

ARCH COAL'S DUNBAR DELIVERS ANNUAL POUNDSTONE LECTURE



On October 19, Charles C. Dunbar, acquisitions project manager for Arch Coal, Inc., presented the annual William Poundstone Lecture entitled, "New and Continuing Challenges for the Coal Industry—The Engineer's View."

Dunbar has held various production and management positions from coal crew, to chief engineer, to general manager and company president with companies including Leckie Smokeless Coal Company, Atlantic Richfield, Westmoreland Coal Company, Peabody/Eastern, Anker Energy, Alpha Natural Resources, International Coal Group (ICG), and Arch Coal.

A native of Rainelle, W.Va., Dunbar is a fourth-generation coal miner who has worked in the industry since 1977 on both surface and underground mining operations in Utah, Virginia, Kentucky, and West Virginia. Dunbar, who earned his bachelor's degree in mining engineering from WVU in 1980, is a registered professional engineer and a registered professional surveyor. He is very active in Arch's recruiting efforts at WVU. Before joining Arch Coal he also served as the director of mine development, planning, and acquisitions for ICG.

Dunbar's presentation was directed to the student community. His experiences included surveying in a 30-inch coal seam to managing a 1,000-acre surface mine. He shared some unique experiences that are not mentioned in any coal mining text books including having a gun pointed at him by an irate landowner, building an artificial nest out of chicken wire, or putting an elk crossing in an overland conveyor. He also shared some of the tough times he had when his rescue team could not save trapped miners or when coworkers got hurt and he had to convey that information to the family.

He discussed in detail regulatory issues from the Environmental Protection Agency and the unique challenges ahead for future generations of coal miners. He also discussed how the European Union had embraced solar and wind power ahead of the United States, and now Germany is building 11 coal-fired power plants in the next five years. Dunbar asked the audience, "Why go down these paths when we know they will not work?"

"If you listen to the media or the activists or the politicians, the coal industry is dead or dying or on its last leg," he said. "I have heard that since I started in the industry 36 years ago and we are still here."

The full text of his Poundstone Lecture can be found online at: <http://www.mine.statler.wvu.edu/>



William Poundstone (left) and Chris Bise (right) present Charles Dunbar with a gift in recognition of his lecture.

BLACK DIAMONDS WV

WINTER 2013 / 2014

BENJAMIN M. STATLER COLLEGE OF ENGINEERING AND MINERAL RESOURCES
DEPARTMENT OF MINING ENGINEERING

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Keith A. Heasley has been selected as the recipient of the Coal and Energy Division Distinguished Service Award, which will be delivered at the Society for Mining, Metallurgy, and Exploration, Inc. (SME) national meeting in February 2014.

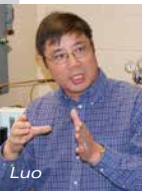


Heasley received the outstanding faculty member in mining engineering award and **Mark Sindelar** received the officer's award at the Department's annual recognition awards dinner in April. The awards were presented by the student chapter of SME.



Vladislav Kecojevic became the 2013-14 chairman of the Coal and Energy Division of SME at its annual meeting in Denver, Col. Kecojevic was also the recipient of the 2013 Stephen McCann Award for Excellence in Education, presented by the Pittsburgh Coal

Mining Institute of America. The award was presented at the group's joint meeting with the SME-Pittsburgh Section on October 24, 2013, in Canonsburg, Pa.



Under invitation, **Yi Luo** made a keynote speech to the International Symposium on Mine Ventilation and Heat Harm Prevention in China on September 13–16, 2013. As the Chinese underground coal mines extract coal seams at increasing depth, heat problems present

serious challenges to miner health and mine safety. At this symposium, knowledge and practices for mitigating such heat harms were exchanged between the scholars and engineers.



Christopher J. Bise was elected the 2013-14 chairman of the Engineering Ethics Division of the American Society for Engineering Education at the organization's annual meeting, held in Atlanta, Ga., in June 2013.

WVU WELCOMES C. AARON NOBLE TO ITS FACULTY



Department Chair's comments:

I am proud to introduce our alumni and friends of the Department of Mining Engineering

to our most recent addition to the faculty: Christopher Aaron Noble. Aaron began his appointment at the start of fall semester, 2013. He completed his doctorate in mining engineering this past May at Virginia Tech, specializing in mineral processing and mine environmental pollution control. Aaron is originally from the suburbs of Knoxville, Tenn. In 2009, he finished his bachelor's degree with a 4.0 G.P.A. and received Virginia Tech's "first-in-class" designation given to the student with the best academic record in the College of Engineering. Aaron also completed several internships as an undergraduate, which took him to various mines in Wyoming, Montana, and Alaska.

To introduce him to our readers, I thought it would be best to interview him about his background and career goals.

Christopher J. Bise (CJB): Aaron, it is quite unique to find someone whose undergraduate internships were in the west. Could you tell us about the experiences?

C. Aaron Noble (CAN): As a kid who had never crossed the Mississippi River, I really cherished those summers. I learned a lot about mining and got to visit places I had never considered. However, while the industry work was gratifying, I always knew that my true passion was at a university. I immediately started graduate school and worked quickly to finish my degrees.

CJB: You possess a very impressive undergraduate and graduate record. Would you care to comment on your academic background?

CAN: In 2010, I was named Virginia Tech's Dean's Teaching Fellow, an

award which provides pedagogical training for future engineering professors. This award gave me the opportunity to instruct several mining engineering courses as a graduate student. In my final year, I received the student's choice for best mining engineering instructor, a recognition typically given to full professors and other experienced faculty members.

As a student, I always respected those professors who could draw upon industrial experience. Their teaching was very practical and typically directed toward the types of problems young engineers would face. I try to address this challenge in my own teaching by working closely with industry on various research projects. Currently, my work focuses on froth flotation, processing economics, and separation circuit evaluation. My past results have led to several commercialized patents and software packages. In the future, I hope my applied research will continue to serve the industry while keeping me abreast on the knowledge and skills required for young engineers.

CJB: Aaron, do you mind commenting on your interests outside of the classroom?

CAN: I enjoy college football, outdoor recreation, and debating instructional styles with my fiancé, who is a high school geology teacher. While I still hold onto a bit of orange and maroon apparel, I am very excited about becoming a Mountaineer. Ultimately, I am very blessed to have such a great opportunity, even if it means wearing a blue and gold tie a couple times a week.

CJB: My advice to you is to have a long and successful career at West Virginia University, so you will not have to buy new shirts, ties, etc. with every job change!

ALUMNI NEWS



Richard Whiting (right) received the Society for Mining, Metallurgy and Exploration's (SME) President's Citation from Drew Myers at the 2013 SME Annual Meeting in

Denver, Col. The award, established in 1978, recognizes a significant individual contribution culminating in the SME year of tenure of the selecting president.

BLACK DIAMONDS TO GO ELECTRONIC

In an effort to share news about the happenings of the Department of Mining Engineering with a larger audience, we will be transitioning *Black Diamonds* to an electronic publication. **Make sure you don't miss an issue!**

Visit Mountaineer Connection at www.connecttowvu.com/engineering to ensure your email information is on file and up to date. If you are still interested in receiving *Black Diamonds* in a hard-copy format, please email us at engineeringwv@mail.wvu.edu.

STUDENT NEWS

Jason Grimm, Mitch Hankinson, and Lance Kolbush took top honors for the Senior Mine Design Competition of Pittsburgh Coal Mining Institute of America/Society for Mining, Metallurgy and Exploration (PCMA/SME). They received the award at the organization's 2013 annual meeting on October 24, 2013. They were awarded \$1,000 for their project. Also at that meeting, **Weston Fortner** received the SME-Pittsburgh Section Scholarship.

Michael Corley, Mitch McBrayer, and Zach Purdy won second place in the 2013 Carlson Senior Design Award for their pre-feasibility analysis on "Kanawha Valley Energy's Port Amherst No. 1 Mine" in the No. 2 Gas Seam of southern West Virginia.



Weston Fortner (right) receives the SME-Pittsburgh Section Scholarship from Ryan Desko, representing the scholarship committee

At the Department's annual recognition banquet in April, the following students were honored: **Jeffrey R. Stevens** received The Charles E. Lawall Award; **Andrew J. Ellis** received The Charles T. Holland Award; **Zachary Purdy** received The MRAC Award; **Jason Grimm** received the Old Timers Award; **Jon M. Bobbera** received the student chapter of SME Award; **Charlie C. Chase** received the West Virginia Coal Mining Institute Award; **Brian Howard** received the CAREERS IN COAL Award; **William McBrayer** and **Michael Corley** received the Mining Engineering Faculty Award for Undergraduate Students; and **Biao Qui** and

Yu Xiong received the Mining Engineering Faculty Award for Graduate Students.

In June 2013, **Michael Sustar**, a junior in mining engineering, co-presented a session with Christopher Bise on "A Loss-Causation Analysis of U.S. Underground Coal-Mine Fatalities in 2012" at the Critical Issues Conference of the International Society of Mine Safety Professionals in Austin, Tex.

REFLECTIONS ON A DECADE AT WVU

By Morgan Sears, BS '09, MS '11, Ph.D. '13



Sears

As I sat down to pen this article, my first thought was, "I wonder what I wrote the last time I did one of these back in 2007?" Had it really been six years since I finished my undergraduate degree? It sure hadn't felt like six years.

Looking at that farewell article, I made multiple references to lifelong friends and colleagues. That still holds true. I can say without reservation that the people I met back then, although I may not see them as often as I used to, are still my friends. Of course, I have met new friends and colleagues along the way and have added them to the ranks of those that came before.

The past six years—the past two in particular—have been a time of great change for me. First, I lost one of these lifelong friends I spoke of, my father, in February 2012. He once told me that he would trade everything he owned for one more day with his father. He was right. I got married this past June to my wonderful wife, Christy, inside the Beckley Exhibition Coal Mine, which seemed fitting. It

truly was an unforgettable experience and we were only the second couple to get married at that particularly dark and damp venue. We then followed that up by having our first child, Cooper Allen, in August. And in December, I will graduate with my doctorate.

It doesn't seem like a long time, but in school, life, and coal mining, things change fast. It took a lot of hard work, research, and writing to do the one thing my father encouraged me to do from the start, which was graduate. He was right again; it was worth it and I can say with complete honesty that I wouldn't be writing this if it wasn't for him as well as many of those "lifelong friends and colleagues" I have talked about so many times. I close by saying something I have said many times, "a dissertation is a beginning, not an end" and I would like to thank everyone that had a part in it.

WVU MINE RESCUE TEAM—A PART OF THE MINING COMMUNITY

Since its founding in January 2012, the West Virginia University Mine Rescue Team has rapidly become a unique part of the mine rescue community alongside the industry teams that have encouraged its progress from concept to competition. In the past year, the WVU Mine Rescue Team entered its first competition, sent volunteers to a local competition, performed an exhibition exercise to promote mine rescue, and had nearly 20 members in training.

In April, the team competed successfully for the first time at the MTTC Pennsylvania Mine Rescue Skills Competition, held at the Mining Technology and Training Center in Ruff Creek, Pa. The team has been learning and practicing skills, which are evaluated in simulated mines at these competitions, including

a mine rescue scenario, exploration in smoke, firefighting in a burn tunnel, fire hose control, and preliminaries such as maintaining and testing the self-contained breathing apparatuses. These contests also include written tests.

Industry teams are scored in two divisions based on experience level, with collegiate teams scored separately. Overall, the WVU Mine Rescue Team would have ranked eighth of 15 participating teams, outperforming the only other collegiate entrant. The WVU Gold Team, which includes Michael Corley (captain), Zach Purdy, Andrew Ellis, Travis Hartsog, Jon Bobbera, and Mitch McBayer, worked the mine rescue problem with the WVU Blue Team, which was comprised of Tyler Jackson (captain), Jon Chmelik, Wes Fortner, Jason Grimm, Jon Bobbera, and Matt Pence, worked the smoke exploration, burn tunnel and firefighting exercises. Members Julia Reichardt and Francis Simpson served in support roles.

The April event followed months of preparation under direction of trainer Mike Reese. The mining community offered encouragement, made donations, and loaned equipment. Mark Gouzd of the WVU Mining Extension Service conducted a refresher practice at WVU's

Dolls Run facility the week before the competition. During the competition, Kris Lilly of Tri-State Mine Rescue opened their station late at night so the WVU team could fill oxygen cylinders while the breathing apparatuses were simultaneously being serviced on campus in the back of a lab—washed in buckets and dried with hair dryers—in order to be ready for the next morning's events.

Before the start of the new academic year, the WVU Mine Rescue Team sent a contingent of volunteers to assist at the three-day National Mine Rescue Association Post 5 competition at Mylan Park in August. In October, the WVU team and two teams from Pennsylvania did a demonstration at the MTTC for several dozen who were attending the annual of Pittsburgh Coal Mining Institute of America/Society for Mining, Metallurgy and Exploration Pittsburgh Section joint meeting.

As the team looks toward future competitions, volunteer opportunities, and training, they thank the many supporters that continue to welcome the WVU Mine Rescue Team as a part of the mine rescue community.



April 23, 2013: Team in fire hose control competition, Jon Bobbera (nozzle man).



April 23, 2013: Team entering burn tunnel at Pa. Regional Skills Competition, with trainer Mike Reese observing.



April 8, 2013. Mark Gouzd (left), reviewing with team at WVU Dolls Run facility.



April 23, 2013: Team briefing prior to smoke exploration at Pa. Regional Skills Competition.

ACTIVITIES HIGHLIGHT SME STUDENT CHAPTER FALL SEMESTER

The West Virginia University student chapter of the Society for Mining, Metallurgy and Exploration (SME) has been quite busy this fall. At the start of the 2013-14 academic year, the chapter hosted monthly meetings, attended professional events, and participated in several outreach and service activities.

Over the course of the fall semester, the student chapter sponsored four monthly meetings with a series of knowledgeable guest speakers. Lloyd Ford, coordinator of corporate relations and career assistance for the Statler College of Engineering and Mineral Resources, spoke about MountaineerTrak and how to get a jumpstart on obtaining an internship or permanent employment. The Poundstone Lecture replaced the second meeting, and Charles Dunbar, acquisitions project manager for Arch Coal, Inc., presented a lecture entitled "New and Continuing Challenges for the Coal Industry-The Engineer's View." The third meeting featured Ronald Stovash, who spoke about his experience as president and CEO of Colombia Energy Resources, Inc., and the difficulties he faced while working in South America. At the November meeting, Joe Gallo talked about his experience during the 2002 Quecreek Mine Rescue in Pennsylvania and presented a timeline of events that took place over the four days the miners were trapped.

In addition to these meetings, the members of the chapter also attended professional events. On October 24, approximately 35 members traveled to Canonsburg, Pa., to attend the Annual Joint of Pittsburgh Coal Mining Institute of America/Society for Mining, Metallurgy and Exploration-Pittsburgh Chapter meeting. Afterward, the group stopped at the Mining Technology and Training Center in Ruff Creek, Pa., to observe a demonstration of the capabilities of mine rescue teams.

The chapter values community involvement. In September, the group participated in the 22nd Annual Morgantown Gem, Mineral, and Fossil Show at the Mylan Park EXPO Center. During this two-day event, members educated children on the importance of minerals and how they affect our daily lives. The group created a simulated mine activity for young children and handed out more than 300 mineral kits. The chapter also spent time partnering with the community of Osage, W.Va., an old mining community, by volunteering more than 25 man-hours to help residents clean up their community in preparation for their annual street fair. Throughout the semester, the student chapter also participated in several on-campus outreach activities hosted by the Statler College of Engineering and Mineral Resources and the Student Advisory Council including Freshman EngineerFest, the College's High School Visitation Day, and Trunk-or-Treat.

The group also hosted a miniature golf outing for freshmen at Coal Country Mini-Golf in Fairmont, W.Va. Thirty-two people attended the event, including 15 freshmen interested in the mining engineering program. The weather cooperated and everyone had a great time playing cornhole, putt-putt, and volleyball, and grilling out.

For more information about the WVU SME Student Chapter, contact the organization at wvusme@gmail.com or visit our website at <http://smesc.studentorgs.wvu.edu/>.



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1. Clean-up volunteers at Osage, W. Va.
2. Gem Show activities.
3. Trunk-or-Treat participation with a "Duck Dynasty" theme.
4. Miniature golf outing with potential mining engineering majors.



CLASS OF 2013

The WVU Mining Engineering Class of 2013 (spring, summer, and fall 2013), is pictured to the left.

The students are: (back row, from left) Michael Connor, Joseph Taylor, and Jason Grimm.

Second row: Andrew Ellis, Ryan Duke, Jonathan Legg, and Matthew Ridgway.

Third row: Jeffrey Tomlin, Alexander Stockdale, and Travis Ord

Fourth row: Charlie Chase, Sean Schoonover, Collin Morris, and Mitchell Hankinson.

Fifth row: Zachary Purdy and Mitch McBrayer.

Front row: Jeremy Ash, Lance Kolbush, and Michael Corley.

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Make a Difference in the Lives That Follow

Mineral resources are as old as the hills and have been needed for as long as humans have been around. Education for new generations of mining engineers is crucial for the future of our world.

Current and future gift support for the WVU Department of Mining Engineering assures a ready supply of trained mining engineers. Adding more scholarships and professorships to enhance the program are high priorities.

For "A State of Minds: The Campaign for West Virginia's University," various gifts count, including those which are a part of a person's estate plan.

Gift provisions in wills or revocable trusts count as long as the donor will be age 70 by the campaign's end on December 31, 2015. Also, future gifts made by listing the WVU Foundation as the beneficiary on an account

(retirement account, stock account, life insurance, or annuity policy) will count when the age-related requirement is met. Please feel free to let us know if you already have made such gift plans.

For supporters of any age, a life-income gift with the WVU Foundation for retirement security or a gift of a home with a retained life estate will count.

Bob Bragg, director of development, will be happy to discuss these gift options with you. Contact him at **304-293-4036** or **Robert.Bragg@mail.wvu.edu**.

ALUMNI UPDATE

PLEASE WRITE TO US!! 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 Diamonds WV*.

Send to: Department of Mining Engineering • West Virginia University • 365 MRB, PO Box 6070 • Morgantown, WV 26506-6070

Or, email updates to karla.vaughn@mail.wvu.edu.

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Brief News of Professional and Family Activities for Future

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CHAIR'S MESSAGE

Dear Alumni and Friends:

This past calendar year promised to be a very busy one for the Statler College of Engineering and Mineral Resources because of the College's 125th anniversary. The same can be said for the Department of Mining Engineering, in particular, because of new students, the appointment of a new faculty member, and new activities.

Our Department undergraduate enrollment continues to be strong. Preliminary indications are that our enrollment will increase next year as a result of the number of potential sophomores, which will make up the class of 2017. The class may become the largest since I arrived at WVU. We continue to adjust to larger class sizes, but they still remain small by University standards. Quality still is the focus of our program. Even though there is still some concern about the economy and its effect on the mining industry, companies are still heavily recruiting our students, and offering part-time and full-time employment. We very much appreciate your loyalty.

In this issue, we have highlighted the various awards that our students have received for their academic performance. In addition, the WVU Mine Rescue Team, with Mark Sindelar serving as the group's faculty advisor, continues to bring recognition to the Department. Further, our faculty members continue to receive professional awards and invitations to participate in industry functions.

In the last newsletter, I was pleased to announce that an offer had been made and accepted for a new assistant professor. Aaron Noble completed his PhD at Virginia Tech and began his career at WVU in August 2013.

On a more personal note, SME announced in November the availability of a new textbook entitled "Modern American Coal Mining: Methods and Applications." I

served as its managing editor, and the publication of this text has been a goal of mine since I arrived at WVU. What makes this a unique text is the fact that most of the chapters, all of the case studies, and many of the technical reviews were conducted by former students, colleagues, and friends of mine in the coal-mining industry from Penn State and WVU in a collaborative effort. I want to thank all of the people who helped me on this project, and I sincerely hope that the text is considered to be a major contribution to the coal-mining profession for many years to come.



Finally, at this time of year, I tend to reflect on how fortunate we are to have such a loyal group of alumni and friends. The Department of Mining Engineering's existing and projected initiatives could not be possible without this support. I hope that you and your family have had a wonderful 2013, and that 2014 brings you another year of health and happiness! Take care, and best wishes.

Christopher J. Bise, *Chair*
Department of Mining Engineering