

New Professors for AEST



Dr. Ebrahim Karan, Dr. Mehdi Khalighi, Dr. Louise Manfredi

Dr. Ebrahim Karan joined Millersville University as an Assistant Professor of Construction Technology in August 2014. Prior to joining Millersville, he served as an Instructor at Georgia Institute of Technology (Georgia Tech), where he taught various courses in the area of construction engineering and management. Dr. Karan received his Ph.D. from Georgia Tech in 2014. His major research interests include the applications of Building Information Modeling (BIM) and Geographic Information Systems (GIS) for managing different processes within the construction industry. His research aims at providing interoperability between above technologies at the semantic level.

Dr. Mehdi Khalighi joined Millersville University for Fall 2014 as an assistant professor in the Occupational Safety and Environmental Health program. Prior to joining Millersville, he served as Research Assistant at San Diego State University, where he conducted research studies in the area of Air Quality by conducting data analysis for air pollution in cross border commuting between US and Mexico. Dr. Khalighi holds a B.S. degree in Mechanical Engineering and received his M.S. and Ph.D. degrees in Mechanical Engineering majoring in Ergonomics and Safety from University of Utah.

Dr. Louise Manfredi graduated from the University of Leeds in 2006 with a degree in Product Design and again in 2011 with a Ph.D. in Mechanical Engineering. She was more recently appointed a postdoctoral fellow at the University of Chicago prior to accepting employment at Millersville University. She has served as a consultant for the Kimberly-Clark Corporation assisting them with product development and as a Research Program Manager for the Royal Academy of Engineering. Louise has a host of research interests but she describes teaching as her greatest passion. She has previously taught courses in CADD, circuit board manufacturing, microcontroller programming, illustration and Solidworks. She will be serving as a principle CADD faculty member.

MU-TEECA Recognized

The Technology and Engineering Education Collegiate Association (MU-TEECA) was recently invited to the Lancaster Science Factory to hold their regular meeting, and to see what the facility is all about. MU-TEECA was also honored with the “Dedication to Public Education” award for their years of support and service to the interactive museum. Lancaster Science Factory provided dinner for the students and presented the association’s co-advisors with a plaque to recognize the students’ efforts.



Ms. Emily Landis, Director of Lancaster Science Factory is flanked by MU-TEECA Co-advisors Dr. Len Litowitz and Dr. Sharon Brusic.

Epsilon Pi Tau Inducts 22

The Beta Phi chapter of Epsilon Pi Tau inducted twenty-two new members on Friday, October 24, 2014. The auspicious occasion was attended by well over 100 people. Eighteen undergraduate students were inducted as well as four recently hired faculty members.



Membership in Epsilon Pi Tau Honorary is highly selective. Students must meet rigorous academic standards, display leadership achievements or potential, and be recommended by current Epsilon Pi Tau members.

2014 Inductees: Sarah E. Bomberger, Russell F. Carey, Cody G. Dye, Derek J. Hakes, Ebrahim Karan *, Mehdi Khalighi *, Thomas L. Luckenbaugh,, Louise R. Manfredi *, Ashleigh B. Morgan, Russell J. Morrissey, Erin L. Nuss, Jack O. Ogutu *, Matthew T. Petrushka, Connor P. Ronan, Erica L. Roth, Gregory P. Schneider, Robert A. Schumacher, Korbin L. Shearer, Walter J. Simko, Paul J. Thom, Amber R. Updike, Kyle V. Wolfe,

* Faculty inductee

Dr. Atwater Awarded NSF Grant



The National Science Foundation has awarded Dr. Mark Atwater, Applied Engineering, Safety and Technology, with more than \$290,000 to study how carbon is deposited from gas. The three-year grant was awarded on August 1, 2014.

Students from Millersville's Applied Engineering and Chemistry departments will assist in Dr. Atwater's research. This project will provide an opportunity for independent study and honors thesis work.

"I hope to employ at least three undergraduate students during the grant and serve as a mentor for other students who wish to complete independent study or honors thesis work," said Dr. Atwater.

The project, "Multi-Scale Analysis of Catalytically Grown Carbon Nanofibers and Bulk Components," will allow Dr. Atwater to study the way carbon nanofibers, strands of carbon about 1/1000th the diameter of a human hair, form.

"We are growing these fibers in molds to form three-dimensional components which are entirely fibrous, robust and flexible," said Atwater.

The ability to directly produce a custom, carbon nanofiber product may allow new advances in composites, hydrogen storage, and air and water filtration.

"The smaller these fibers are, the greater their specific strength gets," Dr. Atwater explained about composites. For filtration, the small fibers can fit together with smaller gaps to restrict fine particles from passing. "The material can be used in normal filtration applications, like a Brita filter, that uses activated carbon."

Featured Alumnus: Mr. John Haughery



John Haughery, former AEST graduate (class of May 2006), was recently awarded a fellowship to Iowa State University's PhD program in Industrial and Agricultural Technology. This fellowship, awarded by the Department of Agricultural and Biosystems Engineering, carries with it teaching and research duties to start August 2014. John is excited about this opportunity

to continue pursuing his research in renewable energy and engineering education methodology. He will be studying under Dr. Raj Raman, Associate Department Chair for Teaching in the ABE department, and will be responsible for teaching and researching educational approaches for freshman level engineering and technology courses.

Read more about John Haughery's accomplishments on the AEST Web site at millersville.edu/aest/more/haughery.php

2014 Graphic Communication Awards

In 2014, AEST Graphic Communication students received the following awards:



- NeoGraphics Best of Category (Student) Award for the 2014 AEST Calendar with Augmented Reality.
- NeoGraphics Franklin Award for the Circle M Frisbee Logo. Student Joe Portillo pictured.
- Flexographics Technical Association: Gold Award for Circle Frisbee Label. See example by clicking here.

- Association of Independent Corrugated Converters (IACC): Second place in Design to an Opportunity: Graphics Challenge Category. Students Hynea Reed, Audrey Ventura, Melvin Fields, Walter Simko, Corey Davis, Samantha Wnuck) See example by clicking here.

- Specialty Graphic Imaging Association Certificates of Merit: Students Gaetan Juliano, Danielle Olson, Josh Sparrow.



Department Unveils First Course with an International Studies Component

The course ITEC 304 Energy Resources, Sustainability & the Environment was held this past summer with a field component studying sustainability topics in Iceland. The course earned very positive reviews and offered the students a unique opportunity to visit a country known for green initiatives and policy.



Click on the links for more pictures and campus newspaper coverage.

<http://thesnapper.millersville.edu/index.php/2014/09/10/wandering-into-the-great-icelandic-unknown/>

<http://thesnapper.millersville.edu/index.php/2014/09/10/mu-students-venture-to-the-mysterious-iceland/>

Student Internships: A Win-Win Strategy



Hiring interns is a great investment and an effective means for bringing in new talent.

Student internships are common at colleges and universities and are a great way to help the student, the university and the company. Colleges and universities gain from building relationships with industry. When a realistic work experience is provided through a paid internship, the students benefit too. The ultimate win-win-win demonstrates that student internships are an ideal way to meet student's educational needs, industry's expectations, and the mission of most technical education programs.

What Is an Internship?

Internships are on-site learning experiences where students apply what they learned in the classroom to the work environment. Ideally, it is a three-way partnership between the student, school and employer. The National Society for Experiential Education believes that an internship should be a "carefully monitored" work experience with "intentional learning goals".

To that end, mechanisms are in place to assure the student meets specific educational aims. It is the responsibility of a college internship coordinator to determine the expectations of potential employers and understand the skills, knowledge, interests and career goals of each potential intern. Once a match is made, an internship coordinator facilitates the internship experience through continuous communication. Each intern must meet his or her responsibilities; the employer should be satisfied with the performance of the interns. The industry partner meets obligations to the student and the school while gaining a competent employee – even if it is only temporarily.

"The internship allows the student to experience the realities of the profession which are different than the academic demands of the classroom or technical lab environment," says Mark Snyder, an Internship Coordinator, at Millersville University in Lancaster, PA. "Also, the employer will get an extended period of time to observe an intern's skills, knowledge, and work ethic."

Snyder recognizes that "another typical outcome of an internship is that interaction between all parties may bring advice from industry to the classroom regarding curriculum changes and technology updates that may be warranted."

While internships are intended primarily to improve the educational experience for students, there is a substantial quid pro quo for companies that hire interns, and there are big advantages for schools that require internships.

How industry benefits

A recent article in *The Economist* (Sept. 6-12, 2014) regarding the international trend toward hiring interns, stated "there is much to like about the intern boom...for recruiters,

internships are a way to sift candidates, a harder process as work has become more complex. Internships have thus become a critical pipeline for hiring."

According to the National Association of Colleges and Employers, interns are an effective means for bringing in new talent. As they actively participate in educating leaders for tomorrow, companies identify, evaluate and cultivate potential employees.

Employers have three to four months to evaluate work ethic and job-related skills first hand as opposed to simply asking questions in a one-hour interview. This typically results in good retention rates and "tested" new hires.

Last year, Calvin Grucelski, the Digital Solutions Manager at The Standard Group in Lititz, PA, supervised an intern from Millersville University named Tim Kachel. Calvin stated, "when the internship began, Tim was initially somewhat quiet, serious and reserved. By the end of the internship, with no exceptions, everyone within my department felt as though he had been there all along, and would have loved to have him be part of the team after his studies were complete."

Though entry-level jobs for college graduates overall have decreased over the past few years, internship programs remained strong, according to an article in the "College" section of *USA Today*. Among the reasons, interns almost always cost less and receive fewer benefits than full-time employees. Employers rely on internship programs to prepare for their inevitable hiring needs.

Additionally, companies that sponsor internships develop a positive company image. Grucelski also stated, "I believe the infusion of youth in printing companies is critical for the overall health of the industry, as the workforce within many printing companies is already mature and aging."

How Students Benefit

Internship programs often establish demanding criteria and are one of the most substantial parts of a student's formal education. Applying classroom theory to a real-world situation is an important educational opportunity and helps students learn better.

Eric Fletcher, a Millersville University graduate did an internship with Packaging Corporation of America in Lancaster. He said, "the best part of the internship was seeing products I helped to create, like a small point-of-purchase display, as a final product in a store."

Experience is what employers are looking for in graduates, and internships are a great way for students to gain relevant work experience. Interns also develop skills such as teamwork, problem solving, written and oral communication techniques, honesty, and a strong work ethic. Also, by the end of their internships, students acquire contacts and gain references for future employment.

Fletcher said, "I gained many contacts that I used as references in applying for my current job."

- See More Internships on Page 4 -

More Internships

A paid internship also helps a student to offset the cost of college tuition or support their living expenses if they are independent.

A Win for the Schools

Not so commonly considered are the significant advantages to the education programs that require internships. Donna Painter, a Graphic Communication professor at Millersville University recognizes that “students who have completed internships exhibit more maturity and confidence in the classroom. They are enthusiastic about sharing their experiences of ‘what we do at my internship’ which often enrich the learning for the entire class.”

Interns return to classes with entirely new points of view. They tend to see the relevance of their studies and understand the importance of examples that would otherwise be simply too remote.

“I pay close attention to the kinds of skills (both soft and technical) that intern supervisors expect of our students,” Painter says. “Analyzing how well we are preparing our students to meet these expectations is an important component of how we revise our curriculum and instruction to meet the needs of industry.”

Internship programs are also a means by which colleges and universities can evaluate curriculum in real-world environment. It is a means for faculty to measure whether they are teaching the proper knowledge, skills and attitudes. Feedback from students and employers can help guide needed improvements in the classroom and provide updates on what is currently happening in industry.

Another way that a successful internship program can be beneficial to the school is through enhanced public and corporate relations. Prospective employers, students and parents are often aware of the companies that interact with the school through the internship program. This interaction becomes perpetual, as more people are aware of the successful activities taking place.

How to Hire an Intern

How can you establish an internship in your workplace? First, identify a school that offers a program to meet your needs and promotes internship experiences. Once a source for interns is located, the communication that takes place with a college internship coordinator is invaluable. Determine if each candidate has the appropriate skills and knowledge for your internship position. It is wise to plan the internship experience in advance so everyone will know his or her role and responsibilities. Usually, two or three month’s lead-time is useful for the planning and preparation that takes place.

To help prepare students for the process of job interviews, a company could establish a competitive selection process to fill an internship position each semester, or during the summer. Students should be expected to present a cover letter, résumé and letters of recommendation. The students should be able to express

clearly the type of internship desired, their internship goals, and any practical and academic experience they have related to their requested position. Interviewing student candidates helps your company find the best match.

There is no substitute for practical work experience. No longer are grades, good communication skills, unrelated work experience, and participation in student organizations enough. Through internships, students get their foot in the door, gain valuable work experience, earn money to help defray college expenses, identify specific areas of interest, make valuable professional contacts, and learn about the “real world” in general.

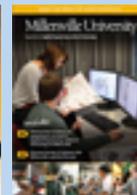
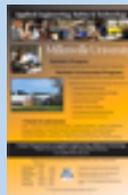
Internships are reciprocal relationships. While employers require interns and their schools to make a commitment to them, they in turn have a responsibility to provide a high quality professional work experience for each student and their respective institution. With this goal in mind, everyone involved will come out winners.

For more information about internships, visit the National Society for Experiential Education at www.nsee.org/ or the National Association of Colleges and Employers at www.naceweb.org.

Mark Snyder is an Associate Professor and Coordinator for the Applied Engineering & Technology Management program at Millersville University. He can be reached at mark.snyder@millersville.edu

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