



News from Holden Hall

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

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Fall 2010

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

As we near the end of the fall semester, it is time for another issue of *News from Holden Hall*. Thanks to all the alumni who continue to express their appreciation for this publication. It is very gratifying to know that so many of you remain interested in your old alma mater.

I am happy to report that the Department continues to flourish in spite of the economic downturn. Over the past two years, we have been able to place 95% of our seniors prior to May commencement while graduating two of the largest classes in the history of our program (54 in 2009 and 39 in 2010). Although jobs in the aggregates industry have been severely impacted by the recession, the coal industry has more than taken up the slack, not to mention job opportunities in other sectors such as gold, industrial minerals, phosphates, salt, technical sales, and consulting. In fact, you may be surprised to learn that the leading employer of our graduates over the past ten years has been Cargill at their salt operations in Ohio, New York, and Louisiana.

The size of our program continues to grow with 140 undergraduates and a record 32 graduate students enrolled in the 2010 Fall Semester. In fact, we had to remodel our graduate office space over the summer in order to accommodate the increased graduate enrollment. Of course, the credit for this growth goes to the faculty who have worked tirelessly to secure funded research projects and produced research expenditures of approximately \$3.7 million in Fiscal Year 2010. We are projecting 35 B.S. degrees in mining engineering in the Class of 2011, and we are on track to produce over ten graduate degrees (M.S. and Ph.D.) during the current academic year. Finally, the future looks very bright with nearly 60 new sophomores enrolled in our Introduction to Mining Engineering course this year.

In this issue of *News from Holden Hall*, we pay tribute to those responsible for the strength of our program: the students, faculty, alumni, and companies that support us. Our feature article deals with a topic that may be near and dear to many of you: the senior design project. Under the capable leadership of Dr. Erik Westman, our senior design course is going strong. In each of the past four years a senior design team from Virginia Tech has won the Carlson Software National Senior Mine Design Project Competition. Find out how senior design has evolved over the years to contribute to this success. Our students and supporting companies are also featured in highlights from our 2010 Spring Awards Banquet, one of the most important events of our academic year.

You will also read about the many accomplishments of our faculty, including Dr. Michael Karmis who was recently named a Henry Krumb Lecturer by SME and was also awarded an honorary degree from the Scientific Council of Moscow State Mining University in Russia, and Dr. Roe-Hoan Yoon who was recently named a University Distinguished Professor. This latter honor is especially significant since the title of University Distinguished Professor is bestowed on less than 1% of the faculty at Virginia Tech, and Dr. Yoon is the first faculty member in the history of this program to receive such an honor.

Finally, in this issue of *News from Holden Hall* we recognize the induction of E. Minor Pace (Class of 1943) into the College of Engineering's Academy of Engineering Excellence, and we look back to the 1960's and 1970's at Virginia Tech through the eyes of a "professor's kid," Mr. Ted Shelton, son of the late Professor T. Carl Shelton.

As always, the accomplishments of our students and faculty are a direct reflection of the financial help we receive from our alumni and corporate supporters. Those individuals and companies who support our program are acknowledged in "Thank You to Our Donors" and in a separate article on a significant donation from Alpha Natural Resources. 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 donations. If you would like to help us remain strong, please make sure to earmark your gift to **Mining and Minerals Engineering**.

And don't forget to take a look at our latest version of "Blast from the Past." I don't expect there are many of you who were present at the time this picture was taken, but the story behind it is interesting. I hope you enjoy trying to figure it out, and I hope you 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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Alpha Natural Resources Pledges Support to Department

Alpha Natural Resources, the nation's third-largest coal producer, recently pledged a donation of \$150,000 to Virginia Tech's Department of Mining and Minerals Engineering during a recruiting visit in September. The check was presented to department head and professor Dr. Greg Adel by George A. Owens, Jr., Vice President of NexGen and Leadership Effectiveness, along with other Alpha Natural Resource recruiters.

Alpha's pledge, to be made in two installments over the next two years, reflects the close relationship between the Abingdon, Virginia-based coal company and Virginia Tech's mining engineers.

"Virginia Tech graduates have what it takes to be smart, capable and energetic employees," said Alpha CEO Kevin Crutchfield, himself a VT Mining and Minerals Engineering alumnus. "We know this from years of recruiting experience at Tech, which is why Alpha is affectionately known among many department members as the 'Hokie Coal Company.' Whether it's bringing bright young recruits into the business world, helping others get through school with scholarship assistance, or offering learning internships, we're committed to nurturing an ongoing relationship with the university that benefits both of us."

In the past five years, Alpha Natural Resources has hired more of Virginia Tech's Mining and Minerals Engineering graduates for permanent and summer internship positions than any other coal company, and it hires the second largest number of graduates than any other company hiring department graduates. Alpha also has helped more than 50 undergraduates complete their educations through company sponsored scholarships.

"The Department of Mining and Minerals Engineering has a great relationship with Alpha Natural Resources," added department head Greg Adel. "They routinely hire our graduates, provide valuable work experience for our summer interns, and help support our research. In turn, we provide high-quality engineers to support their business, short-courses to train their work force, and research solutions for their technical problems. This donation is invaluable in helping us sustain a high-quality program."

Alpha Natural Resources is one of America's premier coal suppliers and is the nation's leading supplier and exporter of metallurgical coal used in the steel-making process, supplying thermal coal to electric utilities and manufacturing industries across the country.



Alpha Natural Resources recruiters present a pledge of \$150,000 to Mining and Minerals Engineering department head Dr. Greg Adel. From left to right: Logan Bateman (VT '10), Caroline Relyea (VT MinE '09), Joe Pugh (VT MinE '00), George Owens (Vice President, NexGen and Leadership Effectiveness), Gary Duncan (VT, '76), Dr. Greg Adel (Mining and Minerals Engineering Department Head), and Charlie Nolan (VT MinE '10).

Students Honored at 2010 Scholarship and Awards Banquet



The Haycocks Award is presented to Jeffrey Kerr

This past April, more than 180 guests turned out for the 2010 Department Scholarship and Awards Banquet held at the Inn at Virginia Tech and Skelton Conference Center in Blacksburg. The annual event recognizes students for their academic achievements through presentations of scholarships and academic awards.

Highlights of the 2010 banquet included CI Coal Group's Ronnie Marcum presenting the Careers in Coal Award to senior Michael Kiser of Lebanon, Virginia, who spent three summers working for Consol. The banquet also saw the presentation of the first Haycocks Award to senior Jeffrey Kerr, a department senior who spent two summers working for Patriot Coal and who has also worked as a lab assistant for the rock mechanics lab. The award honors department faculty member and friend of over 33 years, Chris Haycocks, who recently passed away.



Michael Kiser receives the Careers in Coal Award.



Rosemary Patterson and the Paul S. Barbary Award

Among the department's graduate students, Rosemary Patterson received the Paul S. Barbary Award for her ongoing research in underground air sampling, ventilation and safety. Finally, Aaron Noble and Lei Pan were each presented the Outstanding Graduate Student Award at the Master's levels by department professor and graduate committee chair, Dr. Jerry Luttrell.

Many more awards and scholarships were presented throughout the evening, and the department congratulates all the students who were honored as well as express its appreciation to the many individual and corporate sponsors who have generously contributed to the program's success.

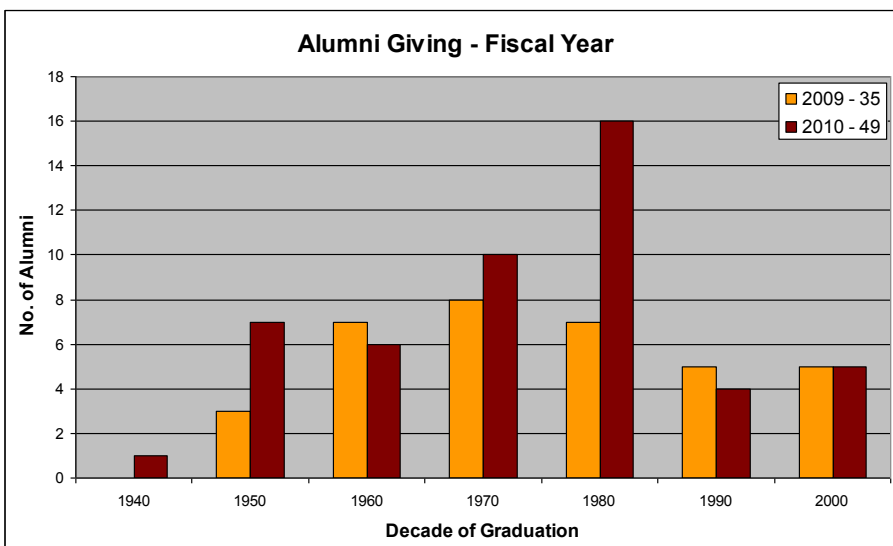


Outstanding Graduate Students Lei Pan (left) and Aaron Noble (right).

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 Fiscal Year 2010 (July 1, 2009–June 30, 2010) we received \$321,000 in donations (\$77,000 from individuals and \$244,000 from corporations). Although this was an increase of only 6% from FY 2009 (\$303,000), the total number of individual alumni giving to the Department was up by 40%. The figure to the right shows the number of alumni that have given to the Department over the past two fiscal years by decade of graduation.

It is particularly gratifying to see the increase in the number of alumni who are helping our department. From our perspective, this is more valuable than the actual amount of the gift. We would like to thank the following individuals and corporations for their support in FY 2010.



Individual Donations

1940's

Pace, E. Minor (Class of 1943)

1950's

Akers, Peter (Class of 1950)

Barbery, Paul (Class of 1959)

Billings, Virginia (Wife of the late

George Billings – Class of 1953)

Kilgore, Bill (Class of 1957)

LaGessee, Melissa Bucklen (Daughter of the late Ellis P. Bucklen – Class of 1954)

Robertson, F.D. (Class of 1956)

Van Meter, Horace (Class of 1959)

1960's

Bucklen, Jerry (Class of 1962)

Daugherty, Roger (Class of 1960)

Shrader, Sam (Class of 1963)

Skaggs, Gary (Class of 1968)

Suboleski, Stan (Class of 1967)

Womble, William (Class of 1965)

1970's

Blevins, Carl (Class of 1975)

Breedlove, John (Class of 1979)

Hatfield, Ben (Class of 1979)

Hibbitts, Charles (Class of 1974)

Kiscaden, Scott (Class of 1976)

Marcum, Ronnie (Class of 1970)

Ostendorff, Louis (Class of 1973)

Ross, Timothy (Class of 1976)

Smith, Bryan (Class of 1979)

Snavely, Charles (Class of 1978)

1980's

Bartoski, Mark (Class of 1981)

Brown, Mike (Class of 1983)

Carter, Roger (Class of 1981)

Compton, Tim (Class of 1983)

Covington, Martin (Class of 1981)

Forrest, W.R. (Class of 1983)

Johnston, G.B. Jr. (Class of 1980)

Kelly, James (Class of 1980)

Little, David (Class of 1983)

Mullins, David (Class of 1983)

Murphy, Gregory (Class of 1980)

Nicewonder, Kenneth (Class of 1981)

Prelaz, David (Class of 1984)

Stallard, Cary (Class of 1982)

Whipkey, Kevin (Class of 1983)

Winston, Donald (Class of 1981)

1990's

Barksdale, Drew (Class of 1998)

Boyt, John (Class of 1995)

Crutchfield, Kevin (Class of 1994)

Jablonski (Grotto), Dianna (Class of 1990)

2000's

Durnavich, Sam (Class of 2002)

Fitz, Holly (Class of 2009)

Kegley, Derrick (Class of 2006)

Schaum, Adam (Class of 2006)

Wiler, Marianne (Mother of Jeff Wiler – Class of 2007)

Other Donors

Adel, Greg (Faculty)

Bratton, Robert (Faculty)

Haycocks, Ramonda (Wife of the late Chris Haycocks – Former Faculty)

Hewitt, David

Karmis, Mike (Faculty)

Lucas, Eric (Son of the late J. Richard Lucas – Former Dept. Head)

Poling, Francis & Louis

Quillen, Mike (Chairman, Alpha Natural Resources and CE Class of 1970)

Stephenson, Bill (Former Dean of the College of Engineering)

Taylor (Workman), Amanda (Ex MinE Student and BSE Class of 2008)

Thomson, Robert (Father of MinE sophomore Aaron Thomson)

Corporate Donations

Alpha Natural Resources

Appalachian Technical Services

ArrMaz Custom Chemicals

Cliffs Natural Resources

Consol Energy

Eriez

Explo Powder Inc.

FL Smidth

Freeport-McMoRan

Granite Construction

Marshall Miller

Massey Foundation

Newmont Mining

Oldcastle Materials

Peabody Energy

Phillips Machine Service

Rio Tinto

SME

Southern Coals Conference

Unimin

Vulcan Materials

If you have donated to Virginia Tech during FY 2010 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, donations made directly to the Burkhardt Mining Society or one of our other student organizations do not come through the Department. Nevertheless, these donations are important to us and we thank you for helping with student activities.

The Success of Senior Design

Readers of *News from Holden Hall* may be familiar with our seniors' achievements in national mine design competitions (Vols. 1.2 & 2.1), as well as their participation in a NASA-sponsored lunar excavation competition (Vol. 2. 1). While these events often present students with a unique design problem, part of their success can be attributed to the department's Senior Design Project course.

In fact, Virginia Tech students have won for the fourth year in a row the Carlson Software's National Senior Mine Design Competition, an event in which students compete with a project developed in an actual course. Recently, graduates Michael Kiser, Joshua Norris, and Andrew Calhoun took home first place and \$2000 for their project, "Keen Mountain Coal."

Senior Design Project is the department's capstone course which requires students to undertake a comprehensive mine design project and feasibility study while calling upon the knowledge and concepts learned in previous mining classes. The year-long course results in a comprehensive technical document describing the commercial development, extraction, and closure of a mineral deposit.

"Senior Design has students examine all stages of a mine's life and demands an in-depth understanding of mine development," says Dr. Erik Westman, Associate Professor in the department of Mining and Minerals Engineering who has taught the Senior Design Course since 2002. "The project targets a broad audience, to include other mining engineers, administrative and financial professionals, government officials and the community as a whole. This is a skill students will need in their careers, as they won't be isolated with other engineers."

In the fall, students are grouped into teams and begin developing their projects using data obtained from a working mine, usually from a student's most recent summer internship. "Of course," added Westman, "they're expected to use this data to design a completely new mine from scratch."

Throughout the year, students carry out research, collect and analyze data and assemble supporting documentation. In all, students produce a total of sixteen chapters and an executive summary covering topics such as a deposit's location and geology, contractual agreements, materials handling, and environmental impacts. Furthermore, students compile and organize a list of references and an appendix containing critical maps, data, and reserve estimates. All of this is presented as professionally bound and published report. "A big challenge with Senior Design is creating a final product by a given deadline that meets yours as well as your audience's expectations," says Andrew Calhoun, a member of the 2010 winning project team. "It demands that a collaborative group prioritize and compromise while working towards a common goal."



Michael Kiser (right) receives the 2010 Carlson Software National Senior Mine Design Award from Dr. Erik Westman.

Carlson Software's National Senior Mine Design Competition

Carlson Software specializes in CAD design software specific to land development professionals and mining industries, and sponsors an annual mine design competition for ABET accredited Mining Engineering schools.

While Virginia Tech's mining engineering seniors have fared well in the event, for the past three years they have consecutively won first place. Below are recent VT wins in Carlson's competition:

2010 1st place
2009 1st place
2008 1st place
2007 1st place
2006 2nd place
2004 1st place
2003 3rd place
2001 2nd place
2000 3rd place
1999 2nd place
1998 3rd place

The course synthesizes skills and knowledge learned from prior courses, and students find themselves "re-visiting" former class notes and professors. "I often referred to my junior-year Rock Mechanics notes several times when designing the layout of the pillar system, and my Ventilations notes to design the ventilation system for the mine," said graduate student Michael Kiser, another member of the 2010 winning project.

Senior Design also has a strong communication component, and as such is designated one of the department's writing intensive courses. Angelo Biviano, the Writing and Communications Program Director, co-instructs the course, providing feedback on the written, spoken, and visual components of the project.

One of the changes to the course under Westman has been to increase the number and frequency of spoken presentations to four per year. This requirement not only sharpens students' spoken presentation skills, but it challenges them to explain ideas and concepts under more pressured conditions. "Nobody likes presenting at first," said Ben Fahrman, a graduate student in the department, "but the more you do it, the more comfortable you become with it, especially since you are presenting to your peers, which can be daunting."

While the Senior Design Project entails a significant amount of effort for the seniors, it does pay off. "Just doing a report on this scale is beneficial," noted Michael Kiser, "The demand to produce a professional-level report in Senior Design has affected every report I have done since."

Mining Engineer Inducted into Virginia Tech Academy of Engineering Excellence

E. Minor Pace of Mount Vernon, Ill., a 1943 graduate of Virginia Tech's Mining and Minerals Engineering program, is a 2010 inductee into Virginia Tech's College of Engineering Academy of Engineering Excellence, joining an elite group of 97 individuals out of more than 55,000 living engineering alumni.

The Academy of Engineering Excellence was founded in 1999 by F. William Stephenson, past dean of the college of engineering, and the College's Advisory Board. This year marked the eleventh anniversary of the first induction.

"The academy represents another way Virginia Tech's College of Engineering showcases our loyal ambassadors. These alumni represent people who have lived their lives representing the spirit of Ut Prosim, Virginia Tech's motto, meaning 'That I may serve,'" said Richard C. Benson, dean of the College of Engineering and the holder of the Paul and Dorothea Torgersen Chair of Engineering.

Pace grew up as the ninth child in a "Cheaper by the Dozen" family of nine boys and three girls. It was the 1920s, and his father, who had only one month of official schooling to his name, operated one of the first automobile agencies in a rural area 16 miles south of Charlottesville, Va. Minor Pace was the first member of his family to graduate from high school. But he did not just graduate—he was the valedictorian for the class as well as a three-year varsity letterman in basketball.

His strong high school performance insured his acceptance into Virginia Tech's College of Engineering, his number one choice for a higher education degree. He soon learned that the mining engineering program offered numerous opportunities for its students to gain lucrative employment in the summer. He had waited tables his last three years, but this part time job was in no way equivalent to the \$7 an hour he could make in the early 1940s working in a coal mine. However, in college he also worked 60 hours a month for the National Youth Administration.

Pace, a member of the Corps of Cadets, officially graduated with the Class of 1943, but with World War II calling every able-bodied young man into action, VPI, as it was then known, gave him his degree a quarter early so he could enter Fort Belvoir for officer training. As he was about to embark on his military tour of duty, he married his sweetheart Helen in a ceremony at the Blacksburg Episcopal Church, and brought her with him. Helen, a graduate of Harrisonburg State Teachers College, taught elementary school back in Scotsville, where Minor had attended high school. "She had bought a car, and I had to teach her how to drive it," he smiles, recalling how their relationship started 67 "wonderful" years ago.

During the War, he traveled to the Pacific with the 1896th engineering aviation battalion attached to the 5th Air Force, building and maintaining airstrips in New Guinea. He was discharged as a captain in 1946, and went to work for Inland Steel Company where he stayed for 34 years until his retirement in 1980. He earned his master's degree in mining engineering in 1948 at the University of West Virginia. He also added to his academic experience a stint at Harvard Business School's Advanced Management Program.

As Inland grew, with properties in three states, it became the Inland Steel Coal Company. Pace worked his way up the ladder to the executive vice president, earning a reputation for modernizing the company and improving its profit margins.

While at Inland, Pace served as vice chairman of the Kentucky Coal Institute, chair of the Illinois Coal institute, chair of the Coal Division of the Society for Mining, Metallurgy and Exploration (SME), and as a member of the SME Board of Directors .

He received two national awards, SME's Percy Nicholls Award and the American Institute of Mining Engineers' Erskine Ramsay Award, for his contributions to the industry. He also received the Distinguished Engineering Award. Among his numerous impacts, he worked with Inland's research department to break coal into uses for steam and metallurgical needs. He also helped bring about a process for furnishing low-sulfur coal to power companies.

In 1986 Pace received the Distinguished Alumnus Award from the Virginia Tech Mining and Minerals Engineering Department, and he is a member of the University's Caldwell Society.

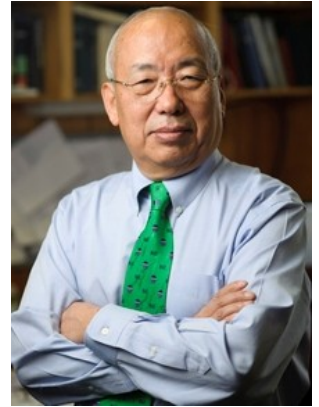
The Paces currently reside in Mount Vernon, Ill. They have three children: Kerry Pace of Aurora, Ill.; Kim Pace of New Port Richey, Fl.; and Kirk Pace of Belleville, Ill.



E. Minor Pace (center) is recognized for his outstanding career with Inland Steel Coal Company by College of Engineering Dean, Richard C. Benson (left) and Mining and Minerals Engineering Assistant Department Head Dr. Jerry Luttrell (right).

Dr. Roe-Hoan Yoon Named University Distinguished Professor

Dr. Roe-Hoan Yoon, Nicholas T. Camicia Professor in the Department of Mining and Minerals Engineering, has been named a University Distinguished Professor by the Virginia Tech Board of Visitors “for the significant contributions he has made to the science and technology of mineral processing.” The professorship is the highest rank awarded to a faculty member whose scholarly achievements have attracted national or international recognition and is bestowed upon not more than one percent of the total full time faculty at any time.



Yoon holds a bachelor's degree in engineering from Seoul National University, and master's and doctor's degrees in metallurgical engineering from McGill University in Quebec, Canada. His 35-plus-year career of engineering research into clean coal technology is highlighted by groundbreaking work in chemistry science and a desire to balance environmental safety with energy usage and job creation. He has generated more than \$40 million of research funding for the university, and he has advised more than 30 doctoral students and 25 master's students. He is a member of the National Academy of Engineering and has been honored multiple times by the Society for Mining, Metallurgy and Exploration (SME). Yoon is the director of the Center for Advanced Separation Technologies, a consortium of five universities including Virginia Tech, whose goal is to develop advanced separation technologies for producing clean solid, liquid, and gaseous fuels from domestic energy resources in an efficient and environmentally acceptable manner.

“As dean, I can still recall my interview with Roe-Hoan, then a young prospective assistant professor,” said Paul Torgersen, former president of Virginia Tech and former dean of the College of Engineering, in his nomination letter of Yoon to receive the Distinguished Professorship Award. “He clearly understood what was expected. Now, 30 years later, his curriculum vitae and recent election to the National Academy of Engineering is evidence of just how clearly he understood our objectives.”

In 1980, Yoon and a Virginia Tech research team developed a technology that uses microbubbles to produce clean coal from coal fines discarded to waste ponds. The U.S. Department of Energy-funded project resulted in the successful commercial technology known as Microcel™. Yoon's concept of using small air bubbles to separate fine particles since has become used in the flotation industry worldwide.

His most recent success is a new technology known as a hyperbaric centrifuge, which removes water from ultra-fine coal slurries. The new equipment and process can help coal companies stop discarding an estimated 70 to 90 million tons of fine coal refuse to slurry impoundments scattered across the Appalachian coal field.

Dr. Yoon's achievement of being named University Distinguished Professor is particularly significant since he is the first Mining and Minerals Engineering faculty member in the history of the program to receive such an honor. “There are few in the field today who have contributed in such a major way to both scientific understanding and technology development,” added Greg Adel, Professor and Head of the Department of Mining and Minerals Engineering, “Clearly, Dr. Yoon epitomizes what this appointment was established to honor.”

Dr. Michael Karmis Serves as 2010-11 Krumb Lecturer

Dr. Michael Karmis, Stonie Barker Professor for the Department of Mining and Minerals Engineering, has been named a 2010-11 Henry Krumb Lecturer by the Society for Mining, Metallurgy and Exploration (SME). Established in 1966, the Krumb Lecture series provides local SME sections opportunities to hear recognized industry professionals speak on subjects of their expertise.



Karmis holds both his B.S. and Ph.D from Strathclyde and is the director of the Virginia Center for Coal and Energy Research (VCCER), a statewide interdisciplinary study and research facility located at Virginia Tech. Karmis is a widely recognized expert in areas of rock mechanics, health and safety, carbon sequestration, sustainable development of energy processes, and decreased carbon footprints through effective coal degasification. He has written over 150 scientific papers, reports, proceedings volumes and textbooks, and he has directed 45 major research projects.

Karmis served as the 2008 President of the American Institute of Mining Engineers and the 2002 President of SME. He is a distinguished member of SME, an Honorary Member of AIME, a Fellow of the Institute of Quarrying, and a Fellow of the Institute of Materials, Minerals and Mining. He is the recipient of numerous awards from scientific, academic and professional organizations, including the 2008 AIME Mineral Industry Education Award, the National Stone Association's Professor of the Year award, and four Certificates of Teaching Excellence from Virginia Tech's College of Engineering. More recently, Karmis was awarded an honorary degree from the Scientific Council of Moscow State Mining University in Russia.

Dr. Karmis' lecture for the 2010-11 Krumb Series, *Carbon Capture and Storage (CCS) Research: The Road to Deployment*, examines the current status of CSS and addresses some of its legal, regulatory and financial barriers.

In the Time of T. C. Shelton

A Professor's Kid Looks Back on the Department and His Father

During the occupation of Europe, T. Carl Shelton, a sergeant in the army, was given an order to drive a senior officer to a command briefing. The only problem was that he didn't know how to drive. "Dad wasn't the kind of person that worried whether he'd know how to get something done," explained Ted Shelton, son of the late T. Carl Shelton. "He just figured things out so he could get them done." And so, after jumping into the jeep and spending a few minutes trying out gear shifters and pedals, the future Mining and Minerals Engineering professor chauffeured the waiting officer to his briefing.

Such was T.C. Shelton, a man who, according to family and friends, never knew a stranger, was down to earth and had great common sense. "He was a very nice fellow—a country boy who had a lot of hands-on experience in the coal mines of Jewell Valley," said Wayne Slusser, former senior tool designer and lab technician for the department and a close friend of Shelton's. "He liked to chew his tobacco, was always a gentleman, and I was jealous of his ability to never forget a name."

Professor Shelton hailed from Jewell Ridge, Virginia, the son and grandson of a coal mining family. He entered the Virginia Military Institute in the 1940s, but the need for soldiers at the close of World War II delayed his graduation while he served in the army of occupation in Europe from 1946-47. Afterwards, he enrolled at Virginia Tech and finished his degree, graduating with a B.S. in mining engineering. He began working in coal at Jewell Ridge, as his family had done, but a shortage of mining instructors and his established relationship with the department found Shelton being invited back to Virginia Tech to pursue his master's while also teaching.

"Blacksburg was a sleepy little town in those days," said Ted Shelton, who remembered living in the large brick home on the corner of Price's Fork and Tom's Creek known as the Woolwine House. "It was basic faculty housing, split for two families." Ted enjoyed growing up in Blacksburg in the late 50s. "I loved going to Lyric Theater. It cost 25 cents to see a movie; popcorn was another 10."

It was while living in the old Woolwine House with his wife Gordon Mae and son Ted, that T.C. Shelton worked as an instructor and completed his doctorate. "When Dad was writing his dissertation, he liked listening to the just released 'Battle of New Orleans' by Johnny Horton. He played it over and over again, unless he flipped it to the B-side which was 'All for the Love of a Girl.' My mom and I must have heard that record 5 million times," laughed Ted.

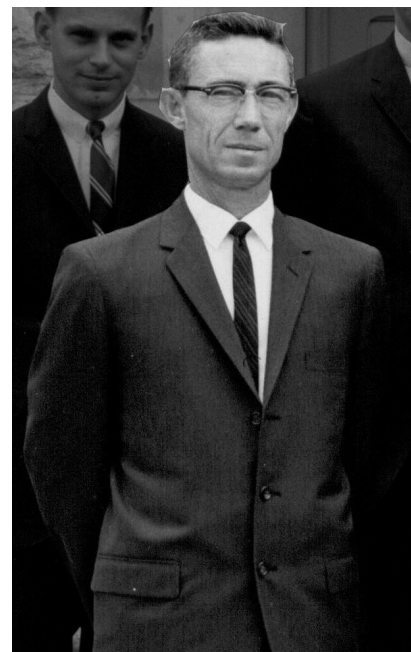
Shelton joined the department as a full time professor towards the end of C.T. Holland's tenure as department head, with J. Richard Lucas taking on the job for most of Shelton's tenure. "Holden Hall was like a second family to me," recalled Ted, whose father shared an office with Dr. Bill Foreman, another mining professor. T.C. Shelton developed a strong friendship with Foreman, as well as the department's Dr. Larry Adler. "The Foreman's and the Adler's became the closest friends my parents had outside of the workplace," says Ted, "they often got together for dinner or to go out."

Shelton taught the surveying course as well as specialized courses on coal. "My dad used to bring me to the duck pond or drill field for his surveying classes," Ted recounted. "The students were all very nice to me, and after a while enjoyed having me around." A dedicated instructor, Shelton's students quickly recognized that he cared about their learning and success. "The students all seemed to like him; they used to call him 'Proff,'" added Ted.

Much of Professor Shelton's research dealt with coal and coal mining safety. He and Slusser worked together on a number of projects ranging from a Bureau of Mines-funded coal dust suppression device using salt brine solutions, to injecting polymers into drilled bore holes as an alternative to roof bolts. Regardless of the work, Shelton had a keen awareness for mine safety. According to Slusser, "Dr. Shelton knew what he was doing in a mine, and, more importantly, what the mine was doing."

Shelton's knowledge and respect for safety lead to his appointment as the university's first Health and Safety Officer in the early 1970s, and he served in this capacity while still teaching in the mining engineering department. Later, Shelton would become instrumental in establishing the department's own Health and Safety Conferences, which would bring together and present current scholarship on mine health and safety research from throughout the nation for the next 30 years.

Sadly, Professor Shelton was not able to witness the continued success of the Mine Health and Safety conferences. In February of 1975, T.C. Shelton passed away while working in his Burruss Hall office. However, the department continues to honor Professor Shelton today for his dedication to students and his commitment to mine safety through its T.C. Shelton Scholarship, which is awarded to an undergraduate student each academic year.



Professor T.C. Shelton

"Blast from the Past"

The Spring 2010 "Blast from the Past" was taken during a mineral processing class field trip in the spring of 1989. The location is in front of a sphalerite concentrate stockpile at the ASARCO Young Mill near Jefferson City, Tennessee. Thanks to John Keene (Class of 1990) and Dianna (Grotto) Jablonski (Class of 1990) for helping out with the identification. The names of the students are as follows: Back Row: George Shen, Brian Schimmoller, John Keene, Mike Monk; Middle Row: Brian Sams, Mike Vencill, Tim Jessee, Amman Makonnen; Front Row: Richard Forrest, Greg Adel, John Wakefield, Eric Yan, Jerry Luttrell, Aundra (Booher) Nix, Ernie Blankenship, Dianna (Grotto) Jablonski, Larry Ratliff, Cathy Ratliff. The picture was most likely taken by Kelly (Fowler) Nylund who was also on the trip.



Our latest "Blast from the Past" comes from the pages of *Mining Engineering*. There are only a handful of our alumni who might have been around when this picture was taken, but the story behind this picture is rather interesting. It is very difficult to make out any faces, but can anyone out there identify the year and the location/event shown in this picture?



Please e-mail your responses to:
adel@vt.edu

Or mail your responses to:

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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. Any photos that are more than twenty years old would be greatly appreciated.

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