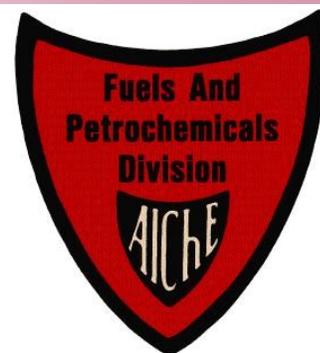


Volume 24, Issue 3

Fall 2012

Flashpoint



Inside this Issue

<i>The Chair's Corner</i>	1
<i>F&PD Programming Update</i>	2
<i>Moving Past the "Wall" of the Renewable Fuel Standard (RFS)</i>	3
<i>Calendar of Events, Advertising Rates</i>	4
<i>F&PD Executive Committee</i>	5

The Chair's Corner

Tim Olsen



The Fuels & Petrochemicals Division (F&PD) will again be involved at the [AIChE Annual Meeting](#) in Pittsburgh, PA, similar to last year in Minneapolis. I will be attending along with several other F&PD members for the executive officers meeting on Sunday afternoon prior to the Annual Meeting. F&PD will also host and co-sponsor many [sessions](#) throughout the week. In addition, F&PD will participate at the [Annual Student Conference](#) (ASC) Career Workshops on Saturday afternoon. At the ASC, seasoned F&PD members will share their experiences and present valuable information to students seeking guidance in their search for employment in the energy sector. For those interested in becoming more involved with the F&PD, please see us on Saturday during the ASC ("[Interviewing in the Energy Sector sessions](#)") or on Sunday at the executive officers meeting.

I hope everyone had a chance to read the August issue of Chemical Engineering Progress (CEP) with a special section of many articles on shale gas. The market is shifting and chemical engineers are on the forefront of these changes. Are you aware the carbon dioxide emissions in the United States have dropped to a 20-year low? This reduction in large part happened as a result of market forces around low cost and abundant natural gas; power plants have switched from burning coal to natural gas. In 2005, coal was used to produce about half of all electricity generated in the U.S.; as of early this year, coal was only used to produce about one third of electricity generated in the U.S. F&PD is aware of market changes like this and it is reflected in our programming. There is still time to [submit abstracts](#) for the 2013 AIChE Spring Meeting before the October 26th deadline. I encourage you to participate at this technical meeting for practicing chemical engineers in F&PD.

I look forward to seeing F&PD members in Pittsburgh for the 2012 AIChE Annual Meeting, October 28th – November 2nd, at the David L. Lawrence Convention Center, or next year in San Antonio for the 2013 AIChE Spring Meeting, April 28th – May 2nd. Feel free to contact me at chair@aiiche-fpd.org.

Thanks to Dale Keairns for Supporting Future Engineers and Scientists

The Fuels & Petrochemicals Division would like to acknowledge Dale Keairns for the donation of his award to the F&PD scholarship fund. Dale is the 2012 F&PD Award of Excellence winner from the past Spring Meeting in Houston. He stated that F&PD has served, and continues to effectively serve, chemical engineers and the profession, and wanted his award to continue helping younger students in striving to achieve their goal of joining the science industry. Thank you Dale for your thoughtful donation.

Fuels and Petrochemicals Programming Update

Belma Demirel

“AIChE Conventions are very enlightening places you can grow, and yet rivers in which science and technology flow.”

The Fuels and Petrochemicals Division (F&PD) is looking forward to the upcoming AIChE Annual and Spring Meetings. Please join us to learn more about recent advances and future challenges in energy, fuels and petrochemicals industries.



Annual Meeting
Oct. 28-Nov. 2, 2012
Pittsburgh, PA



The main focus of the F&PD at this year's Annual Meeting is to cover recent advances in alternative fuels and new energy technologies, energy storage, and refining and solid-liquid separation in petroleum industry in addition to advances in oil drilling technology under extreme conditions. Non-technical session will have many papers and panel discussion on developing leadership skills. Detailed information can be attained at

<https://aiche.confex.com/aiche/2012/webprogram/16.html>

Spring Meeting
April 28-May 2, 2013, Grand Hyatt, San Antonio, TX
 Spring Meeting, San Antonio, TX



F&PD will have a very rich program covering the areas in Gas Utilization, Refinery Processing, Alternative Fuels and New technologies, Petrochemicals and Derivatives and Non-Technical Programming. Sessions offered under each topic include, but are not limited to are Hydrogen management; Coal, biomass and natural gas to liquids; LNG; Gasification technologies and Gas clean-up; Production of fuels and chemicals from Fisher-Tropsch hydrocarbons; Syngas to ammonia; CO₂

conversion; Greenhouse gases and sequestration; Hydraulic fracturing; Aromatics and Petrochemicals processing; Process control and optimization; Advances in hydroprocessing; Advances in design and operations of crude, vacuum and delayed coking units; Advances in separations; Advances in sulfur recovery; Energy optimization; and Biofuels. The Spring meeting has a greater emphasis on the industrial sector and we anticipate a larger audience in Texas. This is a very good opportunity to learn more about industries and their challenges.



Valero's Lane Riggs



Tesoro's Dan Romasko

Featured Speakers

The Spring Meeting will open with a conference-wide keynote address on the morning of April 28, given by Lane Riggs, Senior Vice President of Refining Operations for Valero Energy Corporation. Mr. Riggs oversees the operations of all Valero refineries.

Following the conference-wide keynote, F&PD programming will open with a welcome session featuring a keynote speech by Dan Romasko, Executive Vice President of Tesoro. Mr. Romasko's responsibilities include co-creation of the corporate strategy. As the principal operating officer, he oversees Tesoro's refining, marketing, logistics and marine functions, providing leadership that promotes the safe, compliant and profitable strategy execution.

In addition, there will be an F&PD dinner on Monday, and Gas Utilization Luncheon speech by Yu-Nan Liu, Technical Director of LNG at Air Products on Tuesday.

Call for Papers

The Call for Papers to present at the AIChE 2013 Spring Meeting is open until October 26, 2012. We look forward to your contribution to F&PD. A complete list of all sessions and topics can be found on-line at

<https://aiche.confex.com/aiche/s13/webprogrampreliminary/16.html>

We look forward to you seeing you at our upcoming meetings in Pittsburgh and San Antonio!

Washington Internship for Students of Engineering (WISE)

Moving Past the “Wall” of the Renewable Fuel Standard (RFS)

*Martha Hay
Virginia Polytechnic University*

Through the collaborative efforts of several professional engineering societies, WISE has become one of the premier Washington internship programs. The program’s goal is to groom future leaders of the engineering profession who are aware of and can contribute to the important intersection of science, technology and public policy. F&PD has graciously supported the WISE program for many years. This year, F&PD invested in three engineering students. Here is the executive summary of the work done by one of the three students (the first summary can be read in the Summer 2012 issue of Flashpoint).

The United States is facing an energy crisis due to its reliance on nonrenewable resources and insufficient alternative energy options. Over four-fifths of U.S. energy is derived from fossil fuels, and the U.S. is relying on foreign powers for over half of its oil imports, thereby leading to reduced energy security for the country. Competing powers are growing and, consequently, increasing their energy demand, creating more competition and a threat to the U.S. energy supply.

Creating and implementing an alternative energy for transportation fuels could significantly reduce U.S. consumption of fossil fuels, as nearly three-quarters of petroleum consumption can be attributed to the transportation sector. Additionally, switching to an alternative, renewable transportation fuel could increase U.S. energy security.

The Renewable Fuel Standard (RFS), enacted under the Environmental Protection Act of 2005 (EPA 2005), and later expanded under the Energy Independence and Security Act of 2007 (EISA 2007), promotes the development of renewable fuels through the use of tax incentives and mandates. Each year, the volume of renewable fuels to be added to the U.S. fuel supply is raised; the big target is 36 billion gallons of renewable fuels for the year 2022.

Corn-based ethanol has been the main contributor to the RFS; the four categories within the RFS were designed to put a cap on the contributions from corn-based ethanol while spurring on the development of biofuels from other catego-



ries. With other technologies falling short in production capacity, corn-based ethanol is expected to continue to contribute the bulk of renewable fuel, but a “wall” will soon be hit, preventing the U.S. fuel supply from absorbing a higher volume of ethanol. This wall could be pushed back through higher approved blends of ethanol in gasoline (currently limited to 10% ethanol) or by an increase in the number of flex-fuel vehicles (FFVs) on the roads (which can run on 85% ethanol), and the availability of E85 (gasoline containing 85% ethanol).

Approving higher blends of ethanol (such as E15) is not recommended until the Department of Energy (DOE) can provide sufficient evidence that E15 will not compromise emissions and safety standards. While FFVs would allow for more ethanol to enter the fuel supply, the low availability of E85 stations in addition to the low number of FFVs, limits the amount of ethanol that FFVs can consume as a whole. Regardless, the infrastructure modifications required for higher volumes of ethanol would be yet another expense for a struggling economy. Insufficient biomass availability and an inefficient distribution system are additional limitations to corn-based ethanol’s candidacy for a long-term solution.

Expanding the options for RFS contributions, by distinguishing between light- and heavy-duty vehicles, in addition to adding a category for hybrid and electric cars, would improve the feasibility of the RFS.

In terms of finance, oil and ethanol subsidies should be cut, along with the blender’s credit; financial assistance should be made available for retailers willing to install E85 pumps; and technology development funding should be continued for drop-in fuels.

Since current energy options have limiting properties, (fossil fuels are nonrenewable, biomass for biofuels competes with farm and forestland), the U.S. needs to consider behavioral targets, such as curbing energy consumption, improving energy efficiency, and promoting national and global education.

Click [here](#) to read the entire paper

Note from the Editor — Don't Forget it's Almost Awards Season!

No, I'm not talking about the Academy Awards, I'm referring to the F&PD Awards. Every year at the AIChE Spring Meeting, F&PD recognizes two outstanding individuals—one for outstanding service to the Division (Distinguished Service Award) and the other for substantial technological contributions to the advancement of the fuels and petrochemicals industries (Division Award). I'm sure we all know at least one individual who fits the bill, so please, take 15 minutes out of your busy schedule and nominate a worthy candidate. **The deadline for submission is November 14, 2012.** Send nominations to the Fuels & Petrochemicals Division Past Chair; E-mail: pastchair@aiche-fpd.org. F&PD also has two other awards geared toward undergraduate students and high school students. The deadline for those awards is in early 2013. Click [here](#) to read more about all F&PD awards. Spread the word about the F&PD awards!

Kristine Chin, Newsletter Editor

Calendar of Events



[2012 Annual Meeting](#)

Pittsburgh Convention Center * Pittsburgh, PA
October 28—November 2, 2012



[AIChE / A&WMA Joint Workshop: Shale Oil & Gas E&P – Water Challenges & Opportunities](#)

Omni William Penn Hotel * Pittsburgh, PA
November 1–2, 2012

[2012 Arctic Technology Conference](#)

George R. Brown Convention Center * Houston, TX
December 3—5, 2012

[5th Annual Midwest Regional Conference](#)

Illinois Institute of Technology (IIT) * Chicago, IL
January 31—February 1, 2013



[2013 Spring Meeting and 9th Global Congress on Process Safety](#)

Grand Hyatt San Antonio * San Antonio, TX
April 28—May 2, 2013

Flashpoint is Now Accepting Advertising

Flashpoint, The Newsletter of the Fuels and Petrochemicals Division, is published three (3) times per year. It is distributed electronically to our membership and other interested parties (nearly 1,500 people, mostly chemical engineering professionals) in March (prior to the Spring AIChE Meeting), July and October (prior to the Fall AIChE Meeting) and it is also posted on F&PD's website. Contact communications@aiche.org if interested.

F&PD is now on the professional networking website, LinkedIn. To connect with other professionals and expand your professional network, please connect with us on LinkedIn at <http://www.linkedin.com/in/aichefpd>.

Ad Size/# of Issues	Quarter Page	Half Page	Full Page
1	\$75	\$125	\$200
3 (full year)	\$200	\$300	\$500



Fuels and Petrochemicals Division 2012-2013 Executive Committee

CHAIR:**Tim Olsen**

Emerson Process Management

Email: chair@aiche-fpd.org**TREASURER:****Steve Coleman**

LyondellBasell

Email: treasurer@aiche-fpd.org**COMMUNICATIONS DIRECTOR:****Kristine Chin**

AIChE

Email: communications@aiche-fpd.org**FIRST VICE CHAIR:****Lori McDowell**

Matheson Gas

Email: vicechair@aiche-fpd.org**SECRETARY:****Virginia Brown**

Fluor

Email: secretary@aiche-fpd.org**R&D TECHNOLOGY LIAISON:****Galen Suppes**

The University of Missouri

Email: randliaison@aiche-fpd.org**SECOND VICE CHAIR:****Rick Isherwood**

UOP

Email: secondvicechair@aiche-fpd.org**COUNCIL (CTOC) LIAISON:****Bond Calloway**

Savannah River National Laboratory

Email: ctocliaison@aiche-fpd.org**AICHE STAFF LIAISON:****Lauren Deitch**

AIChE

Email: laurd@aiche.org**PAST CHAIR:****Colin Bowen**

Consultant

Email: pastchair@aiche-fpd.org**WEBMASTER:****Jayce Mathews**

KBR

Email: info@aiche-fpd.org**PROGRAMMING CHAIR:****Belma Demirel**

Praxair

Email: programming@aiche-fpd.org**NEWSLETTER EDITOR:****Kristine Chin**

AIChE

Email: newsletter@aiche-fpd.org

For individual programming directors,
please see the website—www.aiche.fpd.org

DIRECTORS ONE YEAR**Robert Schmidt**
Honeywell CompanyEmail: director@aiche-fpd.org**Jayce Mathews**
KBREmail: director@aiche-fpd.org**Ahmed Khogeer**
Saudi AramcoEmail: director@aiche-fpd.org**DIRECTORS TWO YEARS****Belma Demirel**
PraxairEmail: director@aiche-fpd.org**Nazmul Karim**
Texas TechEmail: director@aiche-fpd.org**Peyton Richmond**
Lamar UniversityEmail: director@aiche-fpd.org**DIRECTORS THREE YEARS****Bill Rooney**
UOPEmail: director@aiche-fpd.org**Michael Tallman**
KBREmail: director@aiche-fpd.org**Ian Glasgow**
Mustang EngineeringEmail: director@aiche-fpd.org