



# News from Holden Hall

Department of Mining and Minerals Engineering  
Virginia Polytechnic Institute and State University

Volume 2, Issue 1

Spring 2010

## The Mill Report —Dr. Greg Adel, Professor and Department Head

Welcome to the latest issue of *News from Holden Hall*. As we begin the second year of our alumni newsletter, I have to say that so far it has been a blast! Thanks to all the alumni and friends who continue to send e-mails and letters. The response has been overwhelming. We are now able to reach nearly 70% of our alumni via e-mail and the list continues to grow.

As most of you know, the purpose of this newsletter is to keep you informed about the latest happenings in the Mining and Minerals Engineering Department, to brag about our terrific students and faculty, and to describe the challenges we face as we move forward. I am happy to report that even in the face of budget cuts, the Department continues to thrive. This past year we had over 130 undergraduate students enrolled in our program, and we are projecting an enrollment of nearly 150 next year. We graduated 41 new mining engineers in the Class of 2010, and we continue to lead the nation in the production of mining engineers. In terms of our graduate program, we had a record enrollment of 28 graduate students this past year and we expect to top 30 next year. We produced 4 M.S. graduates and 4 Ph.D. graduates, and we are currently remodeling our office space to accommodate our growing graduate student population. Finally in terms of research, the Department generated over \$650,000 in research expenditures per faculty member in Fiscal Year 2009, second only to Civil and Environmental Engineering.

Of course, none of this success would be possible without the dedicated teamwork of the faculty, staff, students, and alumni. This leads me to our theme for this issue of *News from Holden Hall*, groups and teams. I suspect that when many of you were students in this Department, the only organized student group was the Burkhart Mining Society. Well, the Burkhart Mining Society is still going strong and was recently recognized at the 2010 SME Annual Meeting as the Grand Prize Winner in the Student Membership Challenge. In this issue of *News from Holden Hall*, you will hear more about this honor along with many other honors and awards presented to our students and faculty. In terms of teams, you will learn about the success of our Mine Design Team, which won the SME/NSSGA Student Design Competition for the third straight year. You will read about the success of our Mining Competition Team, which recently placed 6th out of 28 teams in a competition held this past April in Australia. And believe it or not, you will learn how mining engineers joined forces with aerospace engineers to design a robotic machine to extract soil from the moon and participate in a national competition.

Teaming is also an integral part of large-scale research. In this issue of the newsletter, you will read about a new five-university consortium that has been established to help the Department of Energy address our Nations' energy concerns. Leading this initiative for Virginia Tech is our own Dr. Roe-Hoan Yoon. Finally, we will present the newest members to our group of Distinguished Alumni, Gary Skaggs (Class of 1969) and Charles Snavelly (Class of 1978).

As always, the accomplishments of our students and faculty are a direct reflection of the financial help we receive from alumni. Nearly everything we do, from paying our phone bill, to running our copy machine, to funding our Writing and Communications program, is paid for in part by alumni donations. Therefore, if you would like to help us remain strong, please make sure to earmark your gift to **Mining and Minerals Engineering**. With over 1100 alumni, just \$100 from each alumnus per year would ensure that we continue to produce excellent mining engineers to meet the needs of the mining industry.

Last but not least, don't forget to take a look at our latest version of "Blast from the Past." This one takes me back to my younger days as a faculty member when I had the stamina to keep up with a bunch of college students on a field trip (or at least I thought I did). Please enjoy this latest issue of *News from Holden Hall*.

Dr. Greg Adel  
Head, Department of Mining and Minerals Engineering  
Virginia Tech

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*News from Holden Hall* is published semiannually  
by the Department of Mining and Minerals  
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## Skaggs, Snavely Presented with Distinguished Alumnus Award

At this year's Annual Scholarship and Awards Banquet, held in Blacksburg on April 15, 2010, the department recognized two alumni with Distinguished Alumnus Awards.

Department Head and Professor Greg Adel presented the first award to **Gary Skaggs**, Class of '69 graduate and principal and vice president of Agapito Associates in Grand Junction, Colorado. Gary earned his B.S. in mining engineering from Virginia Tech in 1969 and his Executive MBA from the University of Denver in 1986. With 41 years experience in underground, domestic and international mining, Gary has served in executive management at large, underground, multi-mine complexes and corporate technical groups. His mining experience includes trona, limestone, soft rock copper, and coal. Gary was also recognized for his professional service to SME, where he has served on numerous committees, and for his ongoing commitment to mining engineering accreditation, which has culminated in his joining the Department Advisory Board during its Spring 2010 meeting.



Gary Skaggs (left), Class of 1969

**Charles Snavely**, Class of '78, was the second recipient of this year's Distinguished Alumnus Award. Charles is the Senior Vice President of West Virginia and Northern Region Operations for International Coal Group. He earned an Associate's Degree from Prestonsburg Community College in Kentucky in 1975 and a B.S. in Mining Engineering from Virginia Tech in 1978. With over 30 years experience in the coal industry, Charles began his career as a mine engineer for A.T. Massey's Martin County Coal operation. He went on to become chief engineer and manager of technical services until 1988, when he was named president of their Sydney Coal Company subsidiary. In 1995 Charles left A.T. Massey to serve as president of James River Coals' Bell County Coal Corporation, and in 2005 he joined International Coal Group as Vice President for Planning and Acquisitions. He assumed his current role as Senior Vice president in 2007. Charles frequently returns to Blacksburg to interview students for permanent positions and summer internships with ICG, and he has also newly joined the department's Advisory Board.



Charles Snavely (left), Class of 1978

## Honors from the 2010 SME Annual Meeting, Phoenix, Arizona

Faculty members and students from the Department of Mining and Minerals Engineering attended this year's Society for Mining, Metallurgy, and Exploration's (SME) Annual Meeting, held in Phoenix, Arizona, February 28- March 3, 2010.

During the conference, the department hosted an informal reception, sponsored by ArrMaz, Eriez, and F.L. Smidth, for all Virginia Tech faculty, students and alumni in attendance at the 2010 exhibit.



Alumni pose for a photo at the Department's SME Reception

Guests were treated to refreshments and hors d'oeuvres while getting a chance to catch up with old friends and classmates.



WIM Chapter members Sarah Smith (l) and Cory Mills (center) are presented with the GEM Student Chapter Award.

At the AIME/SME Annual Meeting Dinner, held on March 3<sup>rd</sup>, Senior Andrew Calhoun was presented with the SME Coal and Energy Division Scholarship, while his classmate, Jeffrey B. Kerr, was awarded the Syd S. Peng Ground Control in Mining Scholarship.

Also at the dinner, the VT Women in Mining Chapter received the Government Education in Mining (GEM) Student Chapter Award, and the Burkhart Mining Society was awarded the Grand Prize in this year's Student Membership Challenge.

Among the department's honored faculty, Dr. Michael Karmis was named Honorary Member of the American Institute of Mining,

Metallurgical, and Petroleum Engineers (AIME), and Dr. Jerry Luttrell was recognized for his 2009-2010 appointment as a Henry Krumb Lecturer.

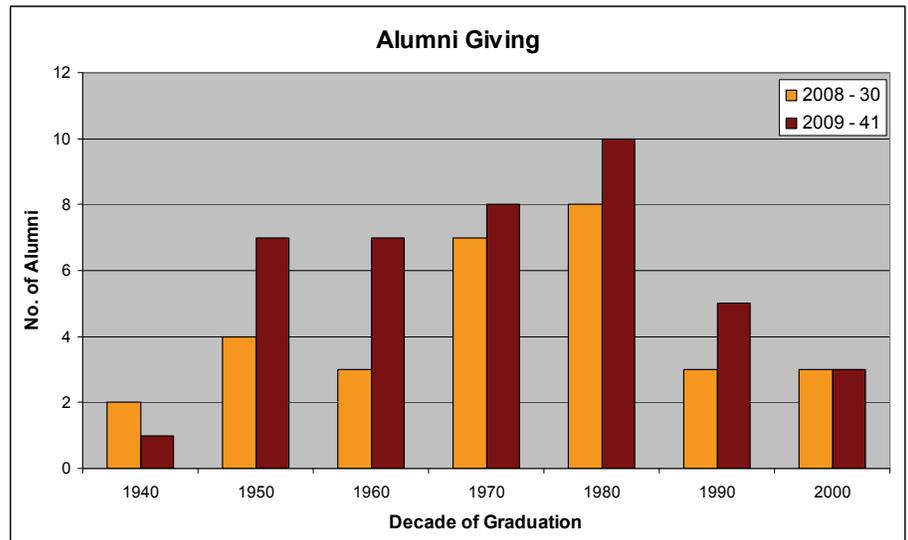


Dr. Michael Karmis (l) named Honorary Member of AIME

## Thank You to Our Donors

Each year, we are fortunate to receive contributions from individuals and corporations to help support Department operations and scholarships. We literally could not operate the Department without this support. During Calendar Year 2009 we received \$277,000 in donations (\$53,000 from individuals and \$224,000 from corporations). While this was down from a total of \$340,000 in 2008, the total number of individual alumni giving to the Department was up by nearly 1/3 as was the amount of discretionary funds we received. As most of you probably know, discretionary funds are particularly valuable to us since we can use them to meet all types of Department needs. The figure at right shows the number of alumni that have given to the Department over the past two years by decade of graduation. It is particularly gratifying to see the increase in the number of alumni who are helping the Department. From our perspective, this is more important than the actual dollar value of the gift.

We would like to thank the following individuals and corporations for their support in 2009.



### Individual Donations:

*Greg Adel (Faculty)*  
*Peter Akers (Class of 1950)*  
*Drew Barksdale (Class of 1998)*  
*Virginia Billings (Wife of the late George Billings (Class of 1953))*  
*Robert Bratton (Faculty)*  
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*William and Kathleen Georges (Parents of Brett Wolgemuth, Class of 2009)*  
*Ben Hatfield (Class of 1979)*  
*Ramonda Haycocks (Wife of the late Chris Haycocks, Former Faculty)*  
*David Hewitt*  
*Charles Hibbitts (Class of 1974)*  
*Dianna (Grotto) Jablonski (Class of 1990)*  
*Nick Kappatos (Class of 1997)*

*Mike Karmis (Faculty)*  
*Derrick Kegley (Class of 2006)*  
*James Kelley (Class of 1980)*  
*Bill Kilgore (Class of 1957)*  
*Melissa Bucklen LaGessee (In memory of Ellis P. Bucklen – Class of 1954)*  
*Eric Lucas (Son of the late J. Richard Lucas – Former Dept. Head)*  
*Ronnie Marcum (Class of 1970)*  
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*Timothy Ross (Class of 1976)*  
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*Gary Skaggs (Class of 1968)*  
*Bryan Smith (Class of 1979)*  
*Charles Snavely (Class of 1978)*  
*Stan Suboleski (Class of 1967)*

*James Sykes (Class of 1960)*  
*Horace Van Meter (Class of 1959)*  
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*Southern Coals Conference*  
*Unimin Corporation*  
*Vulcan Materials*

If you have donated to Virginia Tech during 2009 and your name is not listed above, it is possible that your donation did not come to this Department. Please be sure to specify "Mining Engineering" on your check. Donations made to any other entity may go elsewhere. Likewise, if you have donated directly to the Burkhart Mining Society or one of our other student organizations, these donations do not come through the Department. Nevertheless, these donations are important to us and we thank you for helping with student activities.

## Mining Students Have “Three-peat” Success in National Mine Design Competition

Six students from Virginia Tech’s Department of Mining and Minerals Engineering have won , for the third consecutive year, first place in the SME/NSSGA Student Design Competition, held during the Annual Meeting and Exhibit of the Society for Mining, Metallurgy and Exploration (SME) in Phoenix, Arizona, February 28 – March 3, 2010.

Seniors Ricky Rose, Ben Fahrman, Dan Sadtler, Blane Bowers, and Scott Hutchins and junior Susie Underwood made up this year’s winning team, *New River Aggregates*, which competed against students from the nation’s top mining engineering programs, including the University of Nevada-Reno, the South Dakota School of Mines and Technology, Pennsylvania State University, and the University of Utah.

This year’s design problem was particularly challenging and the contest was marked by tight competition. “I have been involved with this competition since its inception and the bar just keeps getting higher,” says Dr. Greg Adel, Professor and Head of Virginia Tech’s Mining and Minerals Engineering department. “The competition is intense and the level of professionalism shown by all the teams is outstanding. To win the competition once is a great accomplishment. To win the competition three times in a row is just unreal. I could not be prouder of our team.”

Event organizer Brady Johnson of Granite Construction noted the high level of competence among all participating teams. “The competition was incredibly tight this year. The judges were impressed with all the teams but felt that the Virginia Tech team did the best and most thorough job of addressing all aspects of the problem.”

The Student Design Competition was developed by the SME and NSSGA (National Stone, Sand and Gravel Association) to give mining engineering students an opportunity to demonstrate real world engineering skills in a professional setting. “The competition allows students to get out of their books and deal with real world data,” says Johnson. “Students must utilize and improve their time management and teamwork skills while also interacting with the judges, who are all experienced industry professionals.”

In Phase I, which took place during the fall semester at Virginia Tech, students were given data from an actual aggregate quarry in the southeastern United States and were tasked to evaluate the potential purchase of the site and prepare a bid while also developing a strategy for doubling the quarry’s current production to satisfy market demand.

The second phase, which was held at the SME Exhibit, centered on risk assessment and analysis. Teams were asked to address two additional problems involving highwall stability and changing market conditions and then incorporate their solutions into their original mine design from Phase I.

While engineering knowledge is important in designing a working mine plan, teamwork and time management are equally critical skills in the competition, particularly in the second phase when students have only two days to solve the second design problem. According to team member Ricky Rose, teamwork was key to the team’s success. “I think our biggest strength was team cohesiveness – every one of us brought something different to the table and we all worked well together throughout the entire competition.”

The winning team was awarded a \$2000 cash prize during the SME Exhibit and also received educational software from CostMine (a division of InfoMine USA) to be used at Virginia Tech. In addition, the winning team was invited to give a technical session on their project to an audience of industry professionals, university faculty and students at the conference

“Walking away from this project makes me feel a lot more confident in my abilities, not only as an engineer, but as a writer and presenter,” says team member Blane Bowers. “The second phase focused on a design area that none of us were very familiar with, but within two days we were able to produce a solution that was nearly consistent with a professional engineer, and that was a very rewarding feeling.”

Johnson also notes the benefits for students partaking in the competition. “The competition really challenges the students and pushes them outside of their comfort zones. I think a lot of the teams look at tough design problems in each phase and think, ‘I don’t know how we are going to pull this off!’ But each team does pull it off and does an excellent job.”

And that kind of experience, says Johnson, gives team members a tremendous level of confidence. “I hope the students carry that confidence with them as they finish school and begin their careers.”



*Members of New River Aggregates with their First Place Award in this year's SME/NSSGA Student Design Competition. From left to right: Susie Underwood, Scott Hutchins, Ben Fahrman, Blane Bowers, Ricky Rose, and Dan Sadtler.*

## Mining Seniors Revisit Ancient Design to Excavate on Moon's Surface

In a flash of inspiration best described as a “Eureka moment,” three mining and minerals engineering seniors revisited an ancient technology to design a functional lunar excavator for NASA’s upcoming “Lunabotics Mining Competition,” to be held in late May at the Kennedy Space Center in Florida.

Tyler Overstreet, Brent Slaker, and Isaac Witt, all mining and minerals engineering seniors, have been working since September alongside five other students from Virginia Tech’s Aerospace Engineering department in designing and constructing a remote controlled excavator capable of operating on the lunar surface. The mining students’ efforts are part of their Senior Design Project, the department’s capstone course for mining engineers.

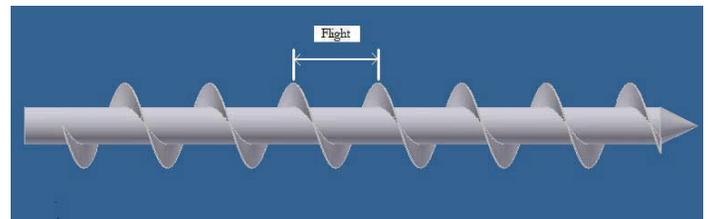
While NASA has had similar professional competitions in the past, the Lunabotics Mining Competition marks the first year it is hosting a university-level event. The challenge is for students to design and build an autonomous excavator—or “*lunabot*”—that can collect and deposit a minimum of 10 kilograms of lunar regolith simulant (simulated moon dust) within 15 minutes. The complexities of the challenge include characteristics of the lunar simulant, weight and size limitations of the lunabot, and the ability to control the lunabot from a remote control center. Twenty-two teams from around the nation have entered this year’s inaugural competition.

The Virginia Tech’s team mining students took on the tasks of researching and coming up with an effective excavator design, and numerous methods were considered during the fall semester. “We looked at a variety of methods, ranging from draglines and augers to bucket-wheel excavators and loading shovels,” recalls Tyler Overstreet.

While the auger seemed attractive initially, concerns over pitch and depth prompted the team to lean towards designs which had been used in past competitions, such as bucket-wheel excavators. But several weeks into the project, the team had what they considered a scientific revelation—not unlike one ascribed to the auger’s classical inventor, Archimedes.

“We initially wanted to use an angled auger, but this method had some critical design hurdles to overcome, so we fell back on a bucket chain design,” says Overstreet. “About a week later, I was taking a shower one morning and got an idea that if we just made it all one unit, we could use a vertical auger.”

The auger is a simple, screw-like device for moving material, developed by ancient Greek mathematician and physicist, Archimedes and which has some applications in contemporary mining. The team’s lunabot design incorporates a vertical auger, whose advantages include continuous production and a high production rate in soft materials.



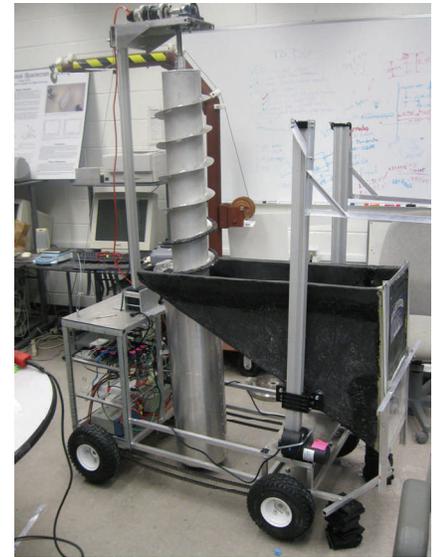
*CAD Image of Team's Auger Design*

“The students could have taken the safe route and used a similar excavation method of prior competitions, which would be a variation of the bucket-wheel excavator,” said Erik Westman, Associate Professor in the Department of Mining and Minerals Engineering and one off the project faculty advisers. “Instead, they chose an unconventional and creative design in the vertical auger.”

The second semester was devoted to building the excavator: a 2-meter high, wheeled vehicle whose vertical auger and bucket rest atop the device. “We should be able to extract about 2.6 pounds of simulant per second, which is carried up the auger into a holding bin,” explained Isaac Witt. The excavator operates by lowering its vertical, sheath-enclosed auger onto the excavation area using four linear actuators. As it lowers, the auger rotates, moving material from the bottom of the auger to the top, where it falls out into a bin or bucket. “The design itself is very simple,” Witt adds, “but it has the potential to reach very high production rates.”

The mining students deferred much of the control systems and programming to their colleagues in Aerospace Engineering; however, when it came to developing the excavation capabilities of the lunabot, they noted the importance of three years of mining courses. Mineral Processing helped them with calculating particle size distributions, compaction, and densities of the lunar regolith material. Courses in surface mining, rock mechanics and slope stability also contributed to the team’s approach to the design.

When pressed to give their thoughts on working as part of an interdisciplinary team, the students admitted to some differences in how different engineering disciplines approach complex problems. “We found that we [the mining engineers] had more of a ‘keep things simple’ approach,” said Brent Slaker. Yet, in the end, all eight team members feel confident heading into the competition. “There were a number of ways we could have approached the problem,” says Overstreet, “yet we’re all pretty pleased in having come up with a sturdy, simple design that is also effective and innovative.”



*Virginia Tech's Final Lunabot Design*

## Dr. Roe-Hoan Yoon Leads Virginia Tech in \$465 million NETL Research Program

Dr. Roe-Hoan Yoon, Nicholas T. Camicia Professor in the Department of Mining and Minerals Engineering, is representing Virginia Tech in a five-university consortium that will provide a range of research and engineering services to the National Energy Technology Laboratory (NETL). The consortium makes up NETL's recently formed Regional University Alliance for Energy Technology Innovation (RUA), which has received 3 contracts expected to exceed \$465 million over a five-year period.

The RUA research program assists NETL in conducting both basic and applied energy and environmental research that support the Department of Energy's mission to advance U.S. national, economic, and energy security. The consortium consists of five nationally-recognized universities that include Carnegie Mellon University, Pennsylvania State University, University of Pittsburgh, Virginia Tech, and West Virginia University.

"Virginia Tech is strong in various areas of energy research, including carbon capture and sequestration, coal utilization, energy resources development, smart grids, bio-fuels, solar energy, and energy policies," said Roe-Hoan Yoon, the Virginia Tech faculty representative at the five-university consortium. "The three DOE contracts will give us opportunities to work cooperatively with the researchers of the other member universities, NETL, and the industry partners to develop new energy technologies at a changing time."

With its breadth of available expertise, the NETL-RUA is positioned to lead technology development and systems design for this century's energy transition, and the region has a long history of leadership in the development of traditional fossil fuels such as coal, oil, and natural gas.

"I am pleased that the U.S. Department of Energy has awarded these funds to a consortium of universities including Virginia Tech," added Congressman Rick Boucher (D-VA 9th District). "The DOE awards represent another significant step in the advancement of groundbreaking research which will benefit Virginia Tech and our region."

NETL is a federally owned and operated laboratory that devotes the majority of its funding to research and development partnerships with industry, universities, and other government in support of the DOE. On-site research is focused in areas of computational and basic sciences, energy system dynamics, geological and environmental systems, and material science.

### Roe-Hoan Yoon Recipient of 2009 Stephen McCann Memorial Award for Educational Excellence

The Pittsburgh Coal Mining Institute of America recently awarded its 2009 Stephen McCann Memorial Award for Educational Excellence to Roe-Hoan Yoon of Virginia Tech's department of mining and minerals engineering.

Yoon, the Nicholas T. Camicia Professor in the College of Engineering, was recognized for his international record of teaching and researching in mineral processing science and technologies. He is a member of the National Academy of Engineering, and is the director of the Center for Advanced Separation Technologies, a consortium of five universities whose goal is to develop advanced technologies that can be used to produce clean solid, liquid and gaseous fuels from domestic energy resources in an efficient and environmentally acceptable manner.

Yoon has garnered headlines during the past year for co-developing a dewatering technology that reduces the moisture content of ultrafine coal to less than 20 percent, transforming it to a salable product rather than being discarded.

The Pittsburgh Coal Mining Institute of America established the award in 1986 to honor instructors, teachers or professors of mining engineering curricula who have made significant career impacts on educational services to the mining industry. Candidates for the award are judged on their contributions, achievements, and commitment to quality mining education. Yoon is the fifth professor in Virginia Tech mining engineering department to have achieved this honor. Professors Greg Adel, current department head; Tom Novak, former department head; Mike Karmis and Gerald Luttrell all have received the honor. The award consists of an inscribed commemorative clock.



*Mining and Minerals Engineering Department Head and Professor Greg Adel (l) presents Dr. Roe-Hoan Yoon with the 2009 Stephen McCann Memorial Award for Educational Excellence.*

## “You Can’t Drive Steel Like Me”— Virginia Tech’s Mining Competition Team



*Then the section foreman said, “Hey hammer-swinger,  
I see you brought your own hammer, boy  
But what else can all those muscles do?”  
J.H: “I can turn a jack, I can lay a track, I can pick and shovel, too...”*

The lyrics are about John Henry, but they aptly describe what mining engineering students do each year at the International Intercollegiate Mining Competition. Since its formation in 1994, the Virginia Tech Mining Competition Team has given students an opportunity to test strength, skill and strategy against an international assemblage of mining schools across the country and around the world.

This year, six Virginia Tech students traveled to Kalgoorlie, Australia, for the 32<sup>nd</sup> International Intercollegiate Mining Competition, where they competed using old-fashioned, mining methods to include jack-leg drilling, gold panning, mucking, hand steel drilling, swede-sawing, surveying and track laying.

The 2009-10 team was comprised of seniors Dan Sadtler and Ricky Rose; juniors Laird Horigan, Kris Strickland and Andy Lyman; and sophomore Zach Wappes. The team fared well, placing 6<sup>th</sup> out of the 28 competing teams. They also had strong showings in Surveying (4<sup>th</sup> place), Hand-Steeling (6<sup>th</sup>), and Mucking (6<sup>th</sup>).

Team captain Dan Sadtler was pleased with this year’s outcome: “We were an inexperienced team with only 2 returning members. But as a group we overcame our different levels of fitness and experience by helping each other reach the same playing field.”

Originally a western mining school event, the competition was established in 1978 to commemorate Idaho’s Sunshine Mine Disaster of 1972 and to honor all miners who have perished in the line of duty. “It was a hard-rock mining school event,” recalls Janet (Grimes) Flinn, a department alumnus and founder of the first Virginia Tech Competition Team. “I brought the idea to the department when I came to graduate school at Virginia Tech from U.C. Berkely.” As a result of Flinn’s groundwork, Virginia Tech was one of the first eastern mining engineering schools to participate in the competition, sending two men’s as well as one all-female team in 1995.

The first teams faced challenges outside of the event itself, such as finding a location to practice and raising funds for travel. “We set up practice equipment out at Plantation Road,” says Flinn of the first year. “We had a track stand, swede-saw and a block of concrete poured for the hand drilling; the logistics of setting up a practice area was the toughest part of starting the whole thing.” To deal with costs, the team created a fundraising committee in its second year, consisting of then team captain and Burkhart President, who wrote letters and made calls to obtain corporate and private contributions.

Roughly 15 years later, this approach to fundraising remains critical, especially when the team travels overseas. “The toughest challenge in getting ready was gaining the financial backing needed to pay for 6 team members to travel to Australia,” stresses Sadtler. With regard to practice location, recent teams have been pleased with the facilities established by Flinn and her classmates near the department’s Plantation Road Lab. According Sadtler, “our practice facility is great; it’s easy to get to, has all the events in place, and if anything breaks the Plantation Road lab shop is right there.” Looking forward to the 33<sup>rd</sup> Competition, the team would like to be in a position, both financially and in student numbers, to also send a women’s or co-ed team to the event.

Despite the year-to-year challenges of raising money and organizing practices, the demanding, physical nature of Virginia Tech’s Mining Competition Team keeps its appeal among students. “It’s a great way for students to have fun outside the classroom with historical mining applications, travel, and—like it or not—get a little exercise!” says Sadtler.

But perhaps more importantly, students see the team as a means for strengthening camaraderie and developing teamwork skills. “As a group we become a team *outside* the classroom,” adds Sadtler, “and knowing how a person reacts in a real world situation is just as important as how they work in an academic setting.”



2009-2010 Mining Competition Team  
(L to R) Dan Sadtler (captain), Ricky Rose, Laird Horigan, Zack Wappes, Kris Strickland, Andy Lyman



The Start of it All: members of the first 1994-95 team after practicing with a jackleg. (L-R): Janet (Grimes) Flinn, Jacqueline Cahoon, Beth Mader, Cary Harwood, Jaisen Kohmuensch, Juliette (Estevez) Hill, Stephen Kan, Mike Randolph, and Cline Dooley.

## “Blast from the Past”

The Fall 2009 “Blast from the Past” elicited several comments. Joe Czul (Class of 1983) thought he saw Elvis (No Joe, Elvis had already left the building.), and Perrin Slepsky (Class of 2009) asked “Just how long has that roof bolt display been around anyway!?” However, it was Debra (Adkins) Enigk (front row center) who identified the picture as the Class of 1975. Those pictured are as follows (Courtesy of Debra Enigk): Front row: Lou Kiser, Charles (Ed) Presley, Gary Blackburn, Debra (Adkins) Enigk, Nelson Kidder, Richard Triggs Back row: Frank Wood, K. Woodrow (Bo) Riffe, Gene (Tiff) Hilton, Allen Law, A. Wayne Powers.



For our latest “Blast from the Past” we are departing from the Bugle pictures and featuring a field trip from my early days as a faculty member. Can anyone out there identify the year, location, and the people?



Please e-mail your responses to: [adel@vt.edu](mailto:adel@vt.edu)

Or mail your responses to:

Dr. Greg Adel  
 Department of Mining and Minerals Engineering  
 Virginia Tech  
 Blacksburg, Virginia 24061

If any of you have photos from your days in the Department (particularly group shots) that you would be willing to share for use in this article, we would be happy to scan them and return them to you. I would particularly like to have a few shots from the 1950's and 1960's, but any photos that are more than twenty years old would be great.