



THE PIPELINE

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Points of Interest:

- Shale Gas program recap
- E-Week 2013

LETTER FROM THE CHAIR

NOAH McMILLAN



Paul Dow from the Asheville chapter of Engineers Without Borders-USA. This is somewhat of a departure from our normal programming because the topic is neither primarily technical in nature, nor is it geared specifically to chemical engineers. And to demonstrate that we are an AICHe local section “without borders,” we have also invited our friends from ASME and ASCE to participate in this program.

I would venture that most of us do not consider our own

This month, let me use this space to encourage you to attend our April program which will be presented by

careers as engineers to be particularly humanitarian in nature. On most days, we are concerned with things like conversion, efficiency, yield, cost, and a lot of other things that are anything but touchy-feely.

Despite this apparent difference, the job description for an “Engineer Without Borders” sounds a lot like the engineers that I work with every day. As stated on their [website](#), “EWB-USA supports community-driven development programs worldwide by collaborating with local partners to design and implement sustainable engineering projects, while creating transformative experiences and responsible leaders.”

As chemical engineers, we are constantly collaborating with our “local part-

ners” (customers) to deliver cost-effective solutions to their greatest needs. Many of us are also familiar in working on teams within our own companies that span the globe. As sustainability and social requirements receive increasing attention governments and employers, engineers are expected to make decisions that respect both the natural environment and the communities in which we work. As we do all of this, we not only benefit from new experiences, but we also develop our leadership skills.

So maybe a run-of-the-mill ChemE is not that different from an Engineer Without Borders after all!

I hope you can all join us in April!

LOCAL SECTION NOTES

AICHe will not be offering PDH hours for the April program (Engineers Without Borders).

The Holston Branch of the TN section of ASCE would like to thank volunteers for its Scouts E-Week event. Over 200 children participated, some coming from as far as Chattanooga to learn about chemical and civil engineering. ASCE wants to recognize the following list of volunteers and thank them for their valuable contribution:

Ron Crockett, Stacy Date, Brian Johnson Jr., Ron Smith, Christopher Sweat, Michael Ends, Matt McDaniel, Lindsey Harris, Anthony Morgan, Jeffery Miller, Marcus Johnson, David Webb, Will Witcher, Mark Crow, Ed Hicks & Crew, Christina Kubicki, Shannon Eubank, Laura Martin, Emily Shipp, Lauren Johnson, Marian Clark, Jerry Taylor, the ETSU Surveying Crew, Dr. Mark Pollock, and President Nancy Gilliam of Northeast State Community College.

The local section is continuing its effort to recruit members for the programs committee. The programs committee sets the direction of AICHe programming, and participation is a great way to get involved in the local section and influence decisions on subjects and speakers for programs. If you have interest in participating, please contact vice chair [Lane Daley](#).

PROGRAM NOTES

2012-13 Program Schedule

What Was ChemE Like in the 60s?

Dec. 5 Pizza @11:30, B150

Joint meeting with ACS

Jan 24 Dinner @ EMN Lodge

Mark Kaszniak, Chemical Safety Board

Feb 6 Pizza @ 11:30 B150

Impact of Shale Gas on the Chemical Industry, Ray Ratheal

Mar 19 Pizza @ 11:30 B150

Engineers Without Borders

Apr. 30 Pizza @ 11:30 B150

MARCH PROGRAM RECAP: RAY RATHEAL, DIRECTOR OF FEEDSTOCK AND ENERGY PROCUREMENT AT EASTMAN

“Shale gas is driving significant investment in new North American petrochemical capacity.”

“Environmental concerns exist, but none are unsolvable from a technical perspective.”

On March 19, Ray Ratheal, Eastman Director of Feedstock and Energy Procurement, gave a presentation on the impact of shale gas on the chemical industry and the US economy.

Ray explained that after years of flat or declining natural gas production in the US, vast shale gas reserves, low risk exploration, and more efficient drilling techniques are enabling a projected 200% increase in US natural gas production over the next twenty years, and shale gas will make up over 50% of the total. This gas can be used to fuel growing demand in the

power sector (to replace retiring coal-fired power plants) and the industrial sector.

Many shale gas basins contain natural gas and natural gas liquids (ethane, propane, butane, natural gasoline) in the same well. Ethane is cracked to produce ethylene, a building block for many materials used in products from flooring to adhesives to clothing. Because crude oil prices are high and natural gas prices low, US ethylene plants are now competitive globally. Last year, US producers exported 20% of their ethylene production. Shale gas is also driving significant

investment in new North American petrochemical capacity: almost 16 million MTA in ethylene, propylene and methanol capacity through 2020 have been announced. Finally, Ray explained that while shale gas is a global resource, the US has an advantage over other regions because we have the existing infrastructure, property laws, and extensive mapping of resources to allow rapid implementation of shale gas here. Environmental concerns exist but none are unsolvable from a technical perspective.



A flare at a natural gas drilling site symbolizes the rapid expansion of drilling operations in North America, the shock waves from which are being felt throughout the chemical industry.

ENGINEERS WEEK 2013—A PERSPECTIVE FROM PAUL FANNING

Many thanks to everyone who participated in Engineers Week (E-Week) 2013. Thanks to your efforts, 130 volunteers spanning various engineering disciplines visited 38 schools in the East Tennessee / Southwest Virginia area, and thousands of students benefitted from the experiences. As an example, Katherine Finlay, Kenrick Venett and I

visited Fall Branch School. We had a great time discussing engineering with the 7th and 8th grade students, and we were certainly impressed with their participation in the catapult design and fabrication activity that was used to give the students a sense of the various aspects of engineering. The students were engaged in the activity and

conducted themselves well. With any luck, we planted the seed for at least some of the students to seriously consider engineering as a profession. Engineers Week activities seek to educate students about the profession of engineering and its importance to society. Volunteers involve the students in hands-on activities to demonstrate engineering principles in an approachable manner so as to show them that they indeed can do engineering and that it's not as hard as they might think.

As a local E-Week Committee member, I'd like to take this opportunity to extend thanks to Paul Ketchum for his many years of dedicated service as the local E-Week Committee Chair. Paul is transitioning his leadership role to Ed Hicks. Let's give Ed our full support as he takes over leadership of the local E-Week Committee.

"Many thanks to everyone who participated in E-Week 2013."



Katherine Finlay and Kenrick Venett don their i(in)famous eWeek shirts while monitoring one of the catapult-building activities during an eWeek 2013 visit to Fall Branch School.

APRIL PROGRAM ANNOUNCEMENT:

PAUL DOW, P.E.

SECRETARY, ENGINEERS WITHOUT BORDERS-USA, ASHEVILLE PROFESSIONALS ENVIRONMENTAL ENGINEER, ALTAMONT ENVIRONMENTAL, INC.

TUESDAY, APRIL 30, 2013: 11:30AM-1:00PM, B-150 AUDITORIUM

PIZZA SERVED AT 11:30AM, PROGRAM BEGINS AT NOON

Abstract:

Introduction to Engineers Without Borders-USA and the Asheville Professionals Chapter

The EWB Asheville Professionals Chapter was established in April 2008. We have maintained an active water resources project in western Kenya. The presentation will provide an overview of the EWB-USA program, the process for starting a new chapter, experiences that the

Asheville Chapter has encountered with EWB-USA, and an overview of the current project in Kenya.

About our speaker:

Paul is a founding member and Secretary for the Engineers Without Borders-USA (EWB) Asheville Professional chapter. Paul has been the travel team leader for assessment trips regarding a water resources project in western Kenya.

Paul is an environmental engi-

neer specializing in solid waste management and water resources. Paul has provided project management and engineering technical design on various private and public sector projects including stream restoration, landfill reuse and closure, and environmental compliance. He received his B.S. degree from North Carolina State University in environmental engineering.



Paul Dow, P.E.

Eastern Tennessee Local
Section

PO Box 7488
Kingsport, TN 37664-7488

Local Section Chair:
Noah McMillan
nmcmillan@eastman.com
423-229-8114

<http://www.tnengineering.net/AICHE/>

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Corporate Relations Coordinator:	Jordan Keith	229-6218
AIChE Pipeline Newsletter Editor:	Lane Daley	229-3064
ETEAC Representative:		

2013 Local Company Contacts

Eastman Chemical Company	Noah McMillan 423-229-8114, nmcmillan@eastman.com
BAE Systems, Ordnance Systems Inc.	Braxton Sluder, 423-578-6225, braxton.sluder@baesystems.com
Nuclear Fuel Services Inc., a subsidiary of The Babcock & Wilcox Company	Tracy Coates tjcoates@nuclearfuelservices.com
Domtar	Rhonda Smith, Process Control Engineer 423-392-2797, Rhonda.Smith@domtar.com

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