flue gas, in hopes of developing a sustainable and profitable process. Methanol is commonly used to synthesize other chemicals. Blending methanol and gasoline to produce a cleaner burning product is also becoming increasingly prominent. Methanol is typically made from a hydrocarbon rich feed obtained from natural gas, coal, biomass, or flue gas. As atmospheric CO2 levels rise, global warming is creating an increasingly perilous reality, as food supply, ecosystems, civilization, and human existence is threatened. Completely eliminating greenhouse gas emissions is unlikely to happen soon, but designing and constructing processes which utilize the potential of CO2 and minimize the artificial carbon footprint would be a step in the right direction. This is also why apart from utilizing a carbon-recycle process, our power generation system would be based on renewable wind energy to also offset the associated CO2 emissions at the power plant that would otherwise supply electricity to our operation. The price of methanol is highly sensitive to the price of oil, using alternate feedstocks could decrease this dependency and make the product more sustainable by reducing carbon emissions. The demand of methanol is steadily increasing and it is expected to register a continual annual growth rate of as much 12.4% by 2021. Producing methanol using this process will help supply a valuable material and makes its production more environmentally friendly.

Graduate Poster Winner:

Detailed Characterization and Fabrication of 3D Printed Graphene/Polymer Structures for Heterojunction-Devices with MoS2 and Other 2D Nanomaterials

Deisy Arrington, Dylan Lynch, and Vikas Berry

Department of Chemical Engineering, University of Illinois at Chicago,

810 S Clinton, Chicago, IL, 60607.

Abstract: It is known that the 2D nanomaterials (2DN) can be interfaced with another to realize heterostructures with controlled and/or expanded properties, which can be applied to achieve functional devices. Currently, such structures has been produced at nano- to micro-scale dimensions. Here we show that 3D printing of graphene/polymer composite can allow device fabrication with 2DN-heterostructures produced at larger and accessible scale, while leveraging their unique properties. For example, fusing graphene, a zero bandgap 2DN and MoS2, a semiconductor 2DN, together can produce ultrafast optoelectronic switches because of the mismatched Fermi level. As a first step towards this goal, graphene/polymer-MoS2-graphene/polymer junctions were produced via 3D printing and experiments were conducted to measure the carrier transport characteristics. The results from carrier-transport studied at cryogenic temperatures (25 K) to room temperature were analyzed to determine transport barriers, carrier concentrations, Coulomb blockade, inter-particle capacitance, conduction mechanism and opto-electronic response. Furthermore, the effects of the mechanical strain in the 3D-printed heterostructure was investigated. We envision that these 3D printed structures with 2DNs will lead to an evolution of next-generation optoelectronic, electronics and electromechanical devices, which would be printed on-demand.

Congratulation to AIChE Chicago 2017 Scholarship Winners

Derek Bonucci—UIUC

Derek Bonucci is a student at the University of Illinois at Urbana-Champaign (UIUC) and have just completed his Freshman year. He is pursuing a degree in chemical engineering. He was a member of the UOP Chemical Engineering and Chemistry Explorer Post for his four years at Deerfield High School and have had exposure to chemical engineering through his parents, both of whom are chemical engineers. He is a member of the UIUC Marching Illini Baritone Section and graduated from the Honeywell Leadership Challenge Academy in February of 2016. He will also be working as an intern as QuesTek in Evanston over the coming Summer.

Rosanna Granata—UIC

As a returning adult student, my main catalyst in returning to school was my interest in being part of challenging and impactful work. The chemical engineering discipline allows us to investigate a range of important areas of focus that encompasses almost all aspects of daily modern life. My chemical engineering education is allowing me to learn not just the equations, concepts and theory within our core discipline but also allows me to advance my problem solving skills. My personal interests fall within the area of sustainability, specifically: energy and energy storage; material science; agriculture and food; and, water/air pollution control and remedy. Outside technical interests, I have developed interested in focusing within the area public science literacy and interdisciplinary collaborations. This has led to me to become an active member within a number of organizations and subcommittees. Chemical engineering allows me to explore these interests and hopefully, one day, be able to be a part of positive change within these areas.

Honors, Scholarships, awards, projects, plans ,etc.

AIChE at UIC Student Chapter President 2016-2017

AIChE Midwest Regional Conference Student Coordinator 2017

AIChE Sustainability Engineering Forum (SEF) Division Undergraduate Sub-Committee Coordinator

UIC Engineering Alumni Association (EAA) Alumni Ambassador 2016-2017

AIChE at UIC Student Chapter Activity Coordinator 2015-2016

Young Professionals News

Upcoming GTI Pilot Plant Tour

Gas Technology Institute (GTI) is a leading research, development and training organization addressing energy and environmental challenges. A GTI Plant Tour is in the making for May or June, so watch out for more details! For questions, please email Kim, douglasekimberly2@gmail.com.

AIChE Chicago Section Needs your help

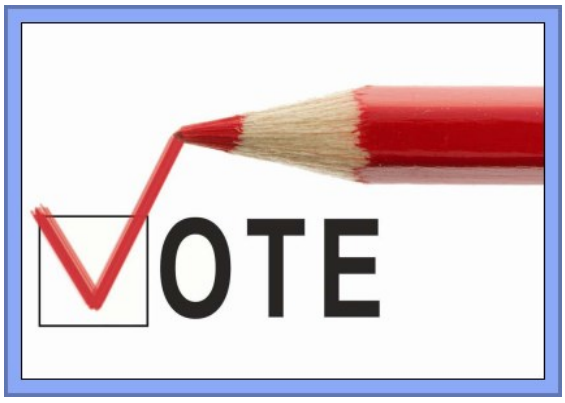
Please consider to become active member and help out AIChE Chicago section. We are in need of :

- Webmaster: keeping the website up to date
- Newsletter editor

If you are interested, please send an email to "aichechicago@gmail.com"

Election of Section Officers

ABSENTEE BALLOTS



At the May meeting, AIChE-Chicago will be holding the annual election of local section officers. The proposed slate of officers for fiscal year July 1, 2017—June 30, 2018 is included in this newsletter. The slate will be voted upon at the May meeting. At the meeting, there will be one last call for nominations before the vote begins. Absentee ballots will be counted before the meeting. If no other nominations are received, a voice vote will be called for the proposed slate. If additional nominations are received, a vote will be called for each individual position.

Members may send in an absentee ballot to aichechicago@gmail.com


SOMETHING NEW
IS BREWING AT AIChE®
FIRST ANNUAL
YOUNG PROFESSIONALS
20
★
17
AIChE®
BEER BREWING
COMPETITION
Get Your Brew Game On
Whether you're into over-the-top hops or everyday IPA, the 2017 AIChE® Beer Brewing Competition (ABBC) for Young Professionals is your chance to make some beer, share your process, compete for prizes and have a great time.
OCTOBER 29, 2017
AIChE Annual Meeting • Minneapolis, MN
www.aiche.org/brewbeer

Let's Make Some Beer

October 29, 2017 at the AIChE® Annual Meeting in Minneapolis, MN
www.aiche.org/brewbeer

20 ★ 17
AIChE® BEER BREWING COMPETITION

About the Competition

The AIChE Beer Brewing Competition will showcase different styles of beer each year — with details for 2017 to be announced. For each beer entered, competitors will also be required to create and present a poster that describes the chemical engineering process behind their brew.

Who's Eligible?

This is a team competition, open to all current dues year AIChE professional members who are 21 and older and members of an AIChE Local Section (including the Virtual Local Section).

Build or Join a Team

Any number from two to five Local Section members can make up a team, provided that at least one team member is a Young Professional (under age 35). Local Sections are invited to register multiple teams. A single person may be on multiple teams.

Take Home the Grand Prize

- Your team name on the ABBC winners' plaque — *be the first*
- Beer mugs with the year and ABBC logo, for each team member
- Complimentary one-year AIChE membership for each team member.

To enter and for details, visit www.aiche.org/brewbeer

Must be 21 or older to enter. Other restrictions apply.

This competition is funded by the AIChE Foundation.

AIChE The Global Home of Chemical Engineers | DOING A WORLD OF GOOD

AIChE young PROFESSIONALS

If you are interested as an individual or group team, please email us:

aichechicago@gmail.com

AIChE
The Global Home of Chemical Engineers

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS ANNOUNCES PLANS FOR RAPID MANUFACTURING INSTITUTE

RAPID Institute could join U.S. National Network for Manufacturing Innovation to lead process intensification projects for improved energy efficiency and industrial productivity

SAN ANTONIO, TX — Leaders of the American Institute of Chemical Engineers (AIChE) formally launched the Rapid Advancement in Process Intensification Deployment (RAPID) Manufacturing Institute here today at AIChE's Spring Meeting and Global Congress on Process Safety. Late last year, the U.S. Department of Energy (DOE) selected RAPID to help businesses of all sizes solve their toughest technology challenges and unleash major savings in energy-intensive sectors, including chemicals, oil and gas, pulp and paper-making and other industries. Since that announcement, RAPID has been working with DOE to finalize its operating plans. Those negotiations are now complete and an initial list of priority projects has been developed and they are ready to move forward.

In addressing the kick-off meeting of RAPID's corporate, academic, national laboratory, and other partners, AIChE President T. Bond Calloway, Jr., the Associate Laboratory Director for Clean Energy at Savannah River National Laboratory, said, "investment in this cross-cutting technology is an investment in the future of manufacturing in the United States." He added that, "The Manufacturing USA network is working to strengthen domestic manufacturing and assure its competitiveness." "RAPID is an example of the early-stage applied energy research and development where a strong Federal role is appropriate," Calloway explained.

RAPID Chief Executive Officer Karen Fletcher said "the RAPID team is thrilled and energized to be getting its work underway." "We're confident we can make contributions to manufacturing productivity and efficiency by developing next-generation, modular process equipment that can be broadly deployed," she explained. Fletcher came to RAPID from DuPont, where she was, most recently, chief engineer and vice president of engineering, facilities and real estate.

To date, RAPID has enlisted 75 companies, 34 academic institutions, 7 national laboratories, 2 other government laboratories, and 7 non-governmental organizations from all regions of the United States. These partners have committed to cost shares that leverage DOE's $70 million contribution over 5 years, with total project spending exceeding $140 million. RAPID's partners come from energy-intensive industries and range from small to large enterprises. Fletcher urged interested organization to join the effort.

Fletcher also took the opportunity to introduce Jim Bielenberg, RAPID's chief technology officer, to meeting attendees. Bielenberg came to RAPID from ExxonMobil, where he most recently worked in Corporate Strategic Research, developing technology roadmaps and research strategies.

Fletcher and Bielenberg outlined the technology focus areas that DOE and RAPID together identified since the December announcement of RAPID's formation. They are: Chemical and Commodity Processing, led by Tom Edgar (University of Texas at Austin) and Ramanan Krishnamoorti (University of Houston);

Renewable Bioproducts, Robert Brown (Iowa State) and Shri Ramaswamy (University of Minnesota); Natural Gas Upgrading, Mike Matuszewski (University of Pittsburgh) and Levi Thompson (University of Michigan); Module Manufacturing, Brian Paul (Oregon State) and Ward TeGrotenhuis (Pacific Northwest National Laboratory); Intensified Process Fundamentals, Dionisios Vlachos (University of Delaware) and Jim Ritter (University of South Carolina); and Modeling and Simulation, David Sholl (Georgia Tech) and Stratos Pistikopoulos (Texas A&M).

Fletcher emphasized that RAPID will work closely with the other Manufacturing USA Institutes, which have common goals but distinct concentrations, to assure cooperation and share approaches to commercializing "step-change" innovations. To that end, she said RAPID will leverage AIChE's substantial educational resources to train students and the workforce in the application of the new modular process intensification tools.

In further comments, Calloway praised RAPID's progress and cited DOE's thorough and efficient work that resulted in kick-off within three and a half months of the announcement of RAPID's selection. He said: "I want to salute Karen Fletcher's leadership and the expertise and professionalism of DOE's staff. Such rapid progress in setting up 'RAPID' would have been impossible without them." He added: "The progress we've made in such a short time makes me even prouder to be part of the RAPID effort, in which chemical engineers are contributing hard work and expertise to advance American manufacturing."

Additional information about the RAPID Manufacturing Institute and its objectives can be found at www.aiche.org/RAPID.

PROFESSOR SATISH PARULEKAR

WINS THE 2016 ERNEST W. THIELE AWARD

Congratulations to Professor Satish Parulekar, Professor of Chemical Engineering at Illinois Institute of Technology for being awarded the 2016 Ernest W. Thiele award! This prestigious award will be presented to Professor Parulekar at the Wednesday, May 17, 2017 meeting of the Chicago AIChE Section.

Professor Parulekar is awarded the 2016 Ernest Thiele Award for his significant original research contributions in chemical engineering, development of educational material for chemical engineers, and leadership and service activities relate to the AIChE and IIT.

Professor Parulekar's early research on using continuous spectral theory showed his mathematical prowess for solving difficult problems. An inquisitive thinker, he moved into biotechnology and made major advances in that area. All the while he continued to publish chemical engineering manuscripts and books, be a popular teacher at IIT, and provide service to our AIChE organization.

The Ernest W. Thiele award is presented annually to a Midwest region member of AIChE who has made outstanding contributions to advance the practice of Chemical Engineering. The award is sponsored by BP, and consists of a plaque and a $1000 honorarium.

Please join us May 17, 2017 at Francesca's Fiore in congratulating Professor Satish Parulekar on his achievement.

Ernest W. Thiele Award Recipients

YEAR	RECIPIENT	AFFILIATION	RECOGNITION & ACHIEVEMENT
2016	Satish Parulekar	IIT	For research in biotechnology, teaching and service to AIChE.
2015	Randy Snurr	Northwestern University	For his leadership and creativity in advancing the application of nanoporous metal-organic frameworks in gas separations, gas storage, and showing the power of molecular simulation to design new absorbents.
2014	Alan Zagoria	UOP, A Honeywell Co.	For his leadership and creativity in hydrogen technology in refining and other areas.
2012	Richard Hoehn	UOP, A Honeywell Co.	For his leadership and creativity in hydroprocessing technology.
2011	Urmila Diwekar	Vishwamitra Research Institute	For leading the development of uncertainty analysis in processes
2010	J. Peter Clark	Consultant	For leading the development of numerous food products and new food preparation processes, and as a mentor and teacher.
2009	Harold H. Kung	Northwestern University	Seminal contributions to the fundamental understanding of catalytic phenomena, innovative design of novel catalytic structures, and
2008	Robert Lyczkowski	Argonne	Innovative application of multiphase theory and computational fluid dynamics in the areas of nuclear, fossil and biochemical engineer-
2007	Lynn H. Rice	UOP	For his fundamental contributions to the petroleum refining isomerization process.
2005	Dimitri Gidaspow	IIT	For his fundamental contributions to computational fluid dynamics, multi-phase flow and fluidized bed systems and as an educator.
2004	Ted M. Knowlton	PSRI	For his contributions to fundamental and applied research, and his leadership in the fields of fluidization and particulate solids.
2003	Ali Cinar	IIT	Contributions in process modeling, monitoring and control. As an educator championing computers and statistics.
2002	Julio Ottino	Northwestern	Research in Chaos Theory and mixing of solids and liquids
2001	Paul Sechrist	UOP	Contributions to computational fluid Mechanics, CCR, and FCC refining processes
2000	Henry Linden	IGT (retired)	Leadership of the Institute Of Gas Tech.
1999	S. George Bankoff	Northwestern	Heat transfer advances in chemical and nuclear engineering
1998	Arvind Varma	Notre Dame	Fundamental advances in synthesis of materials, catalysis and reactor stability
1997	Hamid Arastoopour	IIT	Academic leadership and environmental engineering
1996	Rathin Datta	Argonne	Original research in metabolic engineering and membranes
1995	Norman Li	UOP	Pioneering research in membranes and separations
1994	J.W. Westwater	Univ. of Illinois	Research in Heat transfer and contributions in teaching
1993	R.J. Bertolacini	Amoco	Catalysis research innovations and leadership
1992	J.J. Carberry	Notre Dame	Chemical Reaction Engineering research, innovation, and education
1990	R.S. Mah	Northwestern	Chemical Process System Analysis
1989	D.T. Wasan	IIT	Research and Progress on Separation Processes
1988	L.O. Stine	UOP	Petroleum/Petrochemical Processes
1987	G. Thodos	Northwestern	Physical Property Advances
1986	T.J. Hanratty	Univ. Of Illinois	Advances in Fluid Mechanics
1985	B.B. Broughton	UOP	Aromatics Separation Processes, adsorptive separation
1983	E.W. Thiele	Standard Oil (Indiana)	Catalysis, Distillation fundamental advances

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We welcome email submissions for our monthly newsletter. Commercial announcements are subject to the fee schedule below. News stories, editorials, technical or career related non-commercial contributions are always welcome with no charge. We consider job postings, announcements of for-fee training courses, expositions, conferences as commercial. Categorization of announcements is at the sole discretion of the Chicago AIChE Board of Directors. Chicago AIChE may publicize activities of interest to our members by cooperating professional societies and other non-profits without charge.

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