



Department of Mining Engineering

BLACK DIAMONDS WV

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Longview Power...

LAURITA DELIVERS POUNDSTONE LECTURE

On April 23, **James L. Laurita, Jr.**, president and chief executive officer for MEPCO, delivered the William Poundstone Lecture on "Longview Power: The Completion of a Vision of Sustainability and Reduced Market Risks."

Laurita was born in Morgantown, and began working in the family mining business at an early age. He received his bachelor's degree in mining engineering in 1982. After graduation, he held a series of jobs within the company. He became president in 1990 and assumed his current position in 2000.

For the success he has enjoyed, Laurita credited the people who have surrounded and supported him,

including family, business partners, co-workers, and friends, and said that this support network is crucial to success in the coal industry.

Laurita said that his grandfather started the business, and he credited his father for teaching him that hard work, business ethics, the ability to learn from failure, and passion for the business would result in success in the business. He was able to incorporate these lessons with his formal training to successfully lead a small coal-mining company through substantial growth.



James Laurita

[continued on page 2...](#)

Hurst Receives Outstanding Alumni Award

Elmo J. Hurst received the Mineral Resources Outstanding Alumni Award at the 2009 Spring Student Recognition Banquet at Lakeview Resort and Conference Center in Morgantown on April 5. The award is given annually to a Mineral Resources alumnus who exemplifies the highest ideals of leadership, integrity, and dedication to the mineral industries.

Hurst graduated from WVU in 1953 with a B.S. in engineering of mines. Before attending WVU, Mr. Hurst graduated from Bluefield College in 1950. He was a past member of the COMER Visiting Committee and the College of Engineering Visiting Committee. He was chairman and CEO of Almega-Tru Flex, Inc. He also served as chairman and CEO of Miller Bearing Company and president of J. O. Lively Construction Company, Lively Manufacturing and Equipment Company, and Elgin National Industries. Hurst served for 25 years as chairman of the WVU Foundation Board of Directors. The West Virginia Chapter of the Association of Fundraising Professionals honored him as its 2002 Outstanding Volunteer Fundraiser. In September 12, 1992, the front entrance area of the new COMER Building (now named the Mineral Resources Building) on the Evansdale campus was dedicated as the Elmo and Betty Hurst Atrium. He was inducted into the prestigious Order of Vandalia in 1994. Mr. Hurst was inducted into West Virginia Business Hall of Fame in 2004 and the West Virginia Coal Hall of Fame in 2006.



Elmo Hurst

Coal Preparation Society Contributes to Scholarship Fund

Robert Burke (second from left) and **Logan Hall** (far right) accepted the Northern West Virginia Coal Preparation Society donation on behalf of the Department. **Paul Bradley** (second from right) and **Darrell Smith** (far left), presented the check on behalf of the Society.



In March, the Department received \$10,000 from the Northern West Virginia Coal Preparation Society toward a scholarship fund it established in 2008. The Society has committed to contribute \$10,000 each year to the fund. The scholarship will give preference to qualified residents graduating from the high schools within 100 miles radius of Morgantown who enroll in the mining engineering program at WVU and are interested in a career in coal/mineral processing and material handling. Coal and mineral processing plants are looking for mining engineering graduates who will be devoted to surface facilities including processing plant operations and materials handling, quality control, and marketing. The Department thanks the Society for its contribution.

continued from page 1.. "Laurita Lecture"

Because MEPCO's properties could not be successfully longwall-mined, and they faced competition from some of the largest coal operators in the world operating in the same region, Laurita said he realized that, in order to succeed, MEPCO needed to become more than a mining company, but should go further and build its own power generation plant. From that vision, the Longview Power Plant was conceived.

Thus, MEPCO began developing the 695-megawatt Longview mine-mouth power plant in Madsville, West Virginia, a project that has taken 15 years and is one of the largest ever in the state, in terms of dollars spent.

To put together a project of this magnitude, MEPCO had to demonstrate technical expertise,

professional competency, and drive to advance the project from a concept to a reality. In addition, Laurita said, it was also important to be able to work with investors, suppliers, and federal and state regulators. The project is slated to be completed six months ahead of schedule in October of 2010.

In concluding his presentation, Laurita told the students in the audience to surround themselves with great people, as it makes it much easier to cope with the challenges they will face in life and work. He also told them, "You get out what you put in it; hard work cannot be overemphasized. The mining industry will continue to provide great opportunities for those who remain focused and diligent in their professional lives."



"The business is becoming more complex and more technical as the years go by," he added, challenging the next generation of mining professionals to keep up with the regulatory requirements affecting the industry, learn as much as possible to address issues of business complexity, and to adapt to the changing conditions of the industry.



Bill Raney, president of the West Virginia Coal Association, received the 2009 Lewis N. McManus Hi-Y Service Award at the Governor's Mansion on April 24. Raney is a leader in the coal industry and a longtime Hi-Y volunteer.



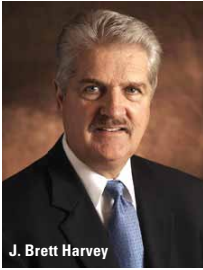
Tau Beta Pi is the only honorary society representing the entire engineering profession. Every semester the West Virginia Alpha Chapter of Tau Beta Pi selects junior and senior engineering majors with a distinguished record of scholarship and exemplary character for membership. In 2009, mining engineering students (left to right) Robert Burke, Jr., Gregory Barclay, David Eisenhauer and Brad Nelson were inducted into Tau Beta Pi.



Rebecca J. Hardy received the John T. Boyd Memorial Young Engineer Award from the SME Pittsburgh Section for 2008. Besides mining, Rebecca's other passion is music. She has sung the National Anthem for the Pittsburgh Pirates twice and also sang at Madison Square Garden for the WVU Men's Basketball NIT Tournament, as well as at several other events.



Adam Patterson, a senior in the Department, received a Student Grant Award from the Pittsburgh Section of SME. Adam has worked summers for CONSOL Energy and Peabody Energy. He holds a West Virginia Underground Coal Miner's Certification. He has been on the WVU Dean's List twice and President's List three times. He was vice president of the SME Student Chapter in 2007-2008 and president in 2008-2009.



Harvey Inducted into West Virginia Coal Hall of Fame

J. Brett Harvey, president and chief executive officer of CONSOL Energy, was inducted into the West

Virginia Coal Hall of Fame at the West Virginia Coal Mining Institute Spring meeting in May. Harvey is also the chairman and chief executive officer of CNX Gas Corporation, and on the board directors of CONSOL Energy and CNX Gas Corporation.

Harvey earned his bachelor's degree in mining engineering from the University of Utah, and began his mining career in 1979 as a longwall mining

supervisor for Kaiser Steel in Utah. By 1984, he had risen to vice president and general manager of Kaiser Coal in New Mexico. Over the years, he assumed positions of increasing responsibility with Utah Power & Light, PacifiCorp Fuels and Energy, where he became CEO in 1995. In 1998 he was named CEO of CONSOL Energy.

With the 2005 creation of CNX Gas Corporation – which has grown to become one of the largest gas exploration and production companies in the country – Harvey successfully leads one of the world's most professional energy companies. His credibility and strong values are recognized by all

in the mining industry. He has left his steadfast mark on West Virginia's mining industry to the benefit of all.

The West Virginia Coal Association, the West Virginia Coal Mining Institute, and the West Virginia Mining and Reclamation Association established the West Virginia Coal Hall of Fame in 1998. The Mineral Resources Building at WVU provides a home for a plaque bearing the name of each inductee. In addition, a photograph of each member hangs in the first-floor hallway of the facility (see *Black Diamonds* Vol. 8, Nos. 1 and 2).

2009 Faculty and Student Awards

Students receiving awards at the 2009 Spring Student Recognition Banquet in April were: **Robert Burke, Jr.**, who received the Charles T. Holland award; **Adam Patterson**, who received the Old Timer award; **David Eisenhauer**, who received the Careers in Coal Award. **Rajagopala R. Kallu**, **Brad Nelson** and **David McGraw**, who received the Mining Engineering Faculty Award. In addition, **Jacob Kerch** received West Virginia Coal Mining Institute award; **Gregory S. Barclay** received the Mineral Resources Alumni Chapter (MRAC) award; **Logan Hall** received the Joyce Mining Machinery Scholarship; and **Michael T. Curry** received the WVU Student Chapter Officers of the Society of Mining, Metallurgy and Exploration (SME) award.



Greg Barclay



Robert Burke, Jr.



Michael Curry



David Eisenhauer



Logan Hall



Jacob Kerch



David McGraw



Brad Nelson



Adam Patterson



Rajagopala R. Kallu

Faculty of the Department who received awards at the banquet included **Yi Luo**, who received the WVU SME Student Chapter Award, and **A. Wahab Khair**, who received the WVU SME Student Chapter Officers Award.



A. Wahab Khair

OLDHAM AND PELLEY WIN SILVER FOR CAPSTONE DESIGN PROJECTS

Graduating seniors in mining engineering are required to complete capstone design projects to demonstrate their knowledge of engineering fundamentals and ability to analyze mining and processing problems. **Robin Oldham** and **Patrick Pelley, Jr.**, mining engineering seniors at WVU, guided by Keith Heasley, faculty member in the Department, won Silver Awards for their senior design projects at the 2008 PCMIA and SME Student Design Project Competition.



Bise Funds Scholarships

Two new scholarship funds have been established recently by the Christopher Bise Foundation. The department appreciates the generosity of the family.



Jack Katlic

The first week I entered a coal mine to work, it appeared that a lot of the miners we passed were called "Buddy." I quickly realized that it was a commonly-used name for miners and I've kept it with me as a salutation to most of those I pass today, miners or not. After over sixty years in and around coal mines, I'm proud to be a "Buddy!" Sixty years! Hard to believe. As you age, the decades fly by, so watch yourself and don't always be in a hurry for that next step. Following

World War II service (I had enlisted at seventeen years of age), I had the GI Bill but was not certain how to use it for my future, and began what I call the journey to become "the luckiest coal miner in the world."

Following my retirement in 1993, I consulted for the PIER (Partners in Economic Recovery) program in Russia and Kazakhstan, and included that statement (about being the luckiest miner in the world) to the mining group in Siberia. Since there was a translator involved, I'm not certain how it sounded to them. I meant it! Not simply to be cute, but I had begun as a rear chainman on a surveying crew and had ended up responsible for the coal supply for the largest consumer of coal in the United States. Their consumption of coal included fifteen million annual tons of coal mined themselves, a barge line, hundreds of railcars and a major coal terminal! Purchasing about 50 million annual tons made you a player in

Proud to be a "Buddy"

By J. E. "Jack" Katlic, BSEM '56, MSEM '61

Recipient of AIME Awards-Erskine Ramsay Medal, 1995

Member of West Virginia Coal Hall of Fame, 2001

Retired Senior VP, American Electric Power

the industry. As such, I became chairman of the National Coal Association with all the attendant exposure to the Washington and state capital scenes. That participation was over many years, of course, and several companies, as I worked the different positions. With five children facing college and med schools, I shifted loyalty to a company for titles and money, leaving only one of them because I encountered an ethical problem. No need for you to know which one, as that's all in the past now and I have great confidence in all the companies and their leaders.

My purpose in this article is to share my path with you and let you know how great the passage was. You are in a field which will only become more important in the future. Yes, I know you're bombarded with all the "renewable" glories, and I endorse the quest for any and all the energy sources our country can muster. But, in spite of the concerted efforts to do away with coal, **Buddy, that's not going to happen!**

As an aside, when I joined American Electric Power it was under constant effort by regulators to push for power conservation. I was wondering how one had an industry which was supposed to tell people not to use what it made! In coal and power, there was always the quest to find uses for off-peak times, when there was plenty of available power. Talk about power-company serendipity; when you realize the present nighttime drag for cellphone chargers, large-screen televisions, computers, fax machines, and those great video game boxes, the conservation efforts have been passed up quickly. How does that help your future? Just remember that it takes about a pound of coal per kilowatt hour of power! And, Buddy, where do you think the electric power is going to come for the plugging in at home for the new electric cars?

The coal industry is playing aggressive catch up in the PR business. In the past, it was nearly impossible to get funding for advertising campaigns to promote coal. Presently, the

television work is going nicely, but the news media exhibits a different bent altogether.

What a shame that our country is trying to turn its back on the fundamental source of electric power. What a shame that our efforts to clean the air of emissions has had a positive trend since the late 1970s, but there are zealots who have no patience short of zero! It is also noteworthy that any file photos that accompany news stories show white, moistured stack emission as though it were toxic or bad. So, the public believes that any stack is a bad one!

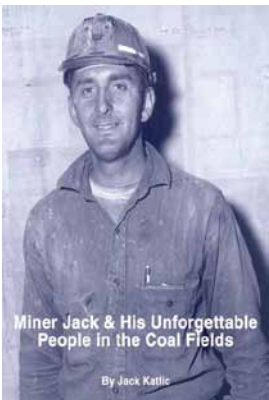
Well. That's not going to change quickly. I once admonished a PR group that had not followed the axiom of PR: "Do good and then tell about it!" I reminded them that we had done good but they had not told about it! Of course, they cited lack of financial support. But, let's get back to you and a career in mining. As this article progresses, it is difficult not to be boasting and I believe it was Mark Twain who said, "There's nothing worse than a good example!" I'm not going to apologize, I am what I am and you'll have to judge whether that means that you can surely make it if I have. When I realize what makes up mining and engineering today, I know that each of you will succeed.

I will admit that the veneer has been raised. In my time, the safety incidence rate fell from 20 to under 5.0. The mining group I had at the end was rated by MSHA as the safest place to work underground in the United States! Buddy, that's something to be proud about. It makes it tough on you, though, as those levels are nice and low. We realized such improvement once the workforce "bought in" to the sincerity of our approach. An example of it was when a safety committeeman made his rounds telling the miners how he'd been injured "doing a dumb thing!"

Of course, once top management is truly involved and will not support anything short of safety even at the expense of production and cost, that

became me, of course and my superiors allowed me free rein over the mining. Themes ranged from Top Gun, Samurai Warriors, Native Elders known as Wisdom keepers, Polynesian Navigators who traveled thousands of miles without devices, studied the currents and read the leaves floating in the water **only when they were lost!**

And, we created a sculptured award known as **Homecoming** to be won not only with statistics but with a major change or contribution to safety above and beyond the normal. A significant award that was displayed permanently at the mine. Homecoming, family, the reason we work safely. The Watts Museum has one on display. Okay! More boasting, right! Was it Satchel Paige who said it wasn't bragging if you could do it? **Well, we did it!** And I ended up with the best decade of my mining life, one in which I was able to put together, all I had learned in school, in the various companies and mines, from the many miners and supervisors, and in the courses the companies gave me to help me perform. As you know by now, a mining engineer is a special one. When I began, the company only had a mining engineer or two, didn't have mechanical, electrical, civil or environmental engineers. I guess that's why the mining curriculum had so many extra hours: The mining engineer had to do it all. Mike Musulin, who was my PR person at Island Creek Coal and later on president of the Kentucky Coal Association, told me that mining engineers were insufferable as they "knew everything," but if he were to be marooned on a desert island, he would want one with him!



Where has the quest taken me? I run through it in my book *Miner Jack And His Unforgettable People In The Coal Fields*. Starting with Rochester & Pittsburgh Coal in Pennsylvania and later Northern West Virginia,

Consolidation Coal at Osage, West Virginia, Eastern Associated Coal with mines in Northern and Southern West Virginia, Semet Solvay Coal of Allied Chemical with mines in Southern West Virginia, Island Creek Coal at Lexington, Kentucky

(what a coal camp!) and American Electric Power at Lancaster, Ohio. The latter had mines all over Appalachia.

What did each of them give me? R&P was a forerunner with continuous mining and roof bolting, Consol was a master of face production, cost control and safety, Eastern exposed me to longwalling (we put the first longwall into the Pittsburgh seam at Granttown). During my second round with Consol, we planned out the ability to longwall the mines that we could and set about it. (We put the first shield-supported wall used nationally into the Shoemaker Mine in the Ohio Valley Division which had dismal failures trying to pillar or partially mine before that.)

American Electric Power gave us our head under the enormous pressures to reduce costs, so important to the industrial intervenors, and we developed one-thousand-foot wide, two-mile deep longwall panels conveyed by single-drive belt conveyors. Radio imaged across the panel to become aware of anomalies within the panel. Now, Buddy, that was **Mining Engineering**. We didn't deal with **downtime**, we worked with **uptime!**

This might be an interesting contrast to you. AEP had the Central Ohio Coal Company which used the Big Muskie, a 220 cubic-yard dragline in which the bucket was often shown holding the Muskingum County School Band! The Muskie was one-of-a-kind, using hydraulics to lift the tub, move itself forward and set the tub back down. Later draglines, more functional at the 110-cubic-yard level used cam action to move. But, wow! What a machine for a trained deepminer who thought a few inches of rock were a nightmare! Central moved more dirt in two years than was excavated for the Panama Canal to get three million annual tons of coal. Automated railroading topped it off.

Buddy! When I talk "toys", I had them. And, while I didn't always know what was going on there, I had people who **did** and my job was to give them their head!

That was ultimately the reason for any success I had, the people I surrounded myself with and turned loose. Why, there were even a few Penn State and Virginia Tech grads, if you must know! Sure, I'm for that "equal opportunity" stuff!

If I have to leave you with a lesson or two, it'd be these:

85% of business failures are on the basis of **personality**, not ability.

If you give up on someone, from that moment on it's to **your** account!

Where coal quality is considered, the most important factor is **consistency!**

Well, that's it for now. Read the book, as it will give you a general view of what was going on with the industry, labor and the regulators for each of the eras covered, from the late 1940s until the present. All over the country, all types of mining and transportation, China, Russia, South Africa, South America, Canada, United Kingdom and Germany. There are also chapters about the conventional equipment, pumping, measuring and hauling and my favorite, the Flame Safety Lamp. Who would have imagined a trip like that? Had I not gone for mining engineering, all that would have been fantasy! As we face some severe economic times nationally, the mining industry will continue to be a healthy employer. I guarantee that you will **never** be bored!

Alumni and Friends Invited to Pre-Game Hospitality Tents this Fall

Alumni and friends are invited to attend the College and Engineering Mineral Resources Hospitality Tents prior to the WVU football games on **September 12 (East Carolina)** and **October 24 (Connecticut - Homecoming)**.

Check the WVU athletics web site for game times, which are not set as of this printing.

The tent will open two hours prior to game time. No reservations or tickets are required, and there is no cost to our guests. If you're a graduate of the College, please join us and bring family and friends.

Our tent will be in **Upper Tent City**, on the stadium side of the Blue Lot (hospital parking lot) on the northwest side of the stadium, near the Ronald McDonald House. Just look for the CEMR banner.

Dr. Thomas W. Barczak Receives the SME 2008 Syd S. Peng Ground Control in Mining Award

Dr. Thomas W. Barczak, chief of the Rock Safety Engineering Branch of the NIOSH Pittsburgh Research Laboratory, received the 2008 SME Syd S. Peng Ground Control in Mining Award.

Tom is a WVU graduate (PhDMinE, '06) who has made significant contributions to the understanding of ground control issues in metal, nonmetal, and coal mines throughout the world. He is an international expert in standing supports and longwall shields. The culmination of his years of research came when he developed STOP (Support Technology Optimization Program), an interactive software package that assists the mine operators design, optimize, and complete an economic analysis of both standing and intrinsic supports for underground mining applications.

Tom has more than 30 years of research experiences in and is probably known best for his design of experiments utilizing the MRS (Mine Roof Simulator). He has been instrumental in both the design and experimental evaluation of engineered, and standing supports throughout the world. His ground reaction models are changing the way that numerical solution failure criteria are being used to solve complex problems.



(Left to right) **Dr. Syd S. Peng** presented **Dr. Thomas W. Barczak** with the Syd S. Peng Ground Control in Mining Award at the 2009 Annual SME Meeting in Denver, Colorado, in February.

Tom has been a prolific writer with more than 100 technical conference papers and peer-reviewed journal articles. He attended the First Ground Control Conference in Mining at West Virginia University in 1981 and co-authored a paper for that historic event. Since that time he has authored and co-authored over 30 papers for the conference and his presentations are often a highlight of the technical program. The citation read,

"In recognition of his extraordinary ability to extrapolate standing, intrinsic and shield support performance with ground reaction behaviors"



LEAVE A LEGACY® By Deborah Miller, Director of Planned Giving, WVU Foundation

Each semester brings challenges, although we prefer to think of those challenges as opportunities to strengthen what we do. The Department's financial needs are a reality, and your help is needed. You can create an opportunity fund to meet our most pressing program priorities or you can endow a professorship or scholarship. Your support for the Department can help graduates of today and tomorrow.

One way to help is to designate the WVU Foundation as the beneficiary of an individual retirement account (IRA). A written agreement can be drawn up to assure that the funds remaining after your death will benefit Mining Engineering.

Another direction is to donate life insurance that has outlived its original purpose. You can transfer ownership of the policy to the WVU Foundation and specify how it can be used to benefit the Department after you pass away. Doing this can yield a tax deduction. If an employer provided life insurance that continued after you left the company, the WVU Foundation can also be made the beneficiary of that coverage.

These options and others are available to help you give the Department more tools for the future. Contact **Bob Bragg, director of development, at (304) 293-4821, ext. 2240** to learn about these opportunities.



27th International Conference in Ground Control in Mining

The 27th International Conference on Ground Control in Mining was held in Morgantown in July 2008. Occurring almost exactly a year after the Crandall Canyon Mine disaster, the conference's first day was focused on the prevention of coal bumps in deep underground coal mines. Papers on the coal bump theme were presented by distinguished authors from the U.S. and abroad, addressing pillar design, seismic monitoring, numerical modeling, and evaluation of case histories. In addition, Joe Zelanko of the MSHA Technical Support Roof Control Division presented a detailed

summary of the technical findings from the MSHA report on the Crandall Canyon accident.

Other presentations covered a broad range of ground control topics, including longwall mining, surface mining, roof support, horizontal stress, and surface subsidence. Nearly 300 mining professionals from around the world attended the conference, which was chaired by Professor Syd Peng.



Syd Peng Speaks at Taiwan Symposium, Alma Mater

Professor **Syd S. Peng** delivered a lecture series as part of the Rock Engineering Symposium sponsored by the Taiwan National Academy of Sciences, National Taipei University of Technology (NTUT), and National Cheng Kung University, in November 2008. Dr. Peng was also invited to speak at NTUT, where he earned his undergraduate degree, and had the opportunity to meet Dr. Tsu-Tian Lee, its president.

Professor Syd Peng with Dr. Tsu-Tian Lee, president of his alma mater, National Taipei University of Technology in Taiwan, where he spoke in November 2008.



Faculty and Students Attend SME Meeting

The Society of Mining, Metallurgy and Exploration SME held its Annual Meeting and Exhibition in Denver, Colorado, in February. Fifteen students and six faculty members from WVU's Mining Engineering Department attended. The Department's booth provides information

to visitors and serves as a place for alumni and friends to connect with faculty and students. In technical sessions, our faculty presenting technical papers included Dr. Felicia Peng, who presented a paper on fine spirals for ultra coal fines separation; Dr. Yi Luo, who presented a

paper on subsidence over room-and-pillar mines; Dr. Keith Heasley, who presented a paper on back analysis of mine collapse; and Dr. Christopher Bise and Robert Krog, who presented a paper on utilizing belt air for face ventilation.

Patrick Pelley Discusses Salt Mining with Student Chapter

Patrick Pelley, BSMInE '08, is working for Morton Salt as a mining engineer and foreman in charge of ground control at Fairport Mine, an underground salt mine in Painesville, Ohio. Pat spoke to the WVU Student Chapter of SME in April about the Fairport operation. The mine uses the room-and-pillar method with a super continuous miner and conventional miners to extract rock salt from veins under Lake Erie. The extraction ratio is 45 percent of the salt being removed. Solid salt pillars are used for mine roof supports. Room height averages 18 feet in a bedded deposit. The lump salt is loaded and fed onto a conveyor belt, then placed in a storage bin

to wait for hoisting to the surface. The above-ground processing of the rock salt consists of screening it into various sizes, and sorting and packaging it for shipment, or to be loaded as bulk salt. At this mine site, the salt is mainly sold to municipalities, such as to highway departments in Canada for road salt.

Pelley advised students to pay close attention to the major courses in the mining engineering curriculum, including ground control, mechanics, electronics, computer database, VBA programming in Excel, fluid-hydraulic diagram, ventilation, economic analysis, and planning.



Patrick Pelley

Reid Addresses SME Chapter Urges “Safety First”

Bill Reid, the publisher and managing editor of *Coal News*, spoke to WVU’s SME chapter in the fall of 2008. His talk focused on the public perception of coal in the wake of the Sago accident in 2006, the Crandall Canyon disaster in 2007, and other accidents.

“Coal mining is actually one of the safest industries today,” said Reid, in spite of these accidents that reinforced a negative image. Accidents are never acceptable, though, he said, and the industry as a whole will not rest until there are zero fatalities.

Reid asked the audience of students, “How many accidents can be prevented?” He answered his own question by saying that all accidents can be prevented. “Accidents don’t just happen; something causes them. Therefore, they can be prevented.”

Reid said that clean coal is needed for our nation’s energy security and to solve the global energy crisis. Oil and natural gas supplies face long-term decline, he added, and a national electricity crisis has only been avoided because of abundant coal supplies.

If coal use is diminished, he said, electricity reliability is threatened. He pointed to technological innovation as the key to a solution to the problem of carbon emissions, and said

technology development must be accelerated before CO2 targets are implemented.

According to Reid, the industry is producing a great deal more coal with fewer miners than in the past. For example, in 1980, there were approximately 200,000 coal miners in the U.S., and they produced approximately 829 million tons of coal. By contrast, in 2007, the industry’s 83,000 miners produced 1,153 million tons of coal.

Productivity has actually tripled since 1980 with surface mining productivity at 10.14 tons per miner per hour and underground productivity at 3.37 tons per miner per hour.

Environmental stewardship is exceedingly important to the coal mining industry, added Reid. When mining is complete, much of the land is returned to a condition better than before, and more than two million acres of land have been restored to productive use.

Reid concluded that, in spite of the negative perception, the outlook for coal remains good, thanks to the continued demand for electric power, for which demand has risen in 48 of the last 50 years. Low-cost natural gas reserves are depleting and nuclear plants are running at full capacity. U.S. coal plants have excess capacity and operate at around 71% capacity. Coal is our most abundant energy source and comprises 85% of total energy reserves.



Bill Reid

According to the Energy Information Administration (EIA), electricity generation by fuel in 2030 shows coal leading the way, producing around 3,000 billion kilowatt hours. Nuclear, natural gas, and renewables all produce less than 1,000 billion kilowatt hours. Reid said new clean coal technologies such as coal-to-liquids and carbon capture and sequestration hold promise for the future.

Reid told students that the coal industry continues to offer good career opportunities and urged them to remember that the safety and health of their fellow workers and those in their charge must always be their most important concern.

Lewis Leads Highwall Mine Tour, Discusses ADDCAR System

SME Student Chapter members visited Ohio America Energy’s highwall mine at Brilliant, Ohio, in March. **Bradley C. Lewis**, director of sales and marketing with International Coal Group (ICG) ADDCAR in Ashland, Kentucky, helped set up the trip. After the trip, Bradley spoke to students and faculty about the highwall mining system.

Lewis earned his bachelor’s degree in mining engineering from WVU in 1997, and his MBA from the University of Pittsburgh in 1998. Prior to joining ICG ADDCAR, he held various senior executive positions with Joy Technologies, John T. Boyd Company, HILTI, and PGT.

Lewis said that the ADDCAR highwall mining system at Brilliant will produce two million tons of coal per year and employ 250 when it reaches full production in the fall of 2009. All of the coal mined from the mine is bound for American Electric Power’s Cardinal Power Plant, about three miles away on the Ohio River.

The central module of the ADDCAR system is the launch vehicle. This is the main structure of the highwall system, housing the electrical and hydraulic systems, launching the miner into the seam, and supporting the coal-handling systems. Only the ADDCAR system offers navigational

capabilities that include a positive steering mechanism, coal-thickness sensors, inertial directional controls, and PLC control systems.

In the mining process, explained Lewis, the launch vehicle is lined up perpendicular to the coal seam at the desired location. A crawler-mounted continuous miner presses into the highwall, cutting the coal and feeding it onto the unique ADDCAR conveyor cars, which are placed at the back of the production line as the miner advances.

SME Members Teach Kids about Minerals

Members of the WVU's Student Chapter of SME taught area children about minerals by hosting a "Minerals for Kids" booth at the 17th annual Gem, Mineral, and Fossil Show at the West Virginia Geological Survey at Mont Chateau in Morgantown. The event took place in September. The students used common products, such as cereals, table salt, laundry detergent, baking soda, and chewing gum, to demonstrate the wide variety of products that are made from minerals.

They also use mineral samples, such as coal, limestone, pyrite, and trona, to demonstrate the sources of those products and the important roles that miners and mineral processing engineers play in producing those products. Each child who attended received a mineral kit that with samples of ten different minerals and other educational materials.



SME chapter members at the 17th annual Gem, Mineral, and Fossil Show at Mont Chateau in September.

Students Tour Robinson Run Prep Plant and Surface Facilities

WVU mining engineering sophomores (in the MINE 261 class) visited a coal preparation plant and surface facilities at CONSOL Energy's Robinson Run Mine in Shinnston, West Virginia. The plant was completed in 2008. The coal cleaning plant consists of four coal cleaning circuits for rejecting the minerals from raw coal. The associated raw coal handling, raw coal

by-pass, clean coal and refuse material handling were integrated into the coal processing systems. The facility's material handling system consists of a six-mile, three-section conveyor system that was also completed in 2008. Each conveyor belt is 60 inches wide with a belt speed of 750 feet per minute and a capacity of 2,500 tons per hour of coal. With a total length of 22,000 feet, the three

belts convey the coal downhill. The conveyors are each equipped with a disc brake at the drive and tail pulleys and belt turnovers on the return belt. The Robinson Run mine produced 6.5 million tons of bituminous coal in 2007. The coal is supplied to Allegheny Power's Harrison Power Station which is ten miles from the plant. Many thanks to CONSOL Energy for the tour.



WVU mining engineering students toured CONSOL Energy's coal preparation plant and surface facilities at the Robinson Run Mine.



Dr. Syd S. Peng presented a technical paper entitled "Mine Seals" during the educational sessions of MINExpo International 2008. The Expo was sponsored by the National Mining Association and held in Las Vegas in September. The next big MINExpo will be in 2012.



WVU Mining Engineering students and faculty manned a Department booth at the MINExpo in Las Vegas. From left to right: **Perry Longacre, David Eisenhower, Dr. Wahab Khair, Gregory Barclay, and Adam Patterson.**



WVU SME Student Chapter members visited International Coal Group's new ICG Pocahontas Mine in Beckley, West Virginia, in February. The students gathered to listen an ICG Mining Engineering explain the mine layout, equipment, and conditions. Many thanks to Calvin Kidd and ICG for arranging the trip.

Dr. Khair Honored by SME Student Chapter

Dr. Wahab Khair held a picnic for students and faculty in April at his residence. The students enjoyed food, drinks, and badminton. SME Student Chapter officers presented Dr. Khair with a clock plaque and a glass vase to express their appreciation for his 28 years of dedication as the chapter advisor.



New officers of the WVU Student Chapter of SME, elected in April, are, left to right, **Jeffery Lorimer**, program chair, **Kevin Hatfield**, vice president, **Alison Sears**, GEM coordinator, **Logan Hall**, president, **Katarina Gump**, media coordinator, **Sarah Hurr**, treasurer, and **Jared Forman**, secretary.



May 2009 Commencement



Ten BS, one MS and two Ph.D. mining engineering students graduated in May during WVU's 140th Commencement Ceremony at the Coliseum. From left to right, **Dr. Yi Luo**, **Dr. Wahab Khair**, with graduates **Joey Xu** (MS), **Kyle Clerk** (BS), and **Adam Patterson** (BS), and with **Dr. Chris Bise**, Department Chair, during the pre-ceremony reception at the Mineral Resources Building.



Jun Lu, who completed his Ph.D., prepares to be hooded by **Dr. Chris Bise** during the May Commencement Ceremony at the Coliseum.



Anil Kumar Ray received his Ph.D. in mining engineering during the ceremony.



Inside the Pocahontas Mine: Left to right, front: **Charles Howard** (BSMinE '83) and students **David Eisenhauer**, **Michael Curry**. Left to right, back: **Gregory Barclay**, **Adam Patterson**.



The WVU Student Chapters of SME and SPE held their annual picnic at Krepps Park on May 1. Despite damp ground due to a morning rain, nearly 100 students and faculty from the Mining Engineering and Petroleum and Natural Gas Engineering Departments turned out to enjoy the day.

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Chair's Message

Dear Alumni and Friends:

Now that Spring Semester is over and summer has arrived in Morgantown, we are able to look over the many successes of the past academic year, catch our collective breaths, and then begin the push for a new academic year. Looking back, more undergraduates received their B.S. degrees (15) than we have seen for many years. Not only have that, but the academic performances of the MinE students in the Class of 2009 been recognized with numerous scholarships, and awards, as noted in this newsletter. We look forward to the performance of next year's student body, led by the Class of 2010.

The Spring Semester 2009 Poundstone Lecture by James Laurita was not only well-attended, but also was well-delivered and thought-provoking. Congratulations, Jim, on a job well done!

Looking ahead, there will be many changes coming to the Department this fall semester. It was mentioned in this newsletter that Dr. A. Wahab Khair will be retiring this coming August. I am pleased to announce that we will be joined this coming Fall Semester by two new faculty members. Dr. Brijes Mishra will be joining us as a tenure-track assistant professor, and will teach Mine Surveying. Dr. Vladislav Kecojevic will be joining us as a tenured associate professor, and will teach Surface Mining. Both have the backgrounds and

experiences to expand our teaching and research capabilities, and we look forward to working with them. I also want to call your attention to the 28th International Conference on Ground Control in Mining (July 28 -30, 2009); I hope that we can see many of you in Morgantown for this significant conference.

In October, we will have our accreditation visit from ABET; having submitted our Self-Study Report, recently, I feel that we are on the home stretch in preparation for the visit. Our facilities will be expanding for the new academic year with the establishment of a Mine Planning Laboratory, which will complement the existing Mine Design Laboratory. New personal computers will be installed in the Mine Design Laboratory, and the Mine Planning Laboratory should result in heavy use by the 2nd- and 3rd-year students.

Take care, enjoy the summer, and best wishes for the remainder of 2009.
Christopher J. Bise



Dr. Christopher Bise