

# BLACK GOLD WV

Department of Petroleum and Natural Gas Engineering  
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## Alumni Update Winter 2011-12

PLEASE KEEP IN TOUCH! Send us your feedback. We want to know where life has taken you since you left West Virginia University. Complete and return this form with your news and comments. Also, pass this newsletter on, or let us know any alumni who are not receiving *Black Gold*.

Send to:  
Department of Petroleum and Natural Gas Engineering, WVU,  
P.O. Box 6070, Morgantown, WV 26506-6070

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Position Title: \_\_\_\_\_

Employer Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Preferred Mailing Address: Home: \_\_\_\_\_ Work: \_\_\_\_\_

Brief News of Professional and Family Activities for Future Newsletters:

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Suggestions/Comments: \_\_\_\_\_

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DEPARTMENT OF PETROLEUM AND NATURAL GAS ENGINEERING

College of  
Engineering and  
Mineral Resources

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Winter 2011-12

## MESSAGE FROM THE CHAIR

It has been a very busy but also a quite rewarding year in the Department of Petroleum and Natural Gas Engineering at West Virginia University. It is a distinct honor and privilege to be part of this Department, and to work closely with the faculty, students, alumni, industry, and other friends who help us maintain our strong teaching and research programs.

It is clear that the future of the natural gas industry is extremely bright. The growth of drilling in the Marcellus shale offers not only excellent career opportunities for our graduates, but also the potential for significant gains for our state's economy. The growth of natural gas as an important domestic energy source offers the potential of reducing our dependence on foreign oil and increasing our nation's energy independence.

Consequently, every faculty member in our Department is actively engaged in research relating to the Marcellus shale. In addition, great potential can be seen for the nearby Utica shale formation, a natural gas reservoir "in waiting," to be produced mainly in nearby Ohio for now. Overall, it is increasingly clear that natural gas is the abundant, inexpensive energy resource that will help us fuel our economy for decades to come, and it is exciting to witness its growth and development.

One of the things that makes our Department such an interesting place to be is our global reach. Our students come from as far north as Finland, as far east as Vietnam, and as far south as Angola. Literally dozens of nations around the globe send us their top students, and we are proud of our excellent international reputation. At the same time, some of our state and region's brightest students select petroleum and natural gas engineering for the excellent scholarship program and career opportunities we can offer.



**Sam Ameri, chair**

I am pleased to announce that, in order to handle the growth our Department has experienced in both enrollment and in research, we have undertaken a national search for two new faculty members to assist us with teaching and research. We are grateful to the faculty, staff, and alumni assisting with the search process and are hopeful that we will have the new faculty members in place in early to mid-2012.

As always, I must express my gratitude to our alumni, and especially to our Visiting Committee, for your friendship, your financial support, and your guidance and assistance. We would not be able to serve our students as well without your constant and abiding support. To our graduates, your success is the best evidence of our success, and we are proud of your accomplishments. To each of you, I hope you will stay in touch and visit often.

Sincerely,  
**Sam Ameri**  
*Professor and Chair*

## Darrell and Diane Williams Establish Research Endowment



Darrell Williams (left) and his wife, Diane, generously established an endowment to support research in the Department.

Darrell Williams, a 1964 graduate of WVU in petroleum and natural gas engineering, and his wife, Diane, have generously established a \$50,000 research endowment for our Department.

The Williams' gift is eligible for matching funds from the West Virginia Research Trust Fund, meaning a total of \$100,000 will be realized from this generous donation. The fund will support research into the Appalachian shales.

Darrell Williams has more than 40 years of experience in the energy business, most recently as an international business consultant in business strategies, SWOT facilitation, and organizational planning and market opportunities. In past years, he has been associated with Deutag Drilling, Nabors Drilling, Pool Company, Baker Oil Tools, SEDCO, Tenneco and Humble Oil.

Williams is past chairman of the Houston Chapter of International Association of Drilling Contractors, past member of the IADC executive committee, past chairman of the SPE/IADC annual drilling conference, a life member of the Society of Petroleum Engineers, and a registered professional engineer in Texas. He has published a number of technical papers and holds a patent on predicting pore pressures while drilling.

He has served as a director of SMDC (a Hydril subsidiary for deepwater drilling technology) and recently served as a director and audit committee member of Contango Oil and Gas Company and as a business advisor for a privately held oilfield manufacturing company. He is active as a board member of the Pearl Fincher Museum of Fine Arts in north Houston.

While a student at WVU, Williams served as president of Sigma Gamma Epsilon and Pi Epsilon Tau. He is generous with his time, as well as with his financial resources, returning several times to give lectures and talk with PNGE students about the oil business.

## College Establishes Global Competency Program

In order to prepare our students to succeed in our increasingly global economy, the College of Engineering and Mineral Resources recently launched a new Certificate of Global Competency program.

In order to earn the global competency certificate, students must take courses in international language, culture, literature, art, or history at West Virginia University, in addition to completing a semester abroad, taking engineering or computer science courses at a foreign institution or other approved program. The certificate program also involves experiential learning and community service experiences.

"We are excited that this program is available to our students," said Sam Ameri, "and feel that it aligns well with our own Department's strong background in international experiences."

## IOGA West Virginia Winter Meeting



Attending the 2011 IOGA West Virginia winter meeting were (from left to right) Benjamin Houghton, Maxwell Cummons, Jeremy Booker, Department Chair Sam Ameri, and Ed Neal.

In January 2011, several petroleum and natural gas engineering students attended the winter meeting of the Independent Oil and Gas Association of West Virginia (IOGA-WV), held in Charleston, W.Va. The meeting included technical sessions, panel discussions, and speakers on a variety of subjects relevant to the industry today, from drilling in the Marcellus shale to the revitalization of the Appalachian basin, and even including a special presentation on the Chilean mine rescue. Students also had the opportunity to meet and get to know industry professionals in informal settings over the course of the two-day meeting.

"Attending meetings like IOGA-WV provides students with the opportunity to learn from industry experts, as well as to make important professional connections," said Sam Ameri.



Khashyar Aminian

## Ameri, Aminian Deliver Seminar on Marcellus Shale to University Community

In an effort to inform the West Virginia University community on development in the Marcellus shale and its impact in West Virginia, Department of Petroleum and Natural Gas Engineering Chair Sam Ameri and Professor Khashyar Aminian delivered a presentation on the topic in October 2011. A standing-room only crowd filled a large lecture hall in the Mineral Resources Building. Faculty, students, and community residents attended, representing other schools and colleges, as well as the College of Engineering and Mineral Resources.

"This topic is very much on people's minds," said Ameri, "and, as engineers, we wanted to provide some basic, factual information for those who don't really understand it very well, and hopefully to clear up any misconceptions."

Ameri and Aminian discussed the geology of the Marcellus shale, which lies thousands of feet below the earth's surface, and the technologies of horizontal drilling and hydraulic fracturing, which are being used to extract methane from the shale.

Addressing a questioner's concerns about potential contamination of groundwater from fracking fluids, Ameri stressed that the chemical additives in the fluids are extremely diluted, and that there has never been a documented case of groundwater contamination in the many years the technology has been in use.

One questioner asked whether the high pressure under which fracking takes place pose risks. Aminian responded that the drilling and fracturing equipment are engineered to withstand the pressures needed for the fracturing, and that this has not posed a problem.

"The Marcellus shale gives us access to vast new supplies of safe, clean, and affordable energy," said Ameri. "It also offers the potential for providing numerous jobs and lessening our dependence on foreign oil. We were happy to be able to provide some information to the Morgantown public on this very important topic."



Sam Ameri



# Alumni, Friends Share Knowledge with Students

Students in Petroleum and Natural Gas Engineering do not only learn from their professors. We are fortunate to have many alumni and friends return to lecture on a wide variety of topics. These are some who took the time to share their thoughts with our students in 2011:



## David C. Hardesty Jr.

PNGE students might have been surprised to see a former West Virginia University president walk into their classroom in March 2011, when David C. Hardesty Jr., president emeritus and professor of law, spoke to the graduate seminar. Hardesty's lecture focused on the important role that

lawyers play in business today, and what engineers should understand about working with lawyers.

Hardesty reviewed basic legal concepts, such as codes of ethics, conflicts of interest, confidentiality, and lawyers' need to balance their obligation to their clients vs. their obligation to the court. He stressed that it is important to be candid with your lawyer, but also to understand that a lawyer who works for your employer does not necessarily also represent you as an individual. For students interested in further education, Hardesty also discussed careers in the law, emphasizing that lawyers with engineering expertise are always in demand. Patent lawyers, especially, often have an engineering background.

With degrees from WVU, Harvard, and Oxford University, Hardesty served as the 21st president of WVU from 1995 to 2007. He is currently a professor emeritus of law, teaching legal ethics, leadership theories, and roles of legislatures.

"Dr. Hardesty's lecture provided our students with important insights into some of the legal aspects of the industry," said Sam Ameri, "and we are grateful to him for taking the time to share his knowledge with us."



## Amol Bhavsar

Amol Bhavsar, a 2005 master's graduate of the Department, spoke in January 2011. A native of India, Amol is a petroleum engineer with CONSOL Energy, working on prospect evaluation and reserves estimation. He shared his experiences since graduation and talked about the importance of

professionalism and commitment.

Amol earned his bachelor's degree in petro-chemical engineering from MIT in India in 2000 before coming to WVU. He has worked for CONSOL since 2008. He previously worked for CNX Gas Company in Bluefield, W.Va. He has been active in the Society of Petroleum Engineers (SPE), including co-chairing the stimulation section at the 2010 SPE Eastern Regional Meeting. When not working, Amol enjoys spending time with his wife, Anamika, and son, Arjit.

"Amol was an excellent graduate student in our Department," said Ameri, "and it is clear that he has a bright future ahead of him in industry. We are grateful to him for coming back to share some of his experiences with our current students."



**Jay Terry**

Jay Terry, a senior sales engineer with Schlumberger, delivered a technical short course on “Well Log Evaluation of Gas Shale” for our graduate students. The course covered key parameters for gas shale plays, evaluation needs, classification, and different types of shale reservoirs. “A shale is not a shale is not a shale,” Terry said, emphasizing that it is critical to

know exactly what you’re dealing with when doing an evaluation.

Terry earned bachelor’s degrees in geology and petroleum engineering from Louisiana State University in 1977, and has 35 years of experience in the oil and gas industry, including 25 years with Schlumberger. He has worked all over North America, including 16 years in the Appalachian basin.

“Jay Terry has a high degree of knowledge and experience, and this course was packed full of useful, up-to-date information for our students,” said Ameri. “We are proud to be able to offer courses like this, taught by leading industry professionals.”



**John Reinhart**

Students seeking information on internships and permanent employment with Chesapeake Energy attended an information session by John Reinhart, a vice president from the company, in September 2011. While on campus, Reinhart also gave a guest lecture to the PNGE graduate seminar on the topic of *Shale Development: Produced Water Management*.

Reinhart started the information session by providing an overview of Chesapeake’s history and operations, saying, “The future of this company is very bright, and we will be drilling in the U.S. for a long time.” He also said that the company will be hiring many interns and engineers for the foreseeable future. Reinhart said Chesapeake seeks to hire people with a strong work ethic; good technical skills; business acumen; and strong communication, teamwork, and problem-solving skills.

In his lecture to the graduate seminar, Reinhart discussed water usage and management in the Marcellus and other shale formations. He stressed the importance of conserving and reusing water, for environmental as well as economic reasons, and different means of achieving those goals.

“We are grateful to John for taking the time to meet with our students,” said Ameri.



**Chelsie Hupp**

In March of this year, Chelsie Hupp, a 2008 graduate of the Department, spoke to students about development in the Knox play. Hupp is an engineer with EnerVest, which operates more than 19,000 wells in 12 states, including eastern and western divisions. EnerVest was organized in 1992 and is focused, in large part, on acquisition and divestitures, said Hupp.

EnerVest’s eastern division includes part of Michigan, Ohio, West Virginia, Pennsylvania, and New York, and the Knox play forms a large part of the business. Drilling has been going on since the 1960s, but recent improvements in technology have facilitated greater development, especially in Ohio and Pennsylvania. All of the drilling in the Knox is vertical. EnerVest is also involved in some joint ventures in the Marcellus shale.

“Chelsie was one of our very best students,” said Ameri, “and it is no surprise that she is doing very well in her career. It was a pleasure to have her back to speak to our students.”



**Darrell Williams**

Many engineering graduates end up in management, and making that transition was the topic of a lecture by Darrell Williams in the fall of 2011. Engineers are trained to think logically with a focus on facts and figures, he said, but don’t necessarily learn the social and cultural skills that they need to succeed as managers or executives.

“When engineers move into management, they need to learn to think outside their comfort zone,” said Williams. “It is very important have a mentor, someone who has been through this transition and can help you work through it.”

Given the global economy, Williams stressed the importance of learning to manage people from different cultures. He also mentioned the importance of learning to deal with and manage change, and of asking lots of questions. “Never assume anything,” he said. Williams also said managers need excellent oral and written abilities, an interest in learning new things; and the ability to accept and learn from criticism.

“Darrell is one of our most successful and loyal graduates,” said Ameri, “and it is always a pleasure to have him visit and share his knowledge and experience with our students.”



## Mark Spears

*The Petroleum Engineer's Role in Acquiring Oil and Gas Properties* was the topic when Mark Spears, a 1981 graduate of PNGE, visited and spoke to the graduate seminar in March 2011.

Spears is with Stone Energy Corporation, a public corporation based in Louisiana. The company has been active in onshore and offshore drilling in the Gulf of Mexico, but recently acquired 80,000 acres in the Marcellus shale in West Virginia and Pennsylvania. His lecture focused on the property acquisition process that companies go through, and the role petroleum engineers play in the process.

Spears also discussed the process through which deals are made, saying a typical negotiation can take two to three months and typically includes: making the offer, negotiating, drafting a letter of intent, doing due diligence, signing a purchase and sale agreement, closing the transaction, and making needed adjustments to the price. The whole process usually takes two to three months, he said.

"It was a delight to have Mark return and share some of his experiences with our students," said Ameri. "We are proud of his accomplishments and grateful for his friendship."



## John Campbell

John Campbell, a former Mylan vice president and longtime friend of PNGE, gave a lecture to graduate

students, focusing on how technology has changed and how those changes have affected today's world.

To demonstrate just how much times have changed, Campbell pulled out a slide rule and proceeded to demonstrate some of the complex calculations that can be carried out with this tool that is rarely used since the rise of computers.

"It was great for our students to have the chance to hear from someone who could give them this important historical perspective," said Ameri, "and it was great to have John visit the Department."



LEAVE A LEGACY®

# Make a Difference in the Lives That Follow

The future is a bright one for graduates of the petroleum and natural gas engineering program at West Virginia University. They are in demand in today's employment market.

Providing personal support for the education of engineers at WVU is a way to ensure the continuation of our society's phenomenal record of progress. One easy way to do that is through a gift provision included in a will or revocable trust.

Give the wording of "to the West Virginia University Foundation, Inc. to benefit the College of Engineering and Mineral Resources' Department of Petroleum and Natural Gas Engineering" to your attorney to assure that your gift will happen.

You may specify that your gift will be managed as an endowed (permanent) fund that will provide annual spendable amounts or as a non-endowed fund that will be used on a short-term basis. The fund may provide support for scholarships, laboratory equipment for teaching and research, faculty professional development, or an endowed professorship.

Another easy option is to name the Foundation as the after-death beneficiary of a retirement account. Doing that involves a change of beneficiary form from the plan administrator. Also, a special agreement with the Foundation about the future use of the funds to support the Department is needed.

Taking that important step to strengthen the Department of Petroleum and Natural Gas Engineering is one that will make you smile.

## Students Recognized at Spring Banquet

In April, faculty, students, Visiting Committee members, and other friends gathered for the annual Student Recognition Banquet, celebrating another year of great accomplishments by some of our very best.



Eleanua (Ike) Onuoha and Chair Sam Ameri



Brooke Brininstool and Jake Caplan (PDC)



Jacob Harrick and Dean Gene Cilento



Matt Osborne and Sam Ameri

## May 2011 Commencement



Chair Ameri and Dr. Aminian gathered to prepare for the May 2011 Commencement ceremony.



At the May 2011 Commencement reception, left to right, are Sam Ashley, Chair Sam Ameri, Zack Toothman (now with Chesapeake Energy), and Will Earhart.



May 2011 graduates gathered in the Mineral Resources Building for a photo before the Commencement ceremony.

## SPE Picnic

The Student Chapter of the Society of Petroleum Engineers (SPE) held its annual picnic in the spring of 2011, gathering at Krepps Park to enjoy good company, good food, and the great outdoors.



Josh Dalton (now with Consol Energy) and friend.



Grad student Fedra Gravami and Chair Sam Ameri.



Graduating senior Zack Densmore (right) and friend.



From left: Will Earhart (now with ConocoPhillips) and Sam Ashley (now with Chevron), and friends.