

# Mining Engineering

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## Recruitment of Future Mining Engineers: The Process and the Importance of Scholarships

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### Step 1: Doing the Homework



#### EOS Report - ACT Scores

- ✓ Math Score  $\geq 23$
- ✓ Interest in Engineering or related field
- ✓ UK is one of five schools

### Typical Results

- 500 Prospectives
- 120 Applicants
- 30%-35% Accept

### Step 3: Visit



- ✓ Identified Candidates
- ✓ Typically at High School
- ✓ Individually or Small Group
- ✓ 45 minute Presentation
- ✓ Good, Positive Message
- ✓ Scholarship Application

### Step 2: Mass Mailing



- ✓ Mining Engineering
- ✓ Career Opportunities
- ✓ Demand
- ✓ Scholarships

### Step 4: On-Campus Visit



- ✓ Parents Included
- ✓ 2-weeks from initial visit
- ✓ Meet Chair & Faculty
- ✓ Discussions with Mining Engr Students
- ✓ Classroom Visit
- ✓ Campus Tour

Figure 1. Flow chart showing the Mining Engineering recruiting process.

As we all know, mining engineering graduates are in high demand. In a recent report released by the U.S. Bureau of Labor Statistics, employment in the Mining Engineering and related fields is expected to increase by 10% over the next ten years. In another report resulting from a study sponsored by the Society of Mining, Metallurgy and Exploration, approximately 300 new mining engineering graduates will be needed over the next 10 years to keep pace with retirements and the demands of a projected 5% industry growth. The problem is realized when you consider that the combined production of B.S. Mining Engineering graduates from all U.S. programs in 2006-07 was only 129. The signs of demand far exceeding supply are clearly seen within the mining engineering departments across the U.S. including the program at the University of Kentucky.

During the 2007-08 academic year, over 20 companies conducted on-campus interviews with the majority of the companies clamoring for Fall visits to ensure early access to the students. The number of companies itself

is not necessarily impressive. However, the diversity of the companies is. The UK Mining Engineering Department is traditionally known as a coal-based school. However, due to the elevated demand for Mining Engineers, companies representing the largest copper producer, the second largest gold producer, the largest salt producer and major aggregate producers visited the department to interview students for summer internships and permanent positions. A sign of the good times is that companies offered signing bonuses of up to \$2,000 for summer internships and hourly salary from \$18 to \$22. Signing bonuses for permanent positions were up to \$10,000 with an average annual starting salary of \$55,000. The competition for securing Mining Engineering Graduates is so fierce that we are facing a competitive scheduling situation for Fall 2008 on-campus interviews with 18 companies currently scheduled.

With all of this positive news, it is still a challenge to recruit the best and the brightest into our mining engineering program. Why? There are several reasons: 1) students and families from coal producing areas are well aware of the boom and bust cycles that characterize the history of the

see blue.

The University of Kentucky  
is an  
equal opportunity university

continued on next page

**Recruitment** *continued from page 1*

mining business, 2) mining is perceived as a low tech, old economy industry, 3) life style issues associated with certain sectors of the mining industry (mostly dealing with excessive work hours per day and week) and 4) perceptions developed by negative press which has given the mining industry a poor environmental image. Overcoming these obstacles has been a challenge that starts with spending time with high school students to discuss the continued importance of mining, the modern technologies employed to extract low grade deposits and the career opportunities that exists in the mining industry.

As shown in Figure 1, (page 1), the recruiting process actually starts with conducting research using EOS reports to identify students who meet the ACT entrance requirements for admission into the College of Engineering and indicate an interest in pursuing an engineering education. Each identified individual is sent a letter introducing the student to the mining engineering department and the mining profession along with a scholarship application. Afterward, Ron Robinson, who is our Director of Student Affairs, visits the high schools and has a one-on-one conversation with each candidate. He discusses the importance of the mining industry and the career opportunities and reviews the scholarship application. If the candidate is interested, he schedules an on-campus visit to the department which will preferably include his/her parents. Out of 120 applicants, approximately 30% to 35% accept the scholarship and enter the program as freshman.

Some individuals question the effectiveness of scholarships and the amount of the scholarship in the recruiting process. However, our

experience with the best and brightest is that most are attracted to schools offering a desirable educational program and, most importantly, the largest amount of financial assistance through scholarships and other sources. The UK mining engineering program has been successful in attracting high quality students by combining a rather significant scholarship from the Kentucky Mining Engineering Scholarship program with scholarships from the college and university.

The significance of the scholarship amount is indicated by the data in Figure 2. From Fall 2001 to 2004, Ron Robinson was able to increase enrollment from a low of 22 to 58 while increasing both the composite and Math ACT scores. However, scholarship fund limitations required a reduction in the amount provided by each annual scholarship from an average of \$2,600 to \$2,000 per student. As a result, the GRE scores dropped significantly for the incoming freshman class in Fall 2005 despite the increase in undergraduate enrollment to 75. During the 2005-06 academic year, the Mining Engineering Foundation and university administration including President Lee Todd worked with legislatures to secure \$200,000 per year from severance tax revenue to fund the Kentucky Mining Engineering Scholarship program. As a result, the average scholarship amount awarded to each incoming student increased in Fall 2006 to \$2,650 which elevated the GRE scores back to Fall 2004 levels while enrollment continued to increase to a high of 98. In Fall 2007, a further increase in the scholarship amount per student resulted in the highest average GRE scores of any incoming freshman class in over a decade.

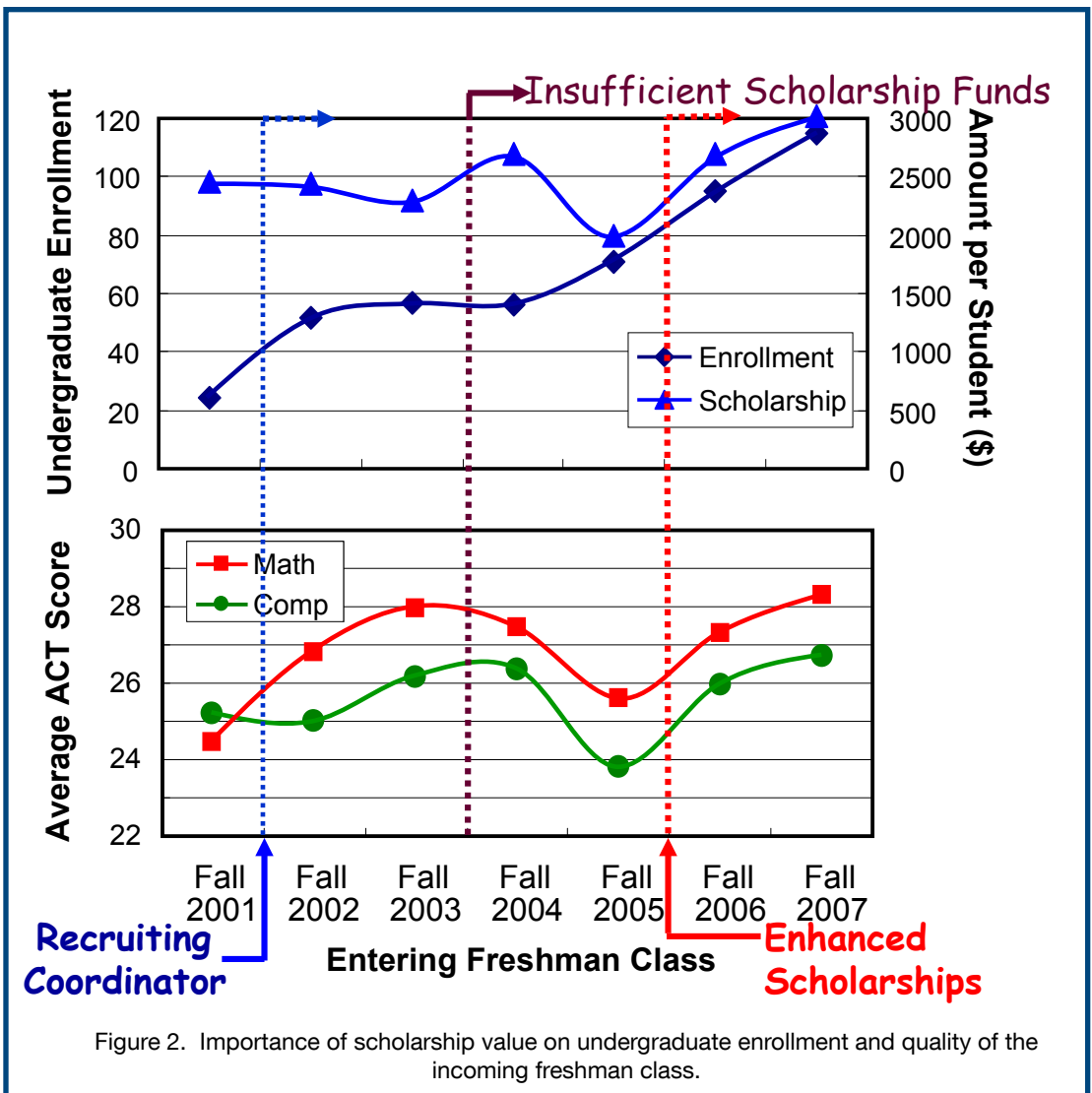


Figure 2. Importance of scholarship value on undergraduate enrollment and quality of the incoming freshman class.

Recent efforts of the Mining Engineering Foundation and, particularly, Bill Caylor, who is President of the Kentucky Coal Association, resulted in a \$100,000 increase in funding for the Kentucky Mining Engineering Scholarship program. This increase was critical for continued growth in the undergraduate enrollment and for attracting the best and brightest into the mining industry. The Fall 2008 incoming class will number over 40 with 7 freshmen having ACT scores over 30 and 19 with scores greater than 28. Scholarship funds are critically important as proven with the presented evidence. We are sincerely grateful to the State House Majority Leader Rocky Adkins for his support of our efforts to secure scholarship funds from severance tax revenue. In addition, appreciation is extended to the many companies, organizations and individuals who continue to provide scholarships that allow students to pursue a degree that will lead to a challenging and rewarding career in the mining industry.

Major Scholarship Contributors:  
 Center for Applied Energy Research, Alliance Coal, Alpha Natural Resources, Consol Energy, Massey Energy, Peabody Energy

## Greetings from the Chair



*Rick Honaker*

It has been a pleasure to serve as the Department Chair over the past year. During a year of significant growth in our department, perhaps the most significant change was Dr. Richard Sweigard's move to the position of Associate Dean for Academic Affairs and Administration in our College of Engineering and my subsequent appointment as Chair. Dr. Sweigard served as Chair for 14 years and is largely responsible for the many positive accomplishments that the Department has realized over the last few years. There is no doubt that I was handed the keys to a department that was already heading in the right direction and the accomplishments over the past year continued the positive movement.

At the time of my appointment to the Chair position, Dean Lester stated that his goal for the UK Mining Engineering Department is to achieve recognition as the best program in the U.S. Being a competitive individual, I was and remain excited about the possibility of successfully realizing this goal. However, achieving this goal will require a continued collaborative effort with our administration, industry and alumni to secure more faculty and graduate teaching assistantships, upgrade laboratories, increase scholarship funds and improve undergraduate retention. In regards to faculty, two of our faculty have entered phase retirement and it will be a challenge to identify and hire replacements to fill their critical roles in our department and industry.

The department realized many milestones during the year that was a result of our targeted recruiting efforts, elevated scholarship funds and a hard-working faculty and staff. One of the milestones involved undergraduate enrollment which surpassed 100 in the Fall of 2007 and included over 30 classified seniors. As a direct result of Ron Robinson's recruiting efforts, the quality of the incoming freshman class was exceptional as indicated by an average ACT score of 28.3 in Math, which is the highest average of any incoming class over the past decade. Scholarships awarded to undergraduate students totaled approximately \$358,000, which averaged about \$4,200 for every student receiving an award and represents another milestone.

Continued growth in the undergraduate program will require additional scholarship funds. Data clearly indicates that scholarships are a key to attracting the brightest students into the program. Working through the Mining Engineering Foundation and the Kentucky Coal Association, we were able to secure an increase of \$100,000 from severance tax revenue for scholarships. Summer internship and permanent employment opportunities are other important keys to attracting quality students. Over 20 companies conducted on-campus interviews in the department and several companies were first time visitors, i.e., Freeport McMoRan, Mosaic, Chevron and Newmont Gold. Our undergraduate students accepted summer internships that have sent them to mining operations across the U.S. including locations in Colorado, Florida, Nevada, Texas, Utah and Wyoming. The experiences obtained during the summer internships have proven to be crucial in the retention and graduation of our students.

The department recognized 10 B.S. graduates, 6 M.S. graduates and 1 Ph.D. graduate during the May 2008 graduation ceremonies. Seven of the graduates have taken permanent positions with coal companies in the Central Appalachia coalfields, two with Freeport McMoRan in Colorado, one with Newmont Gold in Nevada, one with Martin Marrietta in Indiana and four with mine consulting firms in Kentucky. Annual starting salaries averaged \$55,000 and ranged from \$44,000 to \$65,000.

With the upward trend in enrollment, the costs associated with operating the department have significantly increased. Most of these added costs are covered through donations to the department from alumni, friends and companies. A significant fund raising campaign was launched in Fall 2007 which netted about \$144,000 for the Development Fund. The wear-and-tear on laboratory equipment that is somewhat out-dated has also been accelerated by the number of students in laboratory courses. An effort to obtain the necessary funds to update both the rock mechanics and ventilation laboratories was initiated which has resulted in a \$25,000 commitment from an alum who has challenged his fellow alums to provide matching contributions. The plan is to raise approximately \$200,000 in funds and request a matching amount from the 'Bucks-for-Brains' program. Upgrading laboratory equipment will be important for attracting high caliber faculty in the current areas of need.

The support of its alumni is a key to any successful academic department. Efforts were initiated during the past year to strengthen the relationship with the department's alumni. For example, alumni were targeted for membership on the Mining Engineering Foundation Board and the result was four alumni being nominated and approved by the board for membership. Mr. Mike Day (1992 alum) was nominated and approved for appointment to the Executive Board as the Vice Chair. Also, in an effort to elevate interest in the program, a seminar focused on 'Crisis Management' was held in conjunction with our spring board meeting which drew over 80 mining professionals from five states and resulted in one of the largest attendances for a Foundation Board meeting.

Another key achievement during the 2007-08 academic year was the promotion of Dr. Joseph Sottile and Dr. Daniel Tao to the rank of Full Professor. As a result, seven out of the eight faculty in the department have completed their climb up the professorial ladder. The faculty have continued to be successful in securing new research funds from a relatively broad range of sources. The amount of new funding will exceed \$1 million for the fifth time in six years. In addition, Dr. Braden Lusk achieved a milestone in attracting funds for two large projects. At a meeting held by Congressman Hal Rogers on May 12, 2008, it was announced that Dr. Lusk will receive two Homeland Security projects totaling over \$1.6 million over 3 years. We are very excited about the very positive impact that Dr. Lusk has had with the undergraduate students and the success realized in his research program.

The excitement and interest in our program is expected to continue through the 2008-09 academic year. The number of new freshman entering the program in the Fall is expected to be around 40 based on admission and scholarship acceptance letters. The Department will award another record amount in scholarships to students who have exceptional academic achievement. Summer internships and permanent positions will be readily available as indicated by a total of 18 companies who have already scheduled interview dates for the Fall.

In closing, the global demand for resources and the demographics within the mining industry has significantly elevated the need for an influx of new engineering talent. It is indeed an exciting time for our department and the mining engineering graduates. As a result of the support received by the mining industry, alumni and university administration, our department is well positioned to continue to make great things happen into the future.

Regards,

Rick Honaker  
Chair & Professor

## MINING ENGINEERING SPRING EVENTS APRIL 17-19

This year's 2008 Department of Mining Engineering spring activities brought new events and new faces to Lexington and the campus. Five outstanding events were held over a three-day period during a traditionally busy April in Lexington.

The week's events began on Thursday evening as Michael Schaal presented the Mining Engineering Foundation Distinguished Lecture with a discussion on "Fossil Fuels in a Future with Biomass Power, Biofuels and Climate Change." Mr. Schaal, Director of the Energy Information Administration's (EIA) Oil and Gas Division for the US Department of Energy in Washington DC, spoke to a crowd of 60+ in the Mining and Mineral Resources Building, and highlighted EIA's understanding of these issues and how they may play out in the future for coal and other energy supplies. After the lecture, the group walked next door to the newly renovated Boone Center Faculty Club for a reception hosted by the Mining Engineering Foundation.

Friday morning's new professional development seminar, Crisis Management in the Coal Industry, was extremely successful as over 75 participants listened to a group of experts, industry leaders, federal and state mine safety officials, and press, discuss managing a crisis in the mining industry. There were nine speakers, two of which were UK Alums (mining option) Charles Grace (BSMNG '72), and Marco Rajkovich (BSMNG '78). Lunch followed at the Boone Center, where seminar participants, mining students, faculty and staff, foundation

board members, UK College of Engineering Dean Thomas Lester and UK President Lee Todd enjoyed lunch together.

The group returned to the Mining Building for the Foundation Board Meeting with President Todd, Thomas Lester, Marc Matthews, Treasurer of the University of Kentucky, James Tracy, Vice President for Research, and Dennis Hatfield, Chair of the Mining Engineering Foundation welcoming and speaking to the members and guests. Dr. Rick Honaker discussed recent department funding and research activities, and presented a summary of his recent survey of graduate employment and salaries. He reported that mining ranked 2<sup>nd</sup> in the college for the highest beginning salaries for graduates.

Before adjourning, Dr. Honaker expressed appreciation and thanks to Dennis Hatfield for his service the past two years as chair of the Mining Engineering Foundation. The department appreciates Mr. Hatfield's time and continued commitment to the University of Kentucky.

The 26th Annual Mining Awards Dinner was held Friday evening at the Embassy Suites Hotel with over 100 in attendance. This upbeat and festive dinner began with a reception hosted by Jenmar Corporation. The department would especially like to thank Al Campoli of Jenmar for orchestrating the reception. It was great to see several alums we haven't seen in several years, and hope many of you will plan to attend next year.

After dinner, Dr. Braden Lusk showed a PowerPoint presentation highlighting student activities throughout the year. Thanks to the many companies and individuals who financially donated to the SME Student Chapter, the students have been given the opportunity to gain valuable industry experience by participating and traveling to events, meetings, and competitions while representing the University of Kentucky.

Individual student award winners were announced, and UK hard hats were distributed to the graduates. For the past three years, the hats have been given to all graduating seniors so they will always be identified with the University of Kentucky throughout their careers. For a list of all award recipients, please see box on page 8.

Dr. Rick Sweigard and Dean Lester presented special recognition awards to Alliance Coal and Massey Energy for their financial contributions and continued dedication to the Department of Mining Engineering at the University of Kentucky. Bryan Lummus of Alliance Coal and Chris Adkins (BSMNG '93) of Massey Energy accepted the awards on behalf of their respective organizations.

Dean Lester and Dr. Honaker presented Dr. Sweigard with a Distinguished Service Award for his 14 years of service as department chair. Dr. Sweigard is now Associate Dean for Academic Affairs and Administration for the College of Engineering.

The weekend came to a close as the students held their end-of-year picnic on Saturday evening at the home of Ed and Bill Thompson. Thanks to a donation from Leeco President Joe Evans (BSMNG '81), the students were able to have plenty of food to satisfy their appetites going into finals week. The department would also like to thank Ed and his brother Bill Thompson for their time and resources in hosting the picnic and ensuring its success.

Brian O'Dea, outgoing SME student chapter president for the past two years, spoke to the students and ended his tenure with yet another one of his trademark quotes "Reach for the stars, and you might hit the moon."



## SME Student Chapter Activities

by Brian O'Dea, SME Norwood Student Chapter President

The fundamental goals for this year's student chapter were to promote professionalism, networking, service, and friendships through diverse activities. Within these goals, there were many underlying aspirations, and the executive committee believed that these aspirations were essential to the chapter's success. With support from the industry and the department, it was possible for the students to attend 4 regional/national conferences, 19 company presentations, 21 meetings, 10 mining related tours and 5 banquets/dinners. All of these events contributed to the students' professional growth and industry/mining knowledge.

This year, we sent one men's team to the Intercollegiate International Mining Competition. Teams from universities within and outside the U.S. participate in this event which was held this year on the campus of Missouri-Rolla. The six members of the team included Nate Waters, Kyle Perry, Daniel Peterson, Rob Gabbert, Aaron Burton, and Joshua Hoffman. Nate Waters and Kyle Perry took first place in the jackleg competition, making them international champions! While UK students have only been competing in the competition for two years, they have done extremely well, and we look forward to making the competition more competitive in years to come. This competition is important to the growth of the student chapter because it provides an atmosphere where relationships can be created among the team's members as well as members of opposing teams.

The professional growth of the students is imperative. Thus, it is essential for students to be offered the opportunity to interact with constituents and colleagues. With events like the SME national meeting, Central Appalachian Meeting, distinguish lectures, and weekly meetings,



the students are given that chance to network with people from the diverse communities within the mining industry.

This year, SME Norwood Student Chapter took on the challenge of outreach to the community. Food drives, visits to local schools, and gift collections were a few of the avenues that allowed the students and the faculty to give something back to the community. Food drives and gift giving helped remind students of the power of kindness, and how lucky we are as individuals to have what we have. Furthermore, SME knows it has a responsibility to educate the local community about the mining industry. With that goal in mind, several of the students visited local schools to talk about the benefits of mining and to educate them on the importance of the industry. Based on similar activities performed during the previous academic year, the Norwood Chapter received the 2008 GEM Award at the 2008 SME dinner.

We recognize that retention of the undergraduate students in the Mining Engineering Program relies on the development of friendships and the feeling of self assurance that the correct profession has been chosen. We have instituted a mentoring program that links upper division students with freshman in an effort to get the freshman involved in activities of the chapter and the department. The Norwood Chapter also sponsored several intramural sport teams including multiple teams in football, basketball and softball. Our teams were successful, not only in securing wins, but more importantly in the development of camaraderie within the underclassmen.

The SME Norwood Student Chapter creates lifetime experiences for its members. From field trips across the nation to dining with members from industry, SME has given students the chance to see, touch, feel, and even taste new things. It is with these activities that students become well-rounded, and they become open to the many possibilities that careers in the mining industry have to offer.



Jesse Richardson talking to students at E-Day

### Need some kind of title for these news items

- Dr. Joseph Sotile and Dr. Daniel Tao were promoted to the rank of full Professor effective July 1, 2008.
- Dr. Rick Honaker was presented with the Frank F. Award by the American Institute of Mining, Metallurgical and Petroleum Engineers (AIME) at the 2008 SME Annual Dinner in Salt Lake City, Utah for his contributions to the field of coal and minerals processing.
- Dr. Braden Lusk qualified for his 2007 - 2008 Departmental Professional Engineering license by passing the PE exam in Fall 2007. He was also selected and received the Outstanding Teacher Award for the second consecutive year.
- Kevin Harris, BSMNG '08 received the inaugural Seeley W. Mudd Memorial Ph.D. Fellowship from the Society of Mining, Metallurgy and Exploration. The fellowship will provide a stipend and or 5,000 annually for three years to support his Ph.D. research in mine ventilation.
- Dr. Kot Unrug entered the phase retirement program in the 2007-08 academic year and Dr. Andrzej Wala has been approved for the program starting Spring 2009. The program lasts for five years and both professors will teach one semester each year.
- Jesse Richardson received a \$2,500 scholarship from the Coal Energy Division of the Society of Mining, Metallurgy and Exploration.

# UK MINING ENGINEERING EXPLOSIVES RESEARCH LABORATORY

by Dr. Braden Lusk, Assistant Professor

The University of Kentucky has developed a world class explosive research laboratory over the last two years. The test facility is located in Georgetown, Kentucky inside an underground quarry operated by Nally and Gibson. With the help and cooperation of Frank, BSCE '58 and Richard Hamilton, BSCE '84, who manage the quarry, as well as many other employees, a large amount of space was prepared and provided for the University of Kentucky explosives laboratory.

The underground facility already has extensive capabilities. Through external funding from a U.S. Department of Defense blast mitigation project, a shock tube facility has been developed that is capable of generating pressures up to 40-psi (on a surface area of 8.5 feet X 8.5 feet) with a range of positive phase durations by using small amounts of high explosives. This research apparatus pictured (right) was developed for blast mitigation research of novel construction materials but can also be used to test seal designs and even blast resistant windows or curtain-wall building systems. Recent research by the UK Explosives Research Team along with industry partners has generated some quantitative data that shows the amount of pressure drop created by placing material berms in front of seal surfaces. While current structural limitations do not permit pressures above 40-psi, work is underway to strengthen the shock tube to allow for generation of 50-psi pressure waves similar to those expected from methane explosions, and 120-psi capability (on a surface

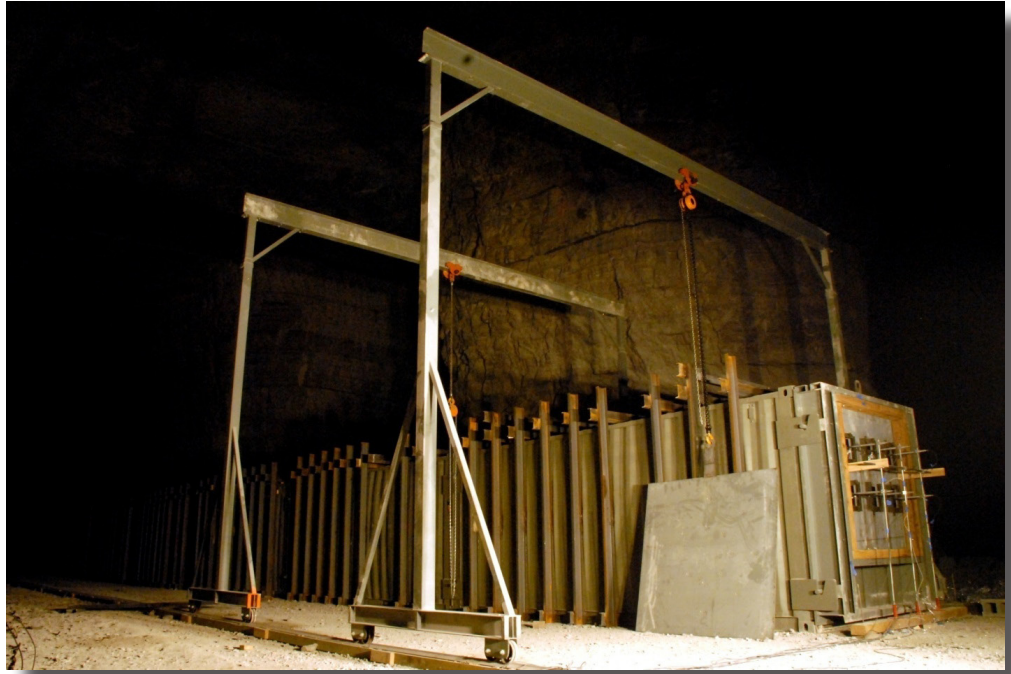


Figure \_\_\_\_ Shock tube installed in the UK explosives lab.

area of 10 feet X 20 feet) is a stated goal of the research team. Funding that directly supports this effort will be required to meet this objective. In addition to the shock tube capability, the Georgetown facility also allows for small arena tests of up to 3 lbs. of unconfined high explosives.

The test facility is supported by a state of the art instrumentations system. 14 Channels of 10 MHz data acquisition, high speed video up to 16,000 frames per second, a range of pressure sensors both free field and reflected, high resolution photography of events, and potential for high speed strain measurement, make the lab competitive with the best explosives laboratories in the world. The picture (left) shows a blast event captured on high speed video. In cases where larger blasts are required, all of the instrumentation is portable and can be utilized at ranges such as Ft. Knox or other larger explosive range facilities.

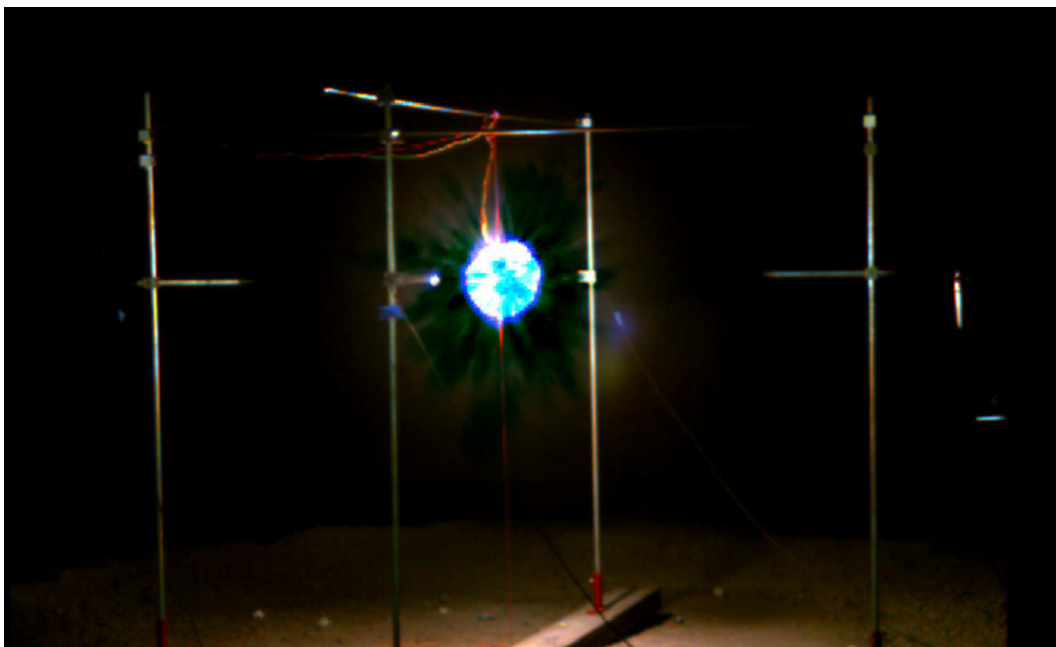


Figure \_\_\_\_ blast event.

In addition to the blast mitigation equipment, we have obtained a large amount of seismograph and vibration monitoring equipment for monitoring mining and construction blasting. Much of this equipment including the high speed video could also be used to analyze mine blasting, and assess potential explosive product or blast design changes.

## DEPARTMENT RESEARCH ACTIVITIES



*Dry, coarse coal cleaning at an eastern Kentucky mining operation.*

The faculty continued their success in attracting a high level of new research funding. Since 2002, new research funding has exceeded \$1 million each year with the exception of one. In fact, the Mining Engineering Department ranked first or second among the UK Engineering Departments in the amount of new research funding per faculty member in five out of the last six years. As shown in Figure 1, the department has grown its research funding base significantly from the pre-2002 levels. The total amount of new funding secured during the 2007-08 academic year for projects that are primarily guided by mining faculty is news recently concerning the awarding of two large projects to Dr. Braden Lusk. On May 14, 2008, Congressman Hal Rogers announced at a meeting in Somerset that two projects submitted by Dr. Lusk were selected for funding by the National Institute of Homeland Security. One project will investigate methods for blast protection for electric transformers while the other focuses on damage protection from the negative phase that is created from a blast. The total funding for both projects is approximately \$1.615 million which will likely be counted toward the 2008-09 new funding balance for the department. During the current academic year, Dr. Lusk received a project from the Office of Surface Mines to examine the response of structures to blast mitigation methods. When considering all UK projects involving mining faculty, the total exceeds \$3 million.

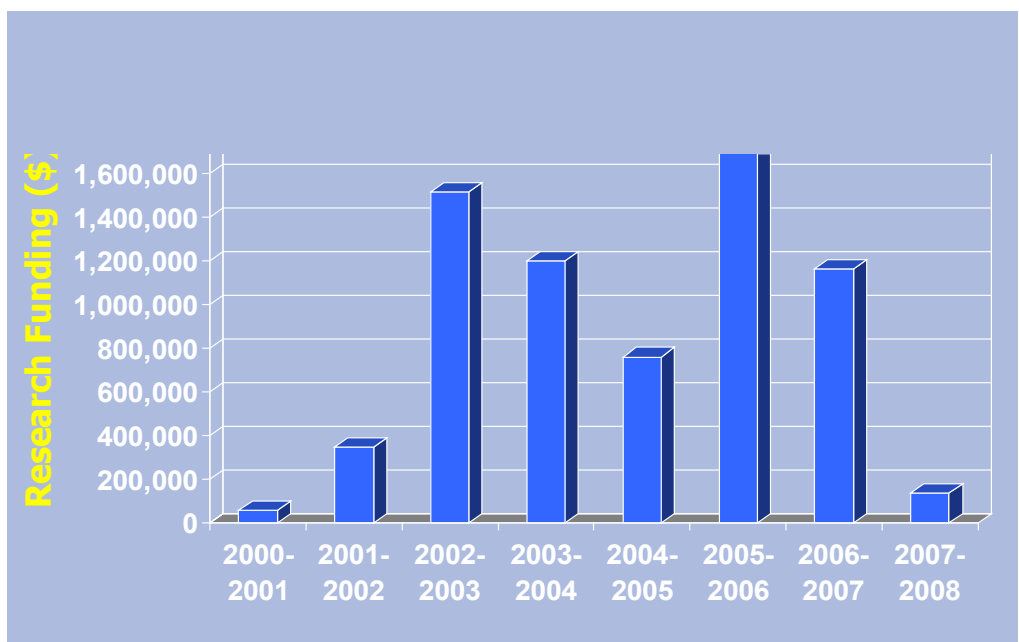
Another area receiving a significant amount of research funding is the development of new mining technologies and methods for the economic extraction of coal from thin seams. Coal mining productivity has decreased in Kentucky from around 150 million annually in the late 1990's to its current level of approximately 115 million annual. The decline is due in large part to the reduction in the seam thickness of the coal reserves remaining in the Central Appalachia coal fields. To economical extract coal in this region, a significant amount of out-of-seam material is removed which adds to the mining cost and

environmental footprint. As a clear result, the average preparation plant yield in eastern Kentucky is around 40%. The UK Mining Engineering Department has been granted \$195,000 from the Kentucky Governor's Office of Energy Policy (GOEP) to investigate and development methods and technologies that can be used to improve the efficiency and economics of extracting coal from thin seams. The research is being led by Dr. Joseph Sottile and the team includes Drs. Richard Sweigard, Kot Unrug and Braden Lusk.

The minerals and coal processing area continued to attract a significant amount of funding from a very diverse base of agencies. A number of production problems exist in the extraction of oil from tar sands including issues with clay. Dr. Daniel Tao has developed a clay binder through collaborations with Georgia Pacific that may significantly enhance the efficiency of the oil extraction process. He received a \$250,000 grant from the Canadian Oil Sands Network (CONRAD) to quantify the technical and economical benefits that clay binders provide during the processing of the Alberta tar sands.

Coal preparation projects include the development and demonstration of dry coarse coal cleaning technologies for the rejection of coarse rock at the mine sites in eastern Kentucky prior to haulage to a preparation plant. The project was led by Dr. Rick Honaker and funded by the Kentucky GOEP to reduce energy consumption and costs for mining operations. A similar goal is the focus of a project being funded by the U.S. Department of State. The project will investigate the use of dry cleaning technologies for upgrading coals in India and involves two U.S. institutions, an Indian university and a U.S. equipment manufacturer.

Research funding for the 2008-09 academic year is expected to increase significantly in large part due to the previously described contracts awarded to Dr. Lusk. However, the biennial budget recently approved by the Kentucky legislature includes \$3.5 million annually in research funds that is to be directed toward energy related issues including a focus on thin seam extraction, mine safety issues, mine tracking and communication issues, and coal slurry disposal. We expect that the department will actively participate in research directed at each of these issues in an effort to provide beneficial technologies and methodologies that will maintain or improve the productivity of coal mining throughout the state while ensuring a safe working environment.



## UK MINING ENGINEERING FOUNDATION

The Mining Engineering Foundation was established in 1983 and thus is entering a notable 25<sup>th</sup> year of existence as a key support organization for the department. Many accomplishments have been realized by the foundation including:

- Establishment of a permanent endowment;
- Formation of a Graduate Research Fellowship Fund;
- Led in the success in securing \$300,000 annually from the state severance tax funds to fund the UK Mining Engineering Scholarship Program;
- Established the endowment for the Mining Engineering Foundation Professorship.

Current Corporate Members include: Alliance Coal, Alpha Natural Resources, Arch Coal, Carbontronics Fuels Management, Coal Energy Investments & Management, CONSOL Energy, ECCO Mining Co., Howard Engineering & Geology, Kentucky Coal Association, Kentucky River Properties, Magnum Coal Company, Massey Energy, Mosaic Company, Natural Resource Partners, Peabody Energy, Progress Energy, TECO Coal Corporation

The Department hopes to commemorate this 25<sup>th</sup> year anniversary in the Fall.



*Dave Zegeer at the 2008 Spring Mining Event.*

## STUDENT AWARD WINNERS

Academic Excellence Award – Kevin W. Harris

Tau Beta Pi Recognition

Outstanding Senior – Eric A. Joseph

Outstanding Teacher – Dr. Braden Lusk

Catesby Clay Leadership Award – Nathaniel C. Waters

Careers-in-Coal Lamplighter Award – Adam J. Ramsey

Old Timers' Club Award – Kevin W. Harris



*Adam Ramsey accepts his UK hard hat from Ed Thompson at the department's spring event awards ceremony.*



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