

On - CITE

New Engineering Scholarship

George H. Gunnoe, Jr., a Marshall Engineering student from 1939 through 1941, and his wife Virginia L. "Buzz" Gunnoe, announced the creation of the George H. Gunnoe, Sr. Scholarship in Engineering, at a reception on Monday, October 21, 2002, at Marshall's Erickson Alumni Center in Huntington. The planned gift is comprised of a substantial Charitable Gift Annuity that will establish the endowed scholarship for qualified undergraduate engineering students.



Pictured: Virginia "Buzz" Gunnoe, MU President Dan Angel, and George Gunnoe Jr.

"The George H. Gunnoe Sr. Scholarship, named in honor of my father, will award students who excel at traditional engineering studies and also exhibit characteristics important for success in the business world," says Gunnoe.

After spending two years in Marshall's undergraduate engineering program, George Gunnoe, Jr., transferred to Ohio State, where he completed his degree in electrical engineering in 1941. While at Marshall, he was involved with intramural boxing and was the first recipient of the Huntington Engineers club award to the Marshall engineering student displaying the most promise for a professional

Faculty Profile: Dr. Tony Szwilski

West Virginia by way of Peru? Dr. Anthony "Tony" Szwilski has worked and traveled all over the world, including Zambia, Peru, China, Indonesia, and Canada. Quite an interesting road to Huntington for a person who grew up in England, or "the UK" as he says. Dr. Szwilski is currently the Division Chair of Environmental Science and Safety Technology, Professor of Environmental Engineering at CITE.



Dr. Szwilski uses research as a foundation for his teaching, and his drive to add value to his teaching to stimulate research efforts. He teaches a variety of courses that represent all three Divisions of the College including Environmental Management Systems, Technology and Innovation Management, and Environmental Geotechnology.

He provides opportunities for graduate students from various CITE masters degree programs to be involved in various research efforts. He works very closely with the Nick J. Rahall II Appalachian Transportation Institute (RTI) on research, technology transfer and academic program development. The most recent research is a Federal

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Note from the CITE Dean

Betsy Ennis Dulin

As the new dean of the College of Information Technology and Engineering, I am constantly amazed at what this organization has been able to achieve in its five years of existence, and at the numerous and diverse opportunities for growth in both the short- and long-term future.

CITE's academic offerings now include graduate programs in Information Systems, Engineering, Safety Technology, Technology Management, and Environmental Science, as well as an ABET-accredited undergraduate degree program in Safety Technology and an undergraduate engineering program (currently a 2+2 transfer program). These programs are supported by a dedicated, rapidly growing pool of faculty who understand that our first

responsibility is to the students and to the organizations that employ them.

This fall, we have seen record enrollments in our college, including a significant increase in undergraduate engineering. Our faculty members have been extremely active in an increasing number of projects and partnerships with the business, government and K-12 communities, and have continued to expand their involvement in research and publication.

Our continued growth and success, however, creates challenges. With new and expanded programs comes the associated need for additional space. In order to ensure that we maintain educational excellence and continue to increase opportunities for technology-enhanced learning and

other conveniences for working students, we must have the resources required for these types of endeavors. Finally, we must be competitive with other institutions for new faculty talent, particularly in programs such as ours that cross disciplines.

In the face of these challenges, one of CITE's greatest assets is the alumni of our various degree programs. Although our college is relatively young as an organization, most of our programs have been operating for many years and have produced an outstanding group of graduates. If you are one of this number, or a "future alumnus" of our college, I encourage you to stay involved with us in the coming months as we explore and define our pathway for future growth.



Gunnoe Scholarship (continued from page 1)

career. He was also a charter member of the MU Honorary Engineering Society, Delta Rho Delta Theta, founded in 1937. Upon graduation from Ohio State, Mr. Gunnoe accepted a job with General Electric, where he worked as an electrical engineer for 41 years. Ultimately, he applied his gifts for applied research, analysis, and problem-solving on behalf of GE all over the world, including participation in the Manhattan Project in Oak Ridge, Tennessee, and the U.S. Navy's submarine program under U.S. Navy Admiral Hyman G. Rickover.

"We are proud and pleased that George and Buzz Gunnoe have remembered Marshall and the early role it played in George Gunnoe's outstanding and eventful engineering career," says Dean Dulin.

George Gunnoe, Sr., for whom the scholarship is named, was an All-American football player at WVU. After graduation, he worked as a high school teacher and was manager of an employment service at Marshall, and was a much respected member of the Huntington community.

Graduate Courses offered in Portsmouth, OH

Following approval from the Ohio Board of Regents and West Virginia Higher Education Policy Commission, the Division of Environmental Science and Safety Technology is offering courses in Portsmouth, Ohio which lead toward either the M.S. in Environmental Science or the M.S. in Safety.

Spring 2003 offerings at Shawnee State University will be:

- ENGR 610 Applied Statistics
- SFT 589 Process Safety Management
- SFT 599 Occupational Safety Management
- TE 698 Comprehensive Project I

Classes will begin on Tuesday, January 21, 2003 (Monday, 1/20/03 is a holiday).

For more information about these courses please contact Dr. Tony Szwilski, Environmental Science and Safety Technology Division Chair. He can be reached at 696-5457; szwilski@marshall.edu.

Dr. Szwilski faculty profile (continued from page 1)

Rail Administration (FRA) to develop an inspection vehicle that will evaluate the sub-surface features that influence railroad track stability utilizing multiple non-invasive sensors, such as ground penetrating radar (GPR) and global positioning systems (GPS). The project, Integrated Railroad Track Stability Assessment and Monitoring System, began in July of 2000 and funding of \$550,000 has been awarded for the year 2002/2003.

This first phase involved evaluating non-invasive (geophysical) technologies for potential use in a rail track inspection vehicle (ITSAMS) with new generation functionality and capability. Currently the CITE and RTI research team is establishing baseline measurements of track positions from key points using High Accuracy Differential Global Positioning System (HADGPS) instrumentation. HADGPS can provide positioning accuracies to within 1 to 2 cm.

Other recent research includes a jointly funded project by the West Virginia Department of Transportation and RTI, titled "Rock fall rating, evaluation and data management systems for highway and railway rock slopes". This effort involves professionals from WV, KY and OH. There is also another RTI project with which he is involved entitled Utilization of fly ash and abandoned tires for Transportation Infrastructure Development in the Appalachian Region. Dr. Szwilski is also the Co-Director of EPA EPSCoR, which is a cooperative effort with WVU to enhance water resource research.

Dr. Szwilski's father, originally from Poland, met his future wife at a New Years Eve dance during World War II while they were stationed in North Scotland, his father in the Polish tank regiment and mother in the Royal Navy. After his father and mother married they settled in England, where his father spent his working career as a coal miner. Dr. Szwilski grew up in Rugeley, England with his sister and two brothers. After Dr. Szwilski worked in the coal mines for a few years as a teenager, he realized that advancing education was the only option. He attended the University of Nottingham and graduated with a PhD in Geomechanics. At the University he played rugby, basketball and track and field. During his short stay in Zambia he played on the team that won the national rugby championship: At that time he weighed 230 lbs.

Dr. Szwilski has very diverse professional experience. He worked for the British Ministry of Development in Peru as a technical advisor to the mining industry and assisted in the development of a new mining research institute. Dr. Szwilski was the project manager of an Asian Development Bank funded project to build a university in Sumatra, Indonesia to accommodate 20,000 students that included designing



the curriculum, laboratories, space and architecture for the Colleges of Engineering, Medicine, Agriculture, Economics and Sciences, and the campus. He also directed the development of a Community Medicine Center and Energy Research Center. He has been a tenured professor at the University of Kentucky, worked for the Water Resources Cabinet in the state of Kentucky, and served on several United Nations international missions to China as Chief Advisor for Mine Health and Safety. He is a registered Professional Engineer, a European Engineer, and a Chartered Engineer (the UK). He has authored over 75 papers in refereed journals and conference proceedings and presentations, and is editor of two books.

Dr. Szwilski's wife Sarah teaches Spanish at the Maxwell Elementary School. They met while he was working in Peru. Sarah owned a boutique and after losing weight Dr. Szwilski needed his trousers adjusted.

He has two sons; Victor, who is currently attending UK majoring in Business and Toni George, who is attending the University of Miami, OH. One of his main hobbies is "over-pruning bushes and pulling up flowers disguised as weeds", according to Sarah. Although Dr. Szwilski claims the English are born with 'green fingers' and he gardens with the typical care and sympathy associated with an engineer.

Transportation Courses offered

CITE is offering a variety of transportation courses this spring:

ES 626 Remote Sensing and Map Use - Offered in Huntington on Wednesdays from 4:00-6:20 pm.

SFT 510 Problems and Practices in Traffic Safety and Drivers Education - Offered in Huntington on Tuesdays from 5:00-7:30 pm.



SFT 601 Safety in Transportation - Offered on Mondays from 6:30-9:00 pm.

SFT 669 Traffic Safety Management - Offered on Tuesdays from 6:30-9:00 pm.

CE 533 Geometric Design of Highways—This is a WVU graduate engineering course that is being offered in South Charleston. Please contact 304-746-2042 to make arrangements to register.

Jackson and Kelly Fellowship

Michael Landes is the current Jackson & Kelly PLLC Fellow in CITE. Michael is completing his masters in Information Systems, and holds a BA in Social Studies Education and a MA in History from Marshall. Here is an interview with Michael in his own words.



Background: The Fellowship is funded by the J&K Law Firm and is intended to be an internship with an area technology-related business. The business hosts the intern and the law firm pays a stipend to the intern. The intern is expected to work 15-20 hours a week (I'm working 15). The goal is to encourage new tech grads to stay in the region after they finish their degree. The Fellowship is generally for a full semester (roughly 3-4 months)

I am presently working for Strictly Business Computer Systems (<http://www.sbcs.com>) Their biggest product is their knowledge management software called Knowledge Dispatch (there's info on it on their website). Basically its' a

web-browser based program to help a business distribute documents & files to employees, keep group calendar's and to-do lists current, and just overall manage information within a company or organization.

In short, I expect to make some important business contacts, gain another valuable reference, and also learn how the software development and technical support/consultation business actually operates. A full-time job would be fantastic but that's not a definite event nor should it be expected.

So far at Strictly Business I've seen an actual commercial product they sell being developed and I've seen principles of software engineering actually in practice. They have people writing code, working on the documentation, finding bugs all at the same time and each group communicates frequently with the other.

I learned HTML through my coursework and Graduate Assistant position with CITE, and that has helped me follow along with the project that Strictly Business is currently working. Their knowledge management software is html-based and uses Macromedia's Cold

Fusion software to manage the information via links to SQL server and the like.

I am working on my final project and hope to finish it up and present at the close of this semester. All my other classes have been finished and all that remains is to finish everything off with the final project. I'm also teaching a Visual Basic .NET class for the Integrated Science and Technology undergraduate program.

The Technology and Emerging Companies practice group at Jackson & Kelly PLLC developed the criteria for the technology Fellows program. Jackson & Kelly PLLC plans to provide ongoing financial support for future technology fellows. With roots dating back to 1822, Jackson & Kelly PLLC has more than 140 attorneys in offices located throughout West Virginia, and in Lexington (KY), Denver (CO) and Washington (DC). For more information, visit the Firm's Website at <http://www.jacksonkelly.com>.

To apply for a Jackson and Kelly Fellowship visit www.marshall.edu/cite.

Reception for new Faculty member Monday, 12/16/02

We are pleased to announce that Dr. Richard McCormick, P.E. will join the CITE faculty in January 2003. He has a B.S. in Civil Engineering from WVU Tech, an M.S. in Environmental Engineering and a Ph.D. in Civil Engineering, both from Virginia Polytechnic Institute and State University. He has been a Civil Engineering faculty member at WVU Tech for more than 25 years. Dr. McCormick has expertise in the areas of wastewater, surveying, and environmental engineering. His office will be in Suite 3, Gullickson Hall.

We will be hosting an Open House and reception for Dr. McCormick on Monday, December 16 from 4:30-6:00 pm at Marshall's South Charleston campus. Please stop by and join us in welcoming him to Marshall!



Faculty Research and Activities

Dr. Eldon Larsen, Associate Professor of Engineering, presented a paper in October at the annual American Society of Engineering Management meeting titled "Start Projects Right—How to develop effective project objectives". The paper presents some basic principles and tools helpful in setting effective objectives. The tools help address questions around project scope, decision-making trade-offs, and tolerance between what is ideal and what is failure. These same tools aid in communication between the project team and other key players so that they all understand the intended project outcome.

Dr. Bill Pierson, Engineering Division Chair and Professor of Engineering, received funding from the Nick J. Rahall II Appalachian Transportation Institute (RTI) for the Summer 2002 Engineering Academy and the Infinity effort.

The Infinity Project is a nationally recognized partnership between leading research universities, industry, government, and K-12 educators to help school districts incorporate modern engineering and technology into their high school curricula.

CITE has committed to help KCS (Kanawha County Schools) in its adoption of the Infinity Project. The participation of KCS teachers in CITE's summer Exploring Engineering: Academy of Excellence 2002 activities was one component of this effort. In addition, CITE helped conduct a workshop for math, science, and technology teachers who are responsible for delivering the Infinity Project courses in KCS during the school year. The initial, day-long, workshops were

conducted at George Washington High School in Charleston during the month of July.

The participating teachers (23 in all) are primarily from Kanawha County schools, which have adopted the Infinity Project to deliver the county's career cluster material for engineering and technology. The lead presenter of the workshops was Karen Donathan of George Washington High School, who taught the course last year as a pilot project.

CITE will also follow up the initial workshop with several more training sessions during the fall semester and will be available for consultation throughout the year. Follow-up workshops are planned for October 21, November 11, November 25, and December 2.

For more information on the Infinity Project, check out the Infinity Project web site at <http://www.infinity-project.com> or contact William Pierson, Coordinator of Pre-Engineering/CITE, at 304/696-2695 or via e-mail at pierson@marshall.edu.

Dr. Tony Szwilski, Environmental Science and Safety Technology Division Chair and Professor of Environmental Engineering, and Dr. Richard Begley, Associate Director of RTI and Professor of Engineering, are working on a project with the RTI, evaluating the sub-surface features that influence railroad track stability. The project, Integrated Railroad Track Stability Assessment and Monitoring System, began in July of 2000 and funding of \$550,000 has been awarded for the year 2002/2003. The first phase involved evaluating non-invasive

(geophysical) technologies for potential use in a rail track inspection vehicle (ITSAMS) with new generation functionality and capability. Currently, the CITE and RTI research team is establishing baseline measurements of track positions from key points using High Accuracy Differential Global Positioning System (HADGPS) instrumentation. HADGPS can provide positioning accuracies to within 1 to 2 cm. Several CITE students are also working on this effort.

This research will help understand and reduce derailments. Project objectives will aid in the development of an improved integrated system for monitoring the stability of railways using several non-intrusive remote sensing technologies: ground penetrating radar and laser interferometry. Integration of other non-destructive technologies, appropriate spatial instrumentation, and assessment of the applicability of these technologies to other transportation modes advance the principal objectives.

Dr. Herbert Tesser, Information Technology and Technology Management Division Chair and Weisberg Professor, is currently conducting research in image processing. He's supporting two students working in face recognition/face detection and automated finding of roads in high altitude imagery. He also has initiated a research effort with Dr. Alain Blanchetot in bio-informatics. Their work addresses the automated analysis of micro-arrays, a technique for interpretation of cell biology. Dr. Tesser welcomes applications from students interested in working on research efforts.

Remote Sensing Course

ES 626 Remote Sensing and Map Use - The course will convey how environmental information can be viewed and analyzed from various maps and remote sensing data. It will provide an opportunity to learn the fundamentals of remote sensing technology. Also covered will be the use of GIS to tie data together. This course is appropriate for individuals in the Environmental Science, Environmental Engineering or Information Systems programs. Please verify with your advisor to ensure course is applicable to your degree plan. It will be offered from 4:00-6:20 pm on Wednesdays in Huntington. Mr. James Wolfe, GIS Manager for MU's Center for Environmental, Geotechnical and Applied Sciences will be the instructor for the course. He can be reached at 304/696-6042; jawolfe@marshall.edu.

Environmental Science and Safety Graduate Course Highlights

SFT 483/583 Special Topics:

Training in Safety Safety professionals spend 40% or more of their work time training workers. Much of the training is OSHA, DOT or EPA mandated. Most safety training is also boring. This course will examine training from both the legal perspective and the practical perspective of developing effective training programs in safety for workers. Students will conduct a needs assessment, develop and deliver at least 2 training sessions and evaluate the effectiveness of training programs. The course is being taught on Thursdays from 6:30-9:00 pm. Dr. Kathleen Miezio is the instructor, and she can be reached at 204/696-3071; Miezio@marshall.edu.

SFT 601 Safety in Transportation

Provides an overview of the five major areas of transportation: Aviation; Rail; Highway; Marine and Pipeline safety. The course is

offered 6:30-9:00 pm on Mondays in Huntington, and is taught by Dr. Allan Stern. He can be reached at 304/696-3069; stern@marshall.edu.

SFT 669 Traffic Safety Management

Will explore how one manages various transportation companies or organizations such as trucking; ambulance; and school bus. Topics to be covered include personnel hiring; training; and interpersonal interactions. The course is offered 6:30-9:00 pm on Tuesdays in Huntington, and is taught by Dr. Allan Stern. He can be reached at 304/696-3069; stern@marshall.edu.

ES 640 Groundwater Principles

Introduction to groundwater hydrology including mathematics of groundwater flow, well hydraulics, well design and construction, pump tests, groundwater contamination and contaminant transport, regional groundwater modeling. Time permitting, discussion of groundwater remediation

technologies will be included. The course is offered on 6:30-9:00 on Thursdays at Hurricane High School and is being taught by Dr. Scott Simonton. He can be reached at 746-2045; simonton@marshall.edu.

ES 646 Dynamics of Ecosystems

The purpose of the course is for students to gain a working knowledge of important ecological concepts, to appreciate the different ecosystems and to understand the cycles that are important in maintaining each ecosystem type. Topics covered will include: species interaction; population, community and ecosystem ecology; productivity; nutrient cycling; physiological ecology, population dynamics; pollution and conservation; and aquatic, marine, and terrestrial ecosystems. The course is offered from 6:30-9:00 pm on Wednesdays in South Charleston.

Environmental Engineering

ENVE 617 Physiochemical treatment of Water and Wastewater - A unit operation/unit approach to industrial and advanced waste treatment covering physical and chemical methods. Application of methods to specific waters and wastes. The course is offered on Mondays from 6:50-9:10 pm through videolink to Huntington and South Charleston. Dr. Richard McCormick is teaching the course.

Invention and Innovation course

TM 652 Invention and Innovation

The Invention and Innovation course launches a new method of introducing invention and innovation in the teaching of science and technology students. The method entails project planning and implementation, teaming, and lectures by scientists who have converted their work to practice. Students present their work to business and technology leaders in the external community as well as to the academic community. The class will become an "E-Team Project Incubator". Student teams will develop an original idea for a Science and Technology product and write an E-Team proposal for future funding of their work. Admission to the class is by "permission of the instructor(s)". The course is offered on 2:00-4:00 pm on Tuesdays and Thursdays and is being taught by Dr. Herb Tesser. He can be reached at 696-2695; tesser@marshall.edu.

Information Systems course highlights

IS 653 - Web Development with ASP.net

Will explore web application development using Microsoft's ASP.NET. It will emphasize applications with database interactions. Students will use Visual Studio.NET and also prepare code with a text editor. Each participant will develop a project using the tools studied in the class. The course is being offered in South Charleston on Mondays from 6:30-9:00 pm, and is being taught by Dr. Tom Hankins. He can be reached at 304/746-2044; thankins@marshall.edu.

IS 620 Operating Systems -

Covers the core elements of operating systems (and their related hardware), including processes, memory, scheduling, and input/output. Also covered are the concepts and challenges in implementing distributed processing and in providing for computer security. IS 620 builds on the material covered in IS 621 - Information Structures I in describing core operating system algorithms and their implementation strengths and constraints. PR: IS 621. The course is being offered in Huntington on Tuesdays from

6:30-9:00 pm, and is being taught by Mr. Jonathan Thompson, Instructional Technologist for CITE. This course is an elective in the IS program. Individuals in other majors interested in taking the course should contact Mr. Thompson at 696-6349; thompsonj@marshall.edu.

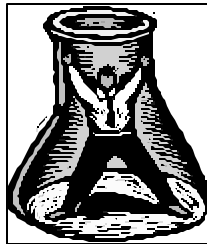


Chemical Engineering courses

Please contact Dr. Bill Crockett, Distinguished Professor of Engineering, regarding the courses described below. He can be reached at 304/746-2040; bcrockett@marshall.edu.

CHE 632 Optimization of Engineering Systems -

To apply optimization in industry, both the theory and practice of optimization must be understood. Area of study include the techniques and software that offers the most potential for success and gives reliable results. The instructor will meet with the students on an arranged basis.



CHE 645 Chemical Engineering Kinetics -

The course is an introduction to the quantitative treatment of chemical reaction engineering. This should provide an understanding of both homogeneous and heterogeneous reacting systems as well as both chemical reaction engineering and chemical reactor engineering. The instructor will meet with the students on an arranged basis.

CHE 660 Process Synthesis and Conceptual Design - Instructors with a local chemical industry will present a systematic approach for solving process synthesis problems. Included will be the

tools to help the students in reducing the large number of unknowns to a small, manageable size.

CSE 611 State Space Control -

The course includes state space representation of dynamic systems, dynamics of linear systems, and controllability and observability. Software for shaping the dynamic response, calculating linear observers, and designing compensators is available for students to use in solving homework problems which will serve as the course grade. The instructor will meet with the students on an arranged basis.

CSE 630 Optimal Control - Course covers the general theory of optimal control, calculus of variations, and Pontryagin's maximum principle. The theory is applied to the design of feedback systems. The instructor will meet with the students on an arranged basis.

ENGR 620 Computer Applications - The course emphasizes the use of Excel and Matlab to solve numerical engineering problems. The topics include the use of tables, curve fitting, systems of equations, solving nonlinear equations, and differential equations as applied to engineering problems. The instructor will meet with the students on an arranged basis.



College of Information Technology and Engineering

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112 Gullickson Hall
Marshall University
Huntington, WV 25755-2586
304/696-5453

CITE - South Charleston Campus
325 Administration Building
MU Graduate College
100 Angus E. Peyton Drive
South Charleston, WV 25303-1600
1-800-642-9842, ext. 2041
Or
304/746-2041

www.marshall.edu/cite

REGISTRATION DATES

Advance Registration*
(currently enrolled)

11/11-12/6/02

Advance Registration*
(all admitted students)

11/25-12/6/02

*Payment must be received by due date on statement. Students registering 12/6 will not receive a statement and payment must be made by 12/13/02.

Undergraduate students consult the MU Schedule for specific dates of registration.

Regular Registration:

1/2-1/10/03

No statement of fees will be sent and payment is due by close of business on 1/10/03.

Late Registration/Sched Adj

1/13-1/17/03

No statement of fees will be sent for regular registration and payment is due on the date of registration.

Non-Profit Org
U.S. Postage
PAID
Permit No. 206
Huntington, WV

MILO Registration—Phone or Web

Students may register for classes in person, by touch-tone telephone, or on the World Wide Web (WWW). Please consult the printed schedule for deadlines.

CITE students who wish to register in person may do so at the Registration Office in Old Main B-1 in Huntington, or at the Admissions and Registration Office located on the first floor of the Administration Building in South Charleston.

Students can register by touch-tone telephone by calling 304/696 – MILO (6456) or 1-800-696-MILO. Students may also register on the World Wide Web at the following address: <http://www.marshall.edu/milo/>. The MILO registration system is usually available 24 hours a day Monday through Thursday. MILO registration is unavailable from 9:00 pm Friday until 1:00 pm Sunday. Please note that on the dates that registration is suspended, you will not be able to register by MILO or WWW.

The following identification is required to access the touch-tone telephone and WWW registration systems:

Student Identification Number: This is usually your Social Security Number, or a nine-digit identification number assigned by Marshall University.

Personal Identification Number (PIN): A six-digit number consisting of your date of birth (i.e., student born on March 23, 1973 would have PIN # 032373). For added security, students are encouraged to change their PIN number once they access their personal account.

You may also use MILO phone to pay tuition and fees by credit card. If you have any questions concerning tuition charges please contact the Office of the Bursar at 304/696-6620.

