

## MECHANICAL AND AEROSPACE ENGINEERING

Volume XXVI

Fall 2004

[www.mae.cemr.wvu.edu](http://www.mae.cemr.wvu.edu)

Those who provide the day-to-day energy and expertise to educate students in the Department of Mechanical and Aerospace Engineering know that this year's results are quite impressive. Students truly grow and mature during their years in the program. Each new class of graduates makes us very proud to have been a part of the process to mold them as engineers of the future. Everyone has the opportunity to aid this important process in a truly personal way. A choice to include a gift provision in your will is one option. Supporting student projects, providing for laboratory improvements, creating a scholarship or donating discretionary funds can all be done with the wording "to the West Virginia University Foundation for the benefit of the College of Engineering & Mineral Resources' Department of Mechanical and Aerospace Engineering" in your will. Your attorney can add the appropriate language to carry out any of these important choices for support. You may also choose to have any of those funds function as an endowment that will operate in perpetuity and will provide annual income for the Department to fulfill your specifications. You may name the endowed fund for whomever you wish to honor in this special way. Yes, it's possible to be part of shaping the progress made by the future mechanical and aerospace engineering majors who walk in the doors at WVU and say "I'm here to learn!"

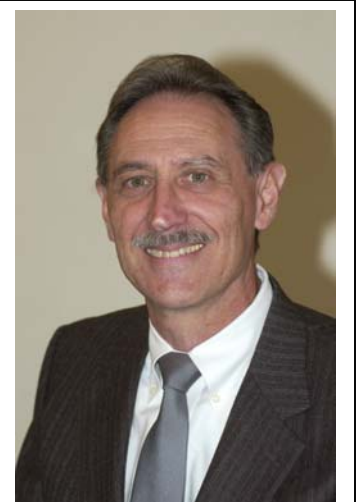


**Dr. Ever J. Barbero,  
Chairman**

### ACADEMY OF DISTINGUISHED ALUMNI INDUCTS NEW MEMBERS

**The Academy of Distinguished Alumni of Aerospace Engineering** is pleased to induct Dr. Paul G. Migliore. He has been a leader and pioneer in the development of wind energy for over 28 years. His career has spanned four major categories of work: national defense, academia, business owner/entrepreneur, and government research. While teaching at the University of California at Davis, Dr. Migliore conducted experimental research on straight-blade Darrieus wind turbines and fault analysis of horizontal axis wind turbines. He taught undergraduate courses in fluid dynamics, applied aerodynamics, aircraft performance, aircraft stability and control, aircraft design, and wind tunnel testing. Dr. Migliore was the founder and CEO of West Wind Industries, a start-up wind-energy company. West Wind conducted research on advanced wind turbine

concepts under sponsorship of the Solar Energy Research Institute (SERI) and Sandia National Laboratories. He has worked at the National Renewable Energy Laboratory (NREL) in Colorado and has developed the procurement approach for the Department of Energy's (DOE) Next Generation Turbine Development Program. He received the prestigious Director's Award for

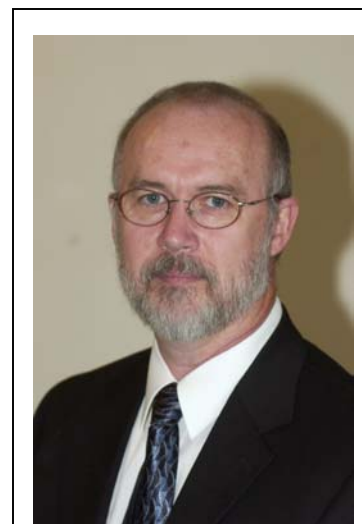


**Dr. Paul G. Migliore**

his work in managing the largest subcontracts ever awarded by NREL. Paul managed numerous projects to forward the state of wind energy technology, including all phases of design, prototype fabrication and testing, and field-testing. He has worked at all levels of investigation from development of individual components to integration of fully integrated test sites connected to the electrical power generation and distribution grid. Dr. Migliore has authored approximately seventy technical reports, journal articles and conference papers. He earned a BSAE in 1967 and a MSAE in 1969 West Virginia University, a M.S. in Systems Management from University of Southern California in 1972 and a Ph.D. from West Virginia University in 1979.

**The Academy of Distinguished Alumni of Mechanical Engineering and Mechanics** is pleased to induct George E. Butterworth III. He has over 20 years of experience in the management of environmental and waste management related activities at sites containing radiological, chemical, and mixed materials and waste. This experience has encompassed management of waste operations, which included the handling, storage, treatment, and disposal of a wide variety of hazardous materials, including chemical, radiological, asbestos, and sanitary waste. Other management responsibilities

included the development and implementation of low-level radioactive waste disposal alternatives and the development and publication of documentation for the remediation of FUSRAP sites within the Buffalo District. Mr. Butterworth also has extensive experience in assessing radiological risks and other hazards associated with radioactive waste storage, decontamination of old underground radioactive waste storage tanks, radioactive grout injection facilities, reactors, isotope chemical processing, and other waste management operating facilities. He has served in a variety of technical and management positions with the U.S. Department of Energy and its contractors since 1976. Mr. Butterworth earned a B.S. in Mechanical Engineering from West Virginia University in 1974 and a M.S. in Nuclear Engineering from Purdue University in 1976.



**George E. Butterworth**

## FACULTY AWARDS

**Dr. Jim Smith** was elected a Member of the Board of Directors of Society of Automotive Engineers (SAE) International. Jim is a highly accomplished faculty in the Department. He also serves SAE as Chair of the Engineering Meetings Board that reports to the Board of Directors. His inauguration as a Member of the Board of Directors is celebrated by all of us in Mechanical and Aerospace Engineering at West Virginia University as it recognizes Jim's leadership role in SAE International and reflects a strong level of participation of our faculty and students in SAE. A large number of the nearly 400 undergraduate and 200 graduate students enrolled in Mechanical

and Aerospace Engineering are interested in automotive engineering and will pursue careers in this field. It is only natural that our faculty, and Jim in particular, has had a large role in SAE activities over the years. Jim is an accomplished researcher and holder of many patents. His leadership is reflected also at WVU, where he is the Chair of the Executive Committee of the Faculty Council of the College of Engineering and Mineral Resources. His research projects are amalgamated under the Center for Industrial Research Applications (CIRA), which he directs. His teaching interests lead him to a prominent

position in shaping our freshman engineering program.

**Dr. Ismail Celik** was named an ASME Fellow. This is the highest membership grade in the American Society of Mechanical Engineers in recognition of outstanding contributions to the Mechanical Engineering Profession. Only a handful of names are added to the roster every year. The Department congratulates Dr. Celik for this well deserved award. Dr. Celik's work in computational fluid dynamics is recognized internationally.

**Dr. Ever J. Barbero** was named an ASME Fellow. Dr. Barbero's work on composite materials is recognized internationally as being world-class research. The award further recognizes his leadership in academia.

**Dr. Ken Means** was named CEMR Teacher of the Year. In a ceremony April 16, 2004, the College of Engineering and Mineral Resources at West Virginia University awarded six outstanding teaching awards. Two of those went to faculty in Mechanical and Aerospace Engineering: one to **Dr. John Kuhlman** and the other to Dr. Ken Means. Among the six recipients, the college selects The Teacher of the Year, which this year went to our colleague, Dr. Means.

Dr. Means is active in kinematics and dynamics of machinery and vehicles, erosion and wear of materials, heating-ventilation-air conditioning, and optimization.

Dr. Kuhlman is active in linear aerodynamic theory, aerodynamic wind tunnel testing, V/STOL propulsion induced aerodynamic effects, automated aerodynamic design, experimental studies of jets, buoyant thermal plumes, laser Doppler anemometry, Doppler Global Velocimetry (DGV), point Doppler velocimetry (pDv), flow effects on performance of high power gas flow spark gaps, gas/liquid flows, winglet design, and strake vortex control.

**Dr. Nigel Clark** was named CEMR Researcher of the Year. The College awarded five outstanding research awards. Two of those went to faculty in this department: one to **Dr. Marcello Napolitano** and the other to Dr. Nigel Clark. Among the five recipients, the College selects the Researcher of the Year, which this year went to our colleague, Dr. Clark.

Dr. Clark's areas of interest include vehicle design, advanced vehicle concepts, alternative fuels and the measurement and reduction of vehicle emissions. He has also published extensively in the areas of particle science and multiphase systems.

Dr. Napolitano excels in the fields of aircraft stability and control, flight mechanics, flight control systems, and neural network applications.

For the first time this year, the college established a **CEMR Outstanding Advising Award**. Two awards were given this year. One of them went to **Dr. Nithi Sivaneri** of Mechanical and Aerospace Engineering. Dr. Sivaneri conducts research in analysis of helicopters & airplanes, numerical methods including finite element analysis and boundary element methods, composite materials, fracture mechanics, structural dynamics, structural analysis, bioengineering and computational fluid mechanics.

**Dr. Gary Morris** is this year recipient of the ADA Teaching award. The Academy of Distinguished Alumni of Aerospace Engineering and the Academy of Mechanical Engineering and Mechanics established this award to recognize excellence in teaching within the Department. Dr. Morris conducts research in experimental fluid mechanics, aerodynamics, combustion systems, and laser velocimetry.

These awards constitute irrefutable proof of the level of excellence in teaching, research, and advising in the Department, and every faculty member in the Department should be congratulated for their excellent job.

## STUDENT PROJECTS AND ACTIVITIES

**Future Truck.** Future Truck is a student design competition, in which 15 universities from across North America compete. Ford and the Department of Energy are the major sponsors. The goal of the competition is to design and build a hybrid vehicle based on the 2002 Ford Explorer platform. In doing this, the teams are expected to improve fuel economy by 25% and reduce harmful emissions while maintaining the performance of the stock vehicle.



**WVU Future Truck 2004**

The WVU Team Exclaim! built a parallel hybrid electric vehicle using a 2.5 liters Detroit Diesel engine and an 18 horsepower 48 volt Leeson electric motor. In addition to this, a particulate matter trap was installed in the exhaust system to reduce harmful pollutants produced by the diesel engine, and a selective catalytic reduction system was installed to reduce oxides of nitrogen in the exhaust. A urea injection system was installed to further reduce NOx in the exhaust. The vehicle was also equipped with standard transmission to increase fuel economy. The Exclaim! was an electronically intensive vehicle, using National Instruments to control the hybrid system and several other vehicle functions. In the final year of the Future Truck competition, Team Exclaim! finished second in greenhouse gas emissions,

despite two early technical setbacks. The vehicle easily maneuvered through the treacherous off-road course, and completed the trailer tow event with no problems. The team vehicle achieved 21.8 miles per gallon compared to 17 for the stock vehicle on a city and highway drive cycle in the fuel economy event. This was the third best fuel economy rating out of the 15 teams that competed.

In the year 2004, WVU will begin a new student design competition based on advanced vehicle technologies called Challenge X. This competition is sponsored by General Motors, the Department of Energy and others, and is based on the new GM crossover vehicle, "the Equinox". The goals of this competition are to increase fuel economy and reduce emissions of the stock vehicle while maintaining its overall consumer appeal. In the first year, students will design a vehicle using modeling tools and select components. In years two and three of the competition students will take these components and implement them in the Equinox. WVU's modified Ford Explorer, the Exclaim!, placed sixth overall during the 2002 Future Truck competition, a contest that is helping redefine how industry, government, and academia can work together to develop more energy-efficient and "greener" automotive technologies for SUV's and light-duty trucks.

**2004 Mini Baja Competitions.** Baja is a senior design project car competition sponsored by SAE. Each vehicle is judged on acceleration, top speed, braking, land maneuverability, deep-water maneuverability, tractor pull, suspension, traction, and endurance. This is the first year that WVU has built and competed three Baja cars in one year. With a record size Baja class, one of last year's cars was rebuilt and two new cars were constructed. New lathes and a milling machine in the shop helped this endeavor.

**Mini Baja East in Montreal, Quebec, May 6-8, 2004.** A team of six MAE senior ME students competed against 62 schools from all over North America and finished 19th overall. The vehicle proved to be very durable finishing 21st in the four-hour endurance race. The vehicle was also very fast, with the 7th top speed of the entire group. It also proved to be maneuverable on land and in the water with a 10th place finish in both those events. The events were held at a ski resort in Bromont, outside of Montreal.

**Midwest Baja in Jefferson City, Wisconsin, June 3-6, 2004.** Two WVU Baja teams fielded cars in the Midwest Baja. Eleven students took part in the events in Wisconsin. A record 137 teams participated from all over the world, including Korea, South Africa, Brazil, and Argentina. The two WVU entries did very well with one finishing 18th and the other 70th. Car #50 driven by Stefan Ivanescu came in second place in the land maneuverability event and first place in the cost event. It was the 9th fastest car at the event and finished 22nd in endurance.

**Design-Build-Fly.** Every year, senior Aerospace Engineering students design, build, and fly an electric powered, remote controlled aircraft. The aircraft is designed to compete in a national event under strict rules that change every year. This year's 2004 Cessna Office of Naval Research Student Design-Build-Fly (DBF) competition was held at the Cessna East Field facility in Wichita Kansas over the weekend of April 23rd to 25th. This year's mission was a fire bomber mission where up to four liters of water had to be carried in the aircraft, then dropped over a designated area. The West Virginia University DBF team went to Wichita with two entries this year incorporating innovative aerodynamics and aerospace composites. This year's team consisted of 15 students, with Dr. John Loth and Ph.D. student Richard Guiler as the team advisors. The WVU team had the generous support of the Department of Mechanical and Aerospace Engineering, the West Virginia NASA Space Grant, many local Morgantown businesses, and WVU alumni. The WVU team's first entry, the

Sting Ray, featured a fuselage, which acted as a water tank and a half duct for the propeller to improve the propulsion efficiency. Unfortunately, the airflow from the duct-fuselage interacted with the tail control surfaces. Without adequate control surface response, Team Stingray remained grounded throughout the competition despite numerous attempts to complete mission objectives. WVU's Sting Ray team has been called the most innovative aircraft at the competition this year despite it's 23rd out of 35 finish. The second design, called the Right Flyer was the first pure tailless aircraft ever to complete the competition. The team worked hard to fix damage caused by a crash early in the competition and was only able to get one of their three scoring flights in before 5:00 pm Sunday. This flight was worth the trouble with an average speed of 81 feet per second. Even with only one of three scoring flights completed, the Right Flyer finished 19th out of 35 and made history with its unique design.



**WVU flying-wing Right Flyer**

**Microgravity.** Every year, senior Aerospace Engineering students design an experiment to be conducted in a reduced gravity environment. The team competes with other college teams across the USA for time on NASA's micro gravity platform. Selected teams get to fly onboard NASA's micro gravity aircraft to conduct their experiment. This year's experiment for the 2003-

04 NASA RGSFOP microgravity project is entitled Magnetic Enhancement of Pool Boiling in Microgravity. The four students involved in the project are: Michael Campanelli, dual major, Nicholas Fredrick, dual major, Christopher Sunderlin, ME major, and Brianne Williams, AE major.

**Balloon Satellite.** Every year, Aerospace Engineering students design and build a sensor package to be lifted to the stratosphere by a NASA balloon. The satellite includes observation instruments and recording devices for atmospheric studies and other uses. Also, it contains global positioning (GPS) tracking that allow the students to track the satellite's travel path and to ultimately find and recover the satellite upon return to earth's surface. This year we had four teams. Team "My Precious": Molly Andreou, Emily Everly, Heather Johnson and Shannon Rogish; Team "JAAR": James Atwell, Rich Finley, Ali Gardezi and Anish Munjal; Team "Airheads": Ryan Boring, Ryan Church, Scott Henson and Candace Short; Team "Group Dynamics": Tom Knell, Eric Legg, Jeff McKenzie and Karen Peyatt.

**National Alternative Fuel Vehicle Day Odyssey Win, Lose, or Drive competition.** The first prize of \$500 went to the Future Truck Team. Mark Jacobs, team captain of the Future Truck Team received the award.

**ASME Region V Regional Student Conference.** Eight WVU MAE students traveled to Ohio State University to participate in the ASME Region V Regional Student Conference. The WVU ASME Student Section received two awards in the Ingersoll Rand competition to recognize the most outstanding ASME student section in the region for the second year in a row. They were selected as the most improved section, and this year were also awarded a plaque for finishing third place in Region V out of 58 student sections, 17 of which entered the competition. Congratulations to our ASME student section, to all of the students who worked

on ASME projects and activities this year, and to Dr. Kuhlman, their faculty advisor.

**Undergraduate Research Day at the Capitol.** Forty-eight undergraduate students from fourteen colleges and universities in West Virginia met at WV Capitol to share their experience on undergraduate research. Forty posters in seven disciplines (Biochemistry, Biology, Chemistry, Engineering, Environmental Sciences, Physics/Astronomy, Psychology) were presented. Thirteen students presenting eleven posters represented WVU, with eight of the posters coming from the College of Engineering and



**Matt Swartz with Governor Wise**

Mineral Resources (CEMR). Among them was Matt Swartz, BSME candidate in Mechanical and Aerospace Engineering (MAE), who explained his research on Alternative Fuels, Engines, and Emissions to Governor Bob Wise. The WVU Departments of Chemistry, Physics, and Psychology were also represented. The Council on Undergraduate Research, the NASA WV Space Grant Consortium, WV-BRIN, and WV EPSCoR sponsored the event. It was organized by Michael Castellani and Charles Sommerville (Marshall), Fred King and Majid Jaraiedi (WVU), Rob Shurine (Wheeling Jesuit), and John Landolt (Shepherd). The event was held on Thursday, February 26th from 9:30 a.m. to 2:00 p.m. at the Capitol Building, Charleston, WV.

**SAMPE Student Chapter.** The WVU Student Chapter of the Society for Advancement of Materials and Process Engineering (SAMPE)

competed nationally for student support from SAMPE International. Their proposal was awarded \$600 for support of chapter's activities. They plan to use the funds to support the construction of three electric-powered RC Aircraft to participate in the Design-Build-Fly competition. Dr. Barbero, MAE Chair, on behalf of SAMPE, presented a \$600 check to Ms. Danielle Corbin of the Design-Build-Fly team. Thank you to Joe Leonardo, SAMPE Student Chapter Funding Chair, Clark W. Johnson, SAMPE International President, Jim Bell, Baltimore Washington SAMPE Chapter, John Loth, Design-Build-Fly advisor, and all others that



**Dr. Barbero presents a check to Danielle Corbin on behalf of SAMPE**

contributed to make this possible.

**Glen Davis**, a ME senior from Hurricane, WV, won one of the SAMPE National Undergraduate Awards and a check for \$1,000. Students were asked to write an essay about their interest in "materials," provide a reference from the Chapter Advisor, and provide transcripts. Glen was an intern with Specialty Metals Company of Huntington, WV last summer, where he did an outstanding job.

**Charles D. Adams**, a ME Junior was selected to receive the Society of American Military Engineers New York City Post award in 2003. He is a veteran of the US Navy.

### **Wright Brothers Centennial Celebration.**

Twenty MAE students traveled to Kitty Hawk, NC with AIAA advisor Prof. Wade Huebsch and ASME advisor Prof. John Kuhlman to witness the 100th Anniversary of Flight. Says Kuhlman "This was one of the best events these students and I have been able to attend. We worked all three days while we were there, in the EAA Pavilion, and we gave the EAA significant help. We also had some of the best seats in the house to watch the event."

### **Weir High School works with MAE on Scientific Computing project.**

This project was a joint initiative between Mechanical and Aerospace Engineering (MAE) at West Virginia University (WVU) and Weir High School (WHS) <http://whs.hanc.k12.wv.us/>. The idea of the project was to establish an Internet link between the two institutions and get the students at WHS actively involved in building that link, and in exploring the possibilities of scientific computing. Dr. Andrei Smirnov (MAE) and Pete Karpuk (WHS) met at the educational workshop on scientific computing sponsored by the Shodor Educational Foundation <http://www.shodor.org/> and the National Educational Science Institute <http://www.wcer.wisc.edu/NISE/>. Smirnov and Karpuk then agreed to create an internet-based link between the two institutions. Such a project would serve multiple purposes such as teaching students basic computer hardware skills, introducing them to the area of communications and open source software tools, introducing them to the area of scientific computing, and acquainting them with the university programs while promoting the pursuit of higher education. The participants also decided that these goals could be accomplished in the framework of a small project done entirely by high school students with only general guidance from the instructors. The project involved three parts: (1) assembling a workstation from common PC components, (2) setting it up as a dedicated gateway to the university computing facilities, such as computer labs and Beowulf clusters, and (3) exploring the applied software for scientific and engineering computing, available through the

university facilities, from open source software projects, and commercial companies. For more information please visit <http://www.mae.wvu.edu/scc>

**Mon County Habitat for Humanity.** Six Mechanical Engineering students were participants at a ceremonial wall raising for a “Youth Build” house under construction by the Mon County Habitat for Humanity (MC HFH). The construction site is on Jersey Avenue in the Sabraton area of Morgantown. Heather Johnson, current president of the ASME Student Section, organized this MC HFH participation by the

mechanical engineering students, with the support of John Kuhlman. About 50 school and college students from the Morgantown-Fairmont area joined with Millard Fuller, Founder and President of HFH International, Chris Haddox, Executive Director of MC HFH, and Melissa Cavanagh, MC HFH Youth United Contact, at the construction site to raise the house. These students included members of the WVU Chapter of HFH, as well as six mechanical engineering students. It is anticipated that some mechanical engineering students and possibly other CEMR students will become involved with this MC HFH Youth United Program in the near future.

## UNDERGRADUATE SCHOLARSHIPS

**Goldwater Scholarship.** Forrest William Doss, a dual major in Mechanical Engineering and Physics was awarded a Goldwater Scholarship-- the nation’s premier award for undergraduate college students pursuing careers in math, the natural sciences or engineering. Forrest W. Doss is the 25th WVU student to receive the honor since Congress established the program in 1986 to honor the late Sen. Barry M. Goldwater. Doss is among 310 college sophomores and juniors from 50 states and Puerto Rico to be awarded the scholarship for the 2004-2005 academic year. Goldwater Scholars were selected on the basis of academic merit from a field of 1,113 math, sciences and engineering students nominated by the faculties of colleges and universities nationwide. The one- and two-year scholarships will cover the cost of tuition, fees, books and room and board up to \$7,500 per year. “My proposal was largely physics oriented, but I have no doubt that my multidisciplinary background played a large part in my being awarded the Goldwater, and my faculty recommendations came from both sides as well,” Doss said.

**The Allied Weight Engineers Scholarship** is funded by the Society of Allied Weight Engineers. It is awarded to a student who demonstrates high academic promise and financial need. The 2004-

2005 academic year recipient of this award is Justin Lowther.

**The Carl H. Cather Scholarship** is funded by the family and friends of Carl H. Cather, former professor and chair of Theoretical and Applied Mechanics. It is awarded to Mechanical Engineering juniors or seniors in the top 25% of the class who have financial needs. The 2004-2005 academic year recipient of this award is Andrea Holladay.

**The Harold M. Cather Scholarship** is funded by the estate of Harold M. Cather, former professor and chair of Mechanical Engineering. It is awarded to American students who have a minimum 3.0 GPA. First priority is given to Mechanical Engineering majors with financial need. The 2004-2005 academic year recipients of this award are Scott Litwinowicz, Joseph Rose, John Ross and Corey Strimer.

**The Jerome B. Fanucci Scholarship** is funded by family, alumni, and friends of Jerome Fanucci, former professor and chair of Aerospace Engineering. It is awarded to Aerospace Engineering students. The 2004-2005 academic year recipients of this award are Ryan Church, Eric Palmer and John Terneus.

**The Hansen, Inc. Scholarship** is funded by the William Stucki Hansen Foundation. It is awarded to juniors, seniors, or graduate students majoring in Mechanical Engineering. The 2004-2005 academic year recipients of this award are Thomas McConnell and Brian Rabbitt.

**The MAE Department Scholarship** is funded by alumni and friends of the department. These scholarships are awarded annually in the amount of \$500 to \$1000 to AE, ME, or Dual AE/ME majors based on academic merit. The 2004-2005 academic year recipients of this award are Charles Adams, Joseph Adams, Victor Chew, Forrest Doss, Nathan Fluharty, Daniel Geisert, Ryan Gum, Jared Iarew, Mark Mewshaw, Jonathan Osborne, Chad Schaeffer, Justin Smith and Emilee Saiter.

**The Nathan Ness Scholarship** is funded by the family of Nathan Ness, a Professor Emeritus of MAE. The 2004-2005 academic year recipient of this award is Michael Shahan.

**The Benjamin H. Ulrich, Jr. and Leon Z. Seltzer Scholarship** is funded by alumni and friends of Benjamin Ulrich, former professor of Aerospace Engineering and Leon Seltzer, former professor and chair of Aerospace Engineering. It is awarded to an Aerospace Engineering student. The 2004-2005 academic year recipients of this award are Abraham Alexander, Quentin Berg, Patrick Browning, Glen Davis, Ryan Plumley, Aaron Shinn and Charles Smialek.

**The Donald T. Worrell Scholarship** is funded by alumni and friends of Donald T. Worrell, former professor of Mechanical Engineering and Mechanics. It is awarded to a Mechanical Engineering student based on financial need and academic performance with a preference to West Virginia residents. The 2004-2005 academic year recipient of this award is Christian Shaffer.

**The Richard E. Walters Scholarship** is funded by the family and friends of Richard E. Walters, former professor of MAE. It is awarded to a student majoring in Aerospace Engineering.

## ALUMNI NEWS

**Harold L. (Butch) Phillippi**, P.E., BSME 1984, now works for ExxonMobil Research and Engineering in Fairfax, VA as corporate resource expert in the areas of safety, quantitative and qualitative risk, hazard and detail design reviews, fire protection, practice, procedure and system development, incident investigation, and asset evaluation. He also serves on industry committees, e.g. NFPA, participates in joint industry (API) studies and sits on the DOE hydrogen safety panel. He travels often within North America, Asia, Europe, Saudi Arabia, and parts of Central and South America. He had a five year assignment in Singapore with responsibility for safety in operations in the Pacific Rim from Japan to Australia. Currently he is involved with hydrogen refueling codes and standards, hydrogen research and design, as well as hydrogen utilization.

**John S. Tomblin**, BSAE 1990, MSME 1991, Ph.D. 1994, has been named Distinguished Professor of Aerospace Engineering and Executive Director of the National Institute for Aviation Research (NIAR) at Wichita State University, KS. John is a native of Bluefield, WV.

**Gasser Farouk Abdelal**, Ph.D. 2000 has been named Deputy Group Leader of the Satellite Structure, at the National Authority for Remote Sensing and Space Science in Egypt.

**Dan Moyers**, BSME 2002, from Bruceton Mills, WV, graduated Summa Cum Laude with a Bachelor of Science degree in both Mechanical and Aerospace Engineering. Recalling his choice of major, Moyers said, "After seeing the formula race cars and some other projects around the engineering campus, I instantly became interested." He participated in the NASA Langley

Aerospace Research Summer Scholars Program for three consecutive summers from 2000 to 2002. In summer 2003, Moyers did a summer internship at the Jet Propulsion Lab (JPL), in Pasadena, CA sponsored by a work force development grant through the WV Space Grant Consortium. Midway through the summer, Moyers was offered a full time position as a sequence integration engineer at the JPL. Since then, he has worked on developing software for the 2003 Mars Rover Exploration Mission. "The software allows engineers to get a three-dimensional viewing of the surface of Mars," he said. "That way they can safely navigate the rovers through Mars rocky terrain in search of fossils and other past life." When asked what advice he'd offer to students who wish to work in his field, he stated, "If you want to get a good government job, you have to be willing to work hard in school, because it takes extra effort to get good government jobs." Even though he is very busy, Dan always found the time to write back to MAE. In an email to the Chairman he wrote: "I am writing in part to thank you for forwarding the JPL fellowship opportunity announcement to me and the other students in the MAE Department. Many opportunities such as the JPL fellowship would go unnoticed and would not be pursued by the students in the Department if it weren't for you taking the time to network with students."

*In this section we want to include news about MAE alumni. We are very proud of your accomplishments and we want to share them with the remaining 2400 alumni in our list. If you have some news about yourself or other MAE alumni, please let us know. You can write us (our complete address is on the back page) or send us e-mail at [ebarbero@wvu.edu](mailto:ebarbero@wvu.edu)*

*We never seem to catch up with all of our alumni. Our database is incomplete and the contact information changes often. We need your help to update our records. Simply visit us on the web at [www.mae.cemr.wvu.edu](http://www.mae.cemr.wvu.edu) and fill in the web form [www.cemr.wvu.edu/alumni/address-update.php](http://www.cemr.wvu.edu/alumni/address-update.php)*



**Mars Exploration Rover**

## IN MEMORIAM

**Jason David Fizer**, 23, of Squire Lane, Clifton Park, N.Y., formerly of Morgantown, passed away on Saturday, Sept. 6, 2003, at the Albany Medical Center as a result of a motorcycle accident. He was born March 30, 1980 in Morgantown, a son of David and Wanda Black Fizer, of Morgantown. He graduated from Morgantown High School in 1998, and from West Virginia University in 2002 with a degree in Mechanical Engineering. While at WVU, he was a team leader in designing and building the Formula One Auto. Bechtel Plant Machinery Inc., in Albany, N.Y, employed him.

Jason enjoyed outdoor activities, hiking and camping, and was an avid weightlifter. He was Roman Catholic by faith. In addition to his parents, he is survived by a sister, Brittany Leigh Fizer, of Myrtle Beach, S.C.; a brother, Eric Guy Fizer, at home; paternal grandmother, Dorothy Fizer, of Morgantown; maternal grandparents, Lee and Frances Black, of Thurmont, Md.; and his fiancée, Monica Leigh Watkins, of Morgantown. He was preceded in death by his paternal grandfather, Guy Fizer, Sr.

## DONOR RECOGNITION

In this section we wish to recognize those individuals and corporations that through their generosity have an indelible impact on the life of students in MAE. In this issue we wish to

recognize donations received in the period from July 2003 to June 2004. Our apologies to those that have been omitted inadvertently.

John T Ach	James G Couch	Donald G Gusso	Sandra & Donald	Morris M Shor
James D Adams	Alva R. Cummings	Matthew K Hackney	Lowe	Frank J Shuler
James F Alexander	Rebecca Danise	Walter R Haddad	Joesph S & Victoria	Anne B Simmons
Robert J. Alvarez	Cutlip	Charles F Haller	C Luchini	Laurie M Simpson
Larry J Andrews	Ronald Lynn	Francis Halterman Jr	Anthony J Mancuso	Thomas W Sirk, Jr.
Ravi K Bahl	Cutright	David C Hartley	Charles B Marushi	William B Smith
Jimmy P Balsara	David Czerniak	Chad R Henry	Sandra Lee Mattocks	Randolph Lee Smith
Larry Banta	Gregory L Davis	Carl Ray Hickman	Derek McClung	Jerry J Smutney
Donald L Bellia	Alan de Olloqui	Alan S Hofses	Richard McCormick	Dean W Spencer
John C Benner	Ralph R Deakins	David L Hollenbeck	Jason P McDonald	James L Spenik
Donald W Bennett	John A Depasquale	Sharon W & Lucius	P Brian McGrath	Robert H Stamm
David Beorn	Roger E Detrick	R Horne	Sean C McNew	James B Stenger
Jery D & Margaret A	Robert E & Betty M	Hsiao-Ling Wang	Gregory H Miller	David N Strickland
Black	Diehl	Kaye I Hutter	Franklin K. Miller	Jeff A Summers
Jerry D Blue	Lawrence Doolittle	Gerard Iacouzze	Thomas L Moore	Daniel R Taylor
Walter R Boggess	Roger E Dowler	Jerome T. Imrich	James A Morris	Alan K Tennant
Mark W Boggs	Ronald G Eckard	Nabil M Jabbour	Mark W Mosser	Roger Thibaudeau Jr
Paula F. Bone	James F Edwards, Jr	Michael &	Frederick N Mudge	Gergory Thompson
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