A Message from

Dear Alumni and Friends,

The last few months have been highly eventful at Penn State and AE students, faculty, staff and alumni have gone through a whole gamut of emotions. It has not been easy but we are most grateful for the tremendous support that we have received from alumni and friends through the most difficult period. We are pulling through and Spring has brought with it a new wave of optimism that, when all is said and done, Penn State WILL recover and the future will be more glorious than the past. As I have reminded our students on numerous occasions, the AE Program remains the premier architectural engineering program in the county, and I daresay the world! We will continue to hold our heads high and remains the champions for a better and more sustainable built environment.

The Department continues to make progress on several fronts:

- The integrated BAE/MS program has now been formally approved and will be available to students from Summer 2012.
- Arrangements have been made for the first cohort of students to visit China this summer as part of their Study Abroad experience – we hope to report on this in the Fall 2012 newsletter.
- We are also beginning to offer a number of continuing and distance education courses. These are being offered online and as 1-2 day short courses – more details are available on the Department’s website.
- The placement rate for our graduates remains within the 97-100% range, and is set to improve as many companies in our sector report increasing workloads.
- The volume of research has continued to increase with a 30% increase in PhD student numbers, the number of postdoctoral scholars going from 0 in 2008 to about 12 this year, and a 75% increase in annual research expenditures from last year.
- Our students continue to excel in their studies and have won a number of national awards. In addition, each year they take their senior thesis presentations to a new level.

As you will see on page 8 of the newsletter, the Department will host the 2013 Architectural Engineering Institute (AEI) conference. This is an excellent opportunity to showcase our program and provide a vibrant atmosphere for networking with other architectural engineers and learning about the latest developments in research and practice. Please plan to attend.

May I seize this opportunity to thank you once more for your continued support in this difficult year. Your contributions in cash and kind are highly valuable and make a big difference to the quality of our student experience.

Sincerely,

Chimay J. Anumba, Ph.D., D.Sc., P.E.
AE Department Head
Penn State Alumni Society of Architectural Engineers (ASAE)
by Jonathan U. Dougherty (BAE '99, PhD '06), ASAE President

2011 was a very busy year for the Penn State Alumni Society of Architectural Engineers (ASAE). We welcomed several new members to the board of directors, including Natalie Bryner (BAE/MAE '09), Bob Grottenthaler (BAE '80), Bill Long (BAE '84), and Rob Stewart (BAE '97). Additionally, Professor Moses Ling joined as a representative from the AE faculty. We sincerely appreciate the commitment Natalie, Bob, Bill, Rob, and Moses have made by serving on the Board!

During our annual board retreat, held at University Park in September 2011, the board created five committees and developed committee goals. The committees are: Mentoring, Continuing Education/Outreach, Membership/Communication, Social, and Development/Awards. Board members are championing the committees and as opportunities arise they will be reaching out to our membership to assist with projects and events.

ASAE continues to support the very successful Alumni Mentoring Program in conjunction with the Student Society of Architectural Engineers (SSAE). During 2011-12 academic year, 29 alums are serving as mentors for fourth-year students.

In October 2011, ASAE submitted two grant applications to the Penn State Engineering Alumni Society’s Affiliate Program Group Grant initiative. We are happy to report that in November both grants were approved. One will support a “Dinner & Learn” program for AE students sponsored by ASAE and SSAE; the other will support a Spring event for the Mentoring Program. We want to thank the Continuing Education/Outreach Committee and the Mentoring Committee for their preparation of the grant applications.

Part of our 2012 mission is to continue to communicate with our membership. We will accomplish this through regular articles in the AE newsletter and our website (http://alumni.psuae.org/).

If you are not yet a member of ASAE, please visit our website. Membership is free!
Alumni Honors

ENR New York’s Top 20 Under 40

Two AE alumni were among those selected to win the ENR New York’s Top 20 Under 40 competition. The award is intended to honor individuals who have gone beyond the norm of excellence in their careers, showing leadership skills in their profession as well as a commitment to give back to their communities.

Chris Cerino ’95, is a senior associate with STV in New York City. He credits his success as a structural engineer to his main studies in architectural engineering and a minor in architecture at Penn State. “Understanding challenges from an architect’s perspective has been invaluable to providing effective structural project solutions,” Cerino says. His career has given him the opportunity to develop plans to accommodate particularly challenging design restrictions, including the New York City High Line 23, a 14-floor condominium tower that rises 14 stories from a 40 foot wide footprint and increases in size as it rises. He has also worked as a structural engineer on three Frank Gehry-designed projects: the IAC headquarters in Manhattan; the Richard B. Fisher Center for the Performing Arts at Bard College in Annandale-on-Hudson, NY; and the Lewis Library at Princeton University in Princeton, NJ. His current responsibilities include serving as discipline leader in charge of STV’s New York structural engineering group, managing all projects within the group from both a technical and business standpoint; he is the youngest engineering discipline leader in the company. His recent work includes directing structural design for a new state-of-the-art bus maintenance complex for New York City Transit.

Seth Wolfe ’95, is an associate principal and structural engineer with Arup in Edison, NJ. He believes in a holistic design approach where the whole project team works together. Wolfe began his career with Arup in 1995 after earning a bachelor’s degree in architecture engineering from Penn State. His project-based responsibilities include structural design, supervising other engineers in structural analysis and design, and managing large multidisciplinary project teams. He is responsible for the day-to-day operations of Arup’s 50-person New Jersey office and is also a supervisor and mentor for the firm, responsible for structural graduate recruiting. Sustainable design has been a focus throughout his career, and he has worked on many environmentally responsible buildings, including the Queens Botanical Garden Visitors Center, a building with a large canopied forecourt and auditorium. The project won the New York City Green Building Design Award and earned LEED-Platinum certification. He recently led a structural sustainability initiative in Arup’s New York group that involved updating technical documents and training staff. Wolfe is a licensed professional engineer in New York and a LEED Accredited Professional. Wolf is active within the industry, presenting lectures at conferences, including the annual Structures Congress. He also volunteers his time to help college students, participating in architectural studio reviews at Columbia University and at Parsons The New School for Design.

Alumni Honors

Continued

Best Paper Award

Each year, the American Society of Civil Engineers (ASCE) Technical Council on Forensic Engineering (TCFE) selects an Outstanding Paper Award. Published in the Journal of Performance of Constructed Facilities from the previous calendar year, the recipients of the 2010 award are

Kelly A. Salyards ’00, ’07g (left) and Linda M. Hanagan ’85, ’92g. (right)

The paper, “Evaluation of Vibration Assessment Criteria and Their Application to Stadium Serviceability,” appeared in the March/April 2010 issue. The journal publications committee noted that the well-written paper explores an important topic: human perception of vibrations and how that perception relates to current design guidelines. The paper’s direct usefulness to designers of stadium facilities was clear. Award plaques and certificates will be presented to the award recipients.

Salyards, is an assistant professor in the Civil and Environmental Engineering Department at Bucknell University in Lewisburg, PA. Hanagan is an associate professor of architectural engineering at Penn State.

Alumni Updates (continued from page 3)

Erik Robinson Shearer, ’07, mechanical engineer with Burdette, Koehler, Murphy, and Associates, Inc. in Baltimore, MD.

Dan Rusnack, ’04, electrical engineer with Clark Nexsen in Norfolk, VA. He is a lead electrical engineer on architectural and engineering design projects. Dan and his wife Kristen are happy to announce that their daughter Kayleigh Marie Rusnack was born on Jan. 14, 2012. She weighed 8 lbs. 7 oz. All are doing well.

Carey Steckler, ’05, recently left Holder Construction Company to serve as a long-term volunteer with Engineering Ministries International (eMi) starting in January 2012. Carey will be a construction manager in eMi’s Kampala, Uganda field office providing construction planning & management support for non-profit organizations in East Africa. Reconnect with her at careysteckler@gmail.com.

Pamela (Morris) Harris, ’05, was hired as a code compliance building inspector with the city of Hagerstown, MD, and sworn in this past summer by Hagerstown Mayor Robert Bruchey, II. I am responsible for inspections of new and existing single and multi-family dwellings, commercial and industrial buildings, and accessory structures for compliance with prevailing building codes and assigned city of Hagerstown property maintenance codes. I was married Oct. 29, 2010 in Washington, DC, to my wonderful wife Rose. We have two children Alex (13) and Zachery (9).
Blast from the Past - How many faces can you recognize from this vintage 1977 photo?


IN MEMORIAM

Franklin W. Ruth III, ‘77, ’79g, of Dauphin, PA passed away on Sep. 2, 2011. He was employed by the Department of General Service of the Commonwealth of Pennsylvania as an HVAC engineer. He was a member of the National Society of Professional Engineers, Liberty Hose Company No. 2 of Lykens, Nittany Lion Club, Penn State Alumni Association and ASHRAE.

Frank was a long-time friend of the AE Department and an active participant in the AE Senior Thesis Jury. His family established the Franklin Ruth Memorial Endowed Scholarship in the AE department in honor of his grandfather. He is survived by wife Pamela, son Scot, stepson Scot Benoit, a grandson, his mother and 2 sisters.

Charles (Charlie) Claar, III, ‘59 ’74g, of Fayetteville, PA, passed away on Sep. 30, 2011. He received his bachelor’s degree in electrical engineering from Penn State in 1959 and a master’s degree in architectural engineering in 1974. Charlie served for 26 years in the AE department as the director of Institutional Engineering Advisory Services, later renamed the Facilities Engineering Institute. In addition, he was an instructor in several AE courses until retiring in December 1994. Following his retirement from Penn State, he moved to Houston and joined the staff of the International Facility Management Association (IFMA) as director of research. In 2000, he began serving as IFMA’s vice president of professional development, a role in which he helped grow the certified facility manager credential globally and establish it as the premier designation for facility professionals. He joined the IFMA Foundation board of trustees in 2004 and over the next four years, served as secretary/treasurer and vice-chair.

He is survived by his wife Nancy; son Charles N. Claar IV, daughter Christine Castles; two stepchildren Kristen Vanderbush and Jeff Vanderbush; and three grandchildren.
Penn State Architectural Engineering Graduates Respond to Virginia Earthquake

On August 23, 2011, the Mid-Atlantic region experienced its strongest earthquake since 1897. The epicenter of the earthquake was located near Mineral, VA which is approximately 80 miles southwest of Washington, D.C. and 45 miles northwest of Richmond, VA. Although the ground shook for only about 30 seconds, structural engineers in the region were very busy for several days after the 5.8 magnitude quake.

Damage in the Washington, D.C., area ranged from cosmetic cracking and minor architectural façade distress to serious structural damage depending on the type and location of the buildings. A number of significant mass masonry landmarks were impacted including the Washington Monument and the National Cathedral. In a matter of minutes after the quake, Penn State architectural engineering alumni began to respond to the emergency.

As a result of the need for immediate investigation and stabilization efforts, Erik Sohn '01, from the office of Wiss, Janney, Elstner Associates, Inc. (WJE) in Fairfax, VA helped to mobilize WJE’s “difficult access team” (DAT). David Mergle, an experienced rope access/climber from WJE Denver, assisted with the rigging. Other team members working along with Erik to assess the structural integrity of the two landmark buildings were Paul Parfitt '07g, Sonja Hinish '09g, Nicole Lucas '09g, and Daniel Gach of WJE Denver.

Enthralling the crowds of onlookers over a several week period, the WJE DAT and inspection teams, which also included four other women, Emma Cardini, Katie Francis, Jakki Ledger and Erin Ward, rappelled from the top of the two buildings with ropes and harnesses. They climbed up and down to inspect and record existing conditions including cracks, loose stones, damaged masonry anchorages and in the case of the cathedral, twisted and fallen sections of the pinnacles. (right) Erik was featured several times on national TV news programs as he literally floated off the sides of the Washington Monument. (below)

As a part of the up close façade inspections, smaller pieces of loose stone and mortar were removed by the team in debris bags while more significant stabilization and temporary repair activities followed. All members of the team were engineers or architects as well as being trained and/or certified in rope access and climbing. In addition, a national park ranger with extensive mountaineering experience was also on site much of the time to provide supervision and overview services.

While dangling from his rappelling gear, Parfitt (left) posed with one of the whimsical grotesques that adorn the northwest tower of the Cathedral. The sculpture of Darth Vader, the evil nemesis of the Star War’s movies, was the result of a winning entry by Christopher Rader, in a children’s decorative sculpture competition held in the 1980s. The head was sculpted by Jay Hall Carpenter and carved by Patrick J. Plunkett.

Parfitt is the son of AE associate professor Kevin Parfitt. Professor Parfitt said of his son’s high flying adventure, “Your first reaction to seeing Paul and the other students I taught hanging off the side of a building is to yell… Be Careful! But, I know how much WJE stresses safety in all their inspection activities and with that in mind, who wouldn’t want to be photographed with Darth Vader.”
Virginia Earthquake

At Holbert Apple Associates (HAA), the phones started ringing within two hours of the earthquake and their staff surveyed over eighty structures in the days and weeks following the quake.

The geographic range of the buildings included Chantilly-Culpeper-Mineral-Richmond to Newport News in Virginia, Washington, D.C., and Hagerstown-Rockville-Bethesda to Baltimore in Maryland. The buildings included educational, government, and communication facilities and corporate office buildings. Obviously, a very wide geographical area and a very broad type of building structures.

HAA Project Manager Nate Salnick '03, reviewed several facilities for the District of Columbia Government and Verizon facilities (as far away as Newport News, VA).

HAA Associate Sante Taroli '86, spent the days after the earthquake reviewing 13 buildings at St. Albans School (immediately adjacent to the National Cathedral) and the New Zealand Embassy (a few blocks from the Cathedral). Sante also reviewed a number of Verizon communication facilities in central Virginia (including Mineral, Virginia).

HAA Principal David Smith '98, assisted by Justin Raducha '08, reviewed numerous corporate office buildings in Maryland and Northern Virginia.

HAA Principals David Holbert '75, and Tony Pfeufer '97, assisted by Keenan Yohe '08, spent the night of the earthquake and the following days reviewing numerous buildings for the District of Columbia Government, Howard University and Montgomery County Public Schools.

The firm also imported Patty Seitz '87, from Providence Engineering and David Bernhardt '92, in Lancaster, PA to assist with review of office buildings in Northern Virginia.

According to The Seismic Design Handbook by Farzad Naeim, shallow earthquakes such as the one experienced in August normally need to be at least 5.5 on the Richter scale before damage is observed. The majority of the structures reviewed by HAA had not sustained any significant damage beyond minor cracks in the existing masonry, brick and drywall finishes. A common theme to the observed damage appeared to be horizontal movement of unreinforced masonry walls. This was probably due to lack of proper anchorage to the building structure.

However, about 5 percent of the buildings reviewed have been recommended for more in-depth review and analysis. These were observed to have suffered a higher level of damage to finishes which, in their opinion, is indicative of insufficient or non-existing lateral load resisting systems. In general, the structures that were observed that were built after 1980 suffered very little damage. More severe damage was observed in older structures.

Gary Strand '82, associate principal of Simpson Gumpertz and Heger, shared a story about an area school that had acoustical tiles explode out of the ceiling assembly in an exit corridor. Thankfully no one was hurt but unfortunately the building engineer witnessed one ceiling tile after another blasting out of the ceiling. By the time Strand arrived at the site, they had cleaned up the debris but it was clear they were pretty shaken up—no pun intended! After a careful assessment of the existing conditions and the debris in the dumpster, it became clear what had happened. Because of the configuration of the building, the vertical space above the ceiling was approximately fifteen feet tall and filled with mechanical systems. Deep bar joist framed the roof with one joist running parallel to an adjacent full height masonry wall. During the construction of this wall, mortar droppings had filled the bottom chord of the bar joists creating ‘logs’ of hardened mortar. Not surprisingly, these clumps of mortar shook themselves loose during the earthquake dropping fifteen feet onto the acoustical ceiling and created wonderful failure examples from projectiles.
2012 TAP BIM Award
The AIA Technology in Architectural Practice (TAP) Knowledge Community has spearheaded an effort to highlight award winning "best of breed" case studies from the profession in the harnessing of Building Information Model (BIM) technology and processes to further design, construction and project excellence.

This year Penn State will receive the Academic Program/Curriculum Development Award for the Interdisciplinary Collaborative BIM Studio at the AIA National Convention in May. The studio uses digital modeling as a collaborative tool for integrating sustainable design across the disciplines of architectural engineering, architecture and landscape architecture. Students work collaboratively in cross-departmental courses and studios using BIM solutions to help develop, explore, and analyze building designs, and experience firsthand the benefits of using an interdisciplinary project design approach.

From left to right: Laurie Beth Donnachie, landscape architecture student, Josh Progar, AE structural, Mazhad Tashakori, architecture, Asher Harder, AE lighting electrical, Josh Wentz, AE mechanical, Pat Laninger, AE construction, David Schrader, architect practitioner

IPAC
The AE Industrial and Professional Advisory Council (IPAC) meetings were held in the College of Engineering on March 21-23. The focus was on “Distance Learning to Enable Professional and Graduate Education.” Additional discussions included a session on industrial trends, as well as breakout sessions focusing on curriculum, outreach, and development in the AE department.

Jonathan Dougherty ’99, ’06g, Corporate Knowledge Center Director from James G. Davis Construction Corporation, also provided the group with an update on recent activities with the Penn State Alumni Society of Architectural Engineers. As president of the ASAE, Dougherty welcomes all AE alumni to join the group and reconnect with your fellow AEs!

Additional information is available on their website at: www.alumni.psuae.org/

2013 AEI CONFERENCE
Call for Papers
The Penn State Department of Architectural Engineering is pleased to announce that it will host the 2013 Architectural Engineering Institute (AEI) Conference in State College, PA on April 3-5.

The meeting will include several workshops, technical papers presentations, invited technical sessions, panel discussions and local tours of technical interest. The conference is geared toward a balance of academics and practitioners.

Students attending the conference will have opportunities to interact with leaders of the architectural engineering profession; partake in student meetings and elections; and participate in the finals of 2012-2013 ASCE Charles Pankow Annual Architectural Engineering Student Competition.

Attendees will learn about new and relevant architectural engineering topics that will help them advance their careers and the overall state of the architectural engineering community.

To encourage industry participation, practitioners are not obliged to submit written papers. They should still submit an abstract that describes their proposed presentation, and instead of written papers, submit a PDF version of their presentations for inclusion in the conference proceedings.

For more information on the call for papers and abstract submission requirements, please view the website at: www.engr.psu.edu/ae/AEI2013/index.asp

IPAC Attendees: L-R (back row) Zach Zaharewicz (The Lighting Quotient), Tim Carr (Heery International), Ted Lynch (Southland Industries), Russ Sykes (SmithGroup), James Garrett (Carnegie Mellon University) (front row) Herb Duffield (Engineering Consultant), Susan Haakrainen (Lutron), Chimay Anumba (AE Dept. Head), Roberta Levy Liss (BECO Management, Inc.) and Michael Harrison (Hines). Unable to attend this year were, Glenn Bell (Simpson Gumpertz & Heger, Inc.), Don Farinelli (Farinelli Construction), Russ Heiken (exp Global, Inc.), Ray Sowers (PSU-OPP) and Joe Wisniewski (retired, Wisniewski, Blair & Assoc.).
Baby News

AE graduate student Safa Eslambolchi and his wife Fatemeh welcomed their first child. Their daughter, Saba, was born on Jan. 13, 2012. Congratulations!

New Staff

We are pleased to welcome new AE staff member Michelle Doerrler who joined the AE department on Mar. 5 as our new undergraduate program staff assistant. She will also be the bookkeeper for the Engineering Copy Center.

Faculty/Staff Awards and Honors

Chimay Anumba, AE department head, received the Royal Academy of Engineering Distinguished Visiting Fellowship. The fellowship will enable Anumba to visit the University of Northumbria in Newcastle-upon-Tyne, U.K., for research collaboration. The Royal Academy of Engineering Distinguished Visiting Fellowship provides funding for an engineering department in a university in the United Kingdom to host a distinguished visiting fellow from a university overseas for up to a month to provide international experts with the opportunity to share expertise and conduct research.

Stanley Mumma, professor emeritus of architectural engineering was honored by the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) with the Louise and Bill Holladay Distinguished Fellow Award for continuous pre-eminence in engineering and research. The award was presented to Mumma at the 2012 summer meeting in San Antonio, Texas. Established in 1978, the award is presented to no more than one ASHRAE Fellow per year.

Mumma continues to be quite active as both an ASHRAE distinguished lecturer on the subjects of Dedicated Outdoor Air Systems (DOAS) and chilled surfaces as well as the instructor for ASHRAE’s DOAS short course. These presentations are made frequently all over North America and much of Asia. He was also a key speaker for the ASHRAE DOAS webinar that was broadcast live in April 2012. Stay current with Mumma’s latest DOAS research results at: http://doas-radiant.psu.edu

All of these activities bring Mumma into contact with Penn State AE graduates at every stop. Mumma stated that “renewing contact with our graduates is a source of immense joy, and is a reminder of the Penn State pride we have in our graduates who are excelling.” He is looking forward to seeing many more of our graduates in the years to come.

Faculty/Staff Awards and Honors continued

Kevin Houser was selected as a recipient of the IES Presidential Award in recognition of his exemplary efforts in support of the Illumination Engineering Society. The award was presented at the membership luncheon, held in conjunction with the Society’s Annual Conference in Austin, TX, on Oct. 31, 2011.

Jelena Srebric received the Penn State Engineering Alumni Society (PSEAS) Outstanding Research Award. The award recognizes and rewards outstanding engineering researchers for accomplishments in advancing the frontiers of knowledge. This is the first time that an AE faculty member has been honored with this award!

Nancy Sabol, administrative support coordinator in AE was selected to receive the PSEAS Outstanding Staff Award. The award recognizes outstanding service by staff employees in the College of Engineering.

Sabbatical Leave

AE associate professor Kevin Parfitt reported that the sabbatical leave he took during the spring 2011 semester resulted in a number of positive professional development, scholarship, and research related activities. Research and writing of technical papers was accomplished on a number of topics including Building Information Modeling (BIM), building preservation/forensics, and engineering education. In addition, progress was made on failures teaching and practitioner dissemination work for two websites utilizing Web 2.0 technologies. Some of this work has already been incorporated into Parfitt’s AE 537 Building Failures class. Additional case study information was obtained by traveling to disaster and failure sites including the Alabama tornadoes and failed structures in New England resulting from a severe snow storm last winter.

Research on the application of Building Information Modeling (BIM) technology has had a direct impact on the ongoing research project (IPD/BIM Senior Thesis Pilot Program) and related teaching in AE 481 and AE 482/882.

Prof. Parfitt was also able to attend the ASCE National Structures Congress and participate in two committees within the ASCE Technical Council of Forensic Engineering: the Education Committee; and the Committee on Dissemination of Failure Information.

Overall, Parfitt reported that his sabbatical was a very successful and productive endeavor.
AE Short Course Offerings

Developed for professional engineers, contractors, land surveyors and other certified professionals, our short course offerings are designed to meet state continuing education requirements and certification for license renewal. Course offerings cover a variety of topics including:

- Knowledge Management for AEC Organizations
- Collaborative and Integrated Project Delivery
- Management of Information Systems
- Chilled Water Systems
- Cool Thermal Energy Storage Systems
- Combustion and Boilers
- Ultraviolet Germicidal Irradiation
- Building Enclosure Science & Design
- Glass Design for Wind and Seismic Loads
- Graphical Methods of Structural Analysis
- Empirical Design
- Nineteenth Century Structural Design Methods
- Solar Thermal Applications in Buildings
- Fundamentals of Lighting for Sales Engineers and Lighting Agents
- Light Source Fundamentals for Sustainable
- Lighting Design
- Fundamentals of Color for Lighting Design
- Photometrics 101
- Design of Concrete Members Reinforced with
  Ultrahigh Strength Steel
- Limit Analysis and Design of Special Reinforced
- Masonry Shear Walls
- Practical Modeling of Reinforced Concrete
- Shear Walls for Nonlinear Seismic Response
- Practical Modeling of Reinforced Concrete
- Frames for Nonlinear Seismic Response
- Project Execution Planning for Building
- Information Modeling
- Learning from Building Failures
- Wind Energy Engineering
- Overview of Wind Energy Technology
- Resource Assessment and Industry
- Smart Grid Energy Systems
- Building-Grid Power Systems
- High Performance Building Leadership
- Integrated Design Management
- Photovoltaic Systems Applications
- Design of Photovoltaic Systems

These one and two-day short courses are available for on-site presentations or at the University Park campus. We also offer customized courses to best suit your needs.

Penn State is a Registered Continuing Education Provider and approved to issue professional development hours for education activities. Contact Amy MacIntyre 814-863-0075 or email: amacintyre@engr.psu.edu for information about the benefits and opportunities your organization can realize with on-site or distance learning courses.

www.engr.psu.edu/ae/include/AE_short_course.pdf
The annual AE Career Fair, held Sep. 27, 2011, at the Bryce Jordan Center, was attended by 114 companies and more than 450 students from freshmen to graduate students. (photos left) In addition students from a number of other Penn State programs were also in attendance including a contingent from architecture, civil, mechanical, and electrical engineering.

Four companies, listed below, generously agreed to support the AE program by serving as Career Fair Industry Leaders. It is the highest registration category available. Support for the AE Career Fair included 35 corporate partners and 28 sponsor companies in addition to the many general registrations for the 2011 event. As usual, a large number of AE alumni returned to the career fair as recruiters and to renew ties with the AE department and faculty. Monday night’s career fair social was held at the Hintz Family Alumni Center. The social remains an excellent way for students, faculty and companies to talk and get acquainted in an informal setting.

Industry Leaders
Forrester Construction Company
HDR Inc.
Hensel Phelps Construction Company
Southland Industries

Corporate Partners
Alexander Building Construction, LLC
Architectural Engineering Institute
Balfour Beatty Construction
Barton Associates, Inc.
Barton Malow Company
Burdette Koehler Murphy & Associates, Inc.(BKM)
Cannon Design
Clark Builders Group
Clark Construction Group, LLC
Clark Nexsen
DPR Construction, Inc.
ERCO Lighting, Inc.
EwingCole
Gilbane Building Company
Gilbane Building Company - MARO
Girard Engineering, PC
Haynes Whaley Associates, Inc.
Holbert Apple Assoc., Inc.
ISEC, Inc.
JBA Consulting Engineers
Leach Wallace Associates, Inc
H.F. Lenz Company
Meta Engineers, P.C.
Michael Baker Engineering
Mueller Associates, Inc.
Office of Physical Plant (OPP) - Penn State
Providence Engineering Corp.
R.G. Vanderwell Engineers, LLP
Ruby + Associates, Inc.
Simpson Gumpertz & Heger, Inc.
SmithGroup
Structura, Inc.
Truland Systems Corporation
Wiss, Janney, Elstner Associates, Inc.
Wohlsen Construction Company

Sponsors
Alliance Engineers
Bard Rao + Athanas Consulting Engineers, LLC
Benchmark Construction Company
Bergmann Associates
Bognet Construction Associates
BPGS Construction
Brinjac Engineering, Inc.
James G. Davis Construction Corp.
dck Worldwide, LLC.
Foreman Group
Hope Furrer Associates
GHT Limited
Hess Construction & Engineering Services
Hill International, Inc.
James Posey Associates, Inc.
Joseph R. Loring & Associates, Inc.
JVP Engineers, PC
KBR Building Group
LERA (Leslie E.Robertson Associates, R.L.L.P.)
McClure Company
Nutech Design Associates
Reese Engineering, Inc.
RMF Engineering, Inc.
RTKL Associates
Sauer Incorporated
Sebesta Blomberg & Associates, Inc.
Timothy Haahs & Associates, Inc.
Walsh Group

To view all of our attendees, please visit our website at: www.engr.psu.edu/ae/job_placement/career_fair/2011CurrentRegistrants.pdf

2012 AE Career Fair
The next AE Career Fair will be Sept. 24-25, 2012. If you are interested in being on our mailing list to get information about the 2012 Career Fair, please send your company contact information to Deb Sam at dsam@engr.psu.edu.
Energy Efficiency and Renewable Energy Courses Under Development

Three new graduate courses in renewable energy and smart grid topics are under development in the AE program. These courses will contribute to a new online graduate degree in Renewable Energy and Sustainable Systems (RESS).

AE 868: Advanced Solar Electric Systems examines theories and practices of solar electric systems including component selection, performance simulation, grid interconnection, codes, and design documentation.

AE 862: Distributed Energy Engineering and Management examines theories and practices of distributed energy production and management in context of regional and integrated energy grid structures.

AE 878: Solar Project Development and Finance includes the economic analysis of solar energy projects including project development process, energy policies, finance methods, and economic analysis tools.

Another new course in Photovoltaic System Design and Construction is in its final stages. Resources to develop these courses have been made available through the Mid-Atlantic Solar Education and Resource Center and the Grid Smart Training and Application Resource Center. The new NELC program has a planned start of spring 2013 and will eventually include a specialty track in High Performance Building Systems.

NELC Program

With funding from the BNY Mellon Foundation and ELECTRI International, the National Energy Leadership Corps (NELC) project will offer students opportunities to learn how to conduct residential energy assessments and gain leadership skills through the performance of the assessments in local communities. The NELC curriculum, under development through this project, is intended to be portable and easy for faculty to adopt into existing courses. In a pilot project during fall 2011, 20 students from the University of Pittsburgh took part in the program under the direction of Melissa Bilec, a faculty member in University of Pittsburgh’s Department of Civil and Environmental Engineering.

2012 PACE Research Seminar

The 20th Annual Partnership for Achieving Construction Excellence (PACE) research seminar was held on Apr.17-18, 2012, at the Penn Stater Conference Center Hotel. The seminar was organized by the newly named PACE director Robert Leicht. Held each spring, the research seminar combines presentations of research results and timely industry speakers for a diverse audience of building industry professional and university students. The theme for this year’s seminar was “Building Innovation into Practice: Keeping What Works.”

The keynote address on Apr. 18 was presented by Steve Kundich, vice president for development with Digital Realty Trust. His lecture was on “Innovation in Delivery and Technology for Data Center Design and Construction.”

In addition, to the PACE activities, John Messner organized a Building Information Modeling (BIM) Education Session for the participants.

The one-day course was intended to provide education on planning the implementation of BIM on a project, as well as additional instruction to provide direction for owners to coordinate their BIM initiatives.

It was envisioned that this course would allow practitioners, who have a basic knowledge of BIM, to gain a detailed understanding of the planning procedure documented in the BIM Project Execution Planning Guide.

This four-step procedure, which has recently been approved for adoption within the National BIM Standard, included:

1) Identifying BIM goals and uses;
2) Designing the BIM process for the project;
3) Developing information exchange requirements for exchanges between project participants; and
4) Defining the project infrastructure to support the BIM implementation.

The course included several interactive exercises designed to reinforce the course material, and spark discussion within the group. Detailed templates to support each of the activities were introduced and participants received access to these templates for their future project planning.

Participants were able to gain an understanding of the four step BIM Project Execution Planning Procedure, and the core knowledge to collaborate with their team members to create a detailed BIM Project Execution Plan on their next project. Additionally, participants gained a basic understanding of the BIM Planning Elements and the BIM for Owners Planning Procedures.

2012 PACE Roundtable

The next PACE Roundtable meetings will be held Nov. 5-6, 2012. For additional information on this and other PACE events, please contact Robert Leicht by email at mleicht@engr.psu.edu or check out the PACE website at:

www.engr.psu.edu/pace/
**Thousands Mourn the End of a Legend: JoePa**

Joe Paterno, 85, long-time head football coach died on Jan. 22, 2012, from complications of lung cancer. The legendary coach was remembered at a candlelight vigil that was coordinated by the students. An impromptu shrine was created as numerous people visited the Paterno statue outside Beaver Stadium leaving cards, flowers, candles, and memorabilia to honor his legacy.

Two public viewings as well as a public memorial “A Memorial for Joe” were held on campus in the days following his death. Paterno served as head football coach at Penn State for 41 seasons. Throughout his career, he had five undefeated seasons, 33 bowl appearances, and two national championships. He was elected to the College Football Hall of Fame in 2007.

To the Penn State community, Joe Paterno was more than just a football coach. He was involved with numerous charities and fundraisers that contributed to improving Penn State. His contribution to the expansion of Pattee Library is one of his most notable achievements.

**Anumba Visits the UAE and Oman**

During the Spring break, AE Department Head, Chimay Anumba, visited the United Arab Emirates and Oman to explore collaborative links with other architectural engineering and cognate programs.

In the UAE, Anumba gave talks on Building Information Modeling (BIM), the Energy Efficient Buildings Hub project and the AE program at Penn State at the following institutions: The British University in Dubai; Heriot-Watt University, Dubai; Alhosn University, Abu Dhabi University; and the United Arab Emirates University, Al Ain (at which and AE alum, Riaad Sarajji, is a faculty member). He also held an alumni reception in Dubai, which was hosted by AE alum Rizwan Shah (MD and Leader, Deloitte Capital Projects Advisory, Middle East) and met with officials of the UAE Scholarships Office, which sponsors a number of AE students at Penn State.

In Oman, Anumba visited the department of civil and architectural engineering at Sultan Qaboos University, and the Higher College of Technology in Muscat, which is headed by Ahmed Al-Ghassani (one of Anumba’s former PhD students).

Discussions at the universities visited in the UAE and Oman focused on the opportunities for faculty and student exchanges, research collaboration, continuing and distance education and participation in the 2013 AEI conference (see page 8). There is considerable scope for several collaborative initiatives.

**Iconic Image at Penn State Changed**

The hallowed halls of Old Main are no longer flanked by the iconic stately elm trees. In March, Penn State arborists had to remove one of the trees due to an infestation of elm yellows disease that has plagued many of the beautiful 80+ year old trees on campus. Some of the tree’s larger limbs and trunk will be salvaged to create diploma frames and furniture in the Penn State Elms Collection, from which proceeds support planting of new trees on the Penn State campus.

A time lapse video of the removal of the tree can be viewed online at: http://live.psu.edu/youtube/X1WXbTN9YKw
This past year has been great for the Penn State Structural Engineers Association (PS-SEA). PS-SEA is a student run organization that focuses on student/professional, student/professor, and student/student relationships in both the AE and CE Departments. Student membership has almost doubled from the previous two years, which has also led to the development and creation of several new events. Active student members are now offered affiliations with both the American Institute of Steel Construction (AISC) and the American Concrete Institute (ACI).

Thus far PS-SEA has accomplished many great things, such as the creation of a non-credit machining and welding class offered to student members. This class was conducted in the fall semester and was so successful that students have been requesting another class for the spring semester. PS-SEA sent a group of students to New York City earlier in the fall semester. While in New York these students were able to tour the Leslie E. Robertson Associates (LERA) offices and the site of One World Trade Center. PS-SEA has also begun a lecture series with the first lecture being given in September, which featured a talk by John Schneider (vice-president, Atlantic Engineering Services) entitled “Real World Engineering”. The spring semester lecture is currently being arranged with Charlie Carter (vice-president of engineering and research, AISC). PS-SEA is also currently arranging building tours of both Beaver Stadium and the Bryce Jordan Center, with an on-site lecture provided by Walt Schneider (director, Centre Region Code Administration). This student chapter has also worked to develop student/faculty relationships through Bowling with the Professors, an annual event where students are able to go bowling with the professors and their families. In the spring this event will be tweaked to become Billiards with the Professors, an event that was done in the early 2000’s. PS-SEA will also try to further educate its members through attendance of the AISC National Conference in Dallas, TX, in April. This is an event that PS-SEA has never done, and will hopefully continue to do in the future.

EERI
Halfway through its second year, The Earthquake Engineering Research Institute of Penn State (EERI-PSU) has seen another productive semester go by with an increase in grad-level participation and many great events for all members. The fall semester included several lectures by industry professionals and academic researchers. Most notably, EERI-PSU had Stephanie Chang come to speak on the “Dynamics of Urban Earthquake Risk” as part of the EERI National Distinguished Lecture Series for 2011. EERI-PSU also ventured up to Buffalo, New York to visit the MCEER Seismic Research Lab at the University of Buffalo. In addition to touring the lab, club members got to meet with the University of Buffalo student chapter of EERI. During this “mini-conference”, both schools shared ideas and experiences, and talk of an east coast student member convention was brainstormed. In addition to these major events, the organization held several fundraisers, had weekly seismic design team meetings, held the semi-annual K’nex design competition, and started working on raising funds to upgrade software and testing equipment for earthquake related structural research.

This spring, EERI-PSU also has a full schedule of events that are being planned. Several industry leaders are being asked to come speak, and informational webinars are being scheduled. Though other events are planned, the main focus of this semester is the 2012 EERI Annual Meeting. Held in Memphis, TN, from April 9 to 15, this national conference invites all
student, academic, and professional members of EERI to come together for workshops, lectures, and other activities on risk mitigation and earthquake engineering. EERI-PSU plans to send around eight students to the conference this year. This event is an amazing opportunity for students as they get to interact and network with industry leaders. Students also can learn a great deal about earthquake engineering, current key issues, and research in the field. Many that will be going will be taking part in the Undergraduate Design Competition. Trying to improve upon the seventh place finish Penn State got last year, they will be building and testing a balsa wood model under seismic loading against thirty three other schools. The experience and education that are gained from attending the annual meeting are brought back to Penn State and used to help further inform and interest students about earthquake engineering.

**Student Honors/Awards**

Two AE students, Raffi A. Kayat and Jake R Pollack, were selected as winners of the structural engineering and architecture student scholarship program sponsored by Simpson Strong-Tie. The scholarship program was designed to encourage the design and construction of safer structures in our communities. The students will each be awarded $1,000. Congratulations!

**DAVIS Construction collaborates with Penn State architectural engineering’s USGBC Student Chapter**

When AE students started the Penn State USGBC student chapter, they were inspired by the AE third year trip to Washington, D.C., and their visit to the platinum certified United States Green Building Council (USGBC) Headquarters. As they began developing their vision for the student chapter and realized the importance of the LEED Green Associate credential as a marketing tool for AE students, they reached out to James G. Davis Construction Corporation (DAVIS), who constructed the USGBC headquarters.

Through DAVIS’ University Partnership Program, interested students participated in an on-campus lecture introducing them to the LEED Green Associate exam and application process taught by Dr. Jonathan U. Dougherty ’99, ’06g, DAVIS’ Corporate Knowledge Center director. During the Fall 2011 semester, DAVIS also provided live, web-based study sessions for the students. Penn State AE alums, Will Cox ’08g, Natalie Bryner ’09g, and Maria Piergallini ’09g, facilitated the study sessions. On working with the students, Dougherty said, “DAVIS Construction’s strong commitment to sustainability and desire to collaborate with our University partners was the driving force behind our continued collaboration with Penn State AE. Working with the students and sharing our knowledge is at the core of DAVIS’ University Partnership Program.”

Chris Pozza, Penn State AE student and USGBC Student Chapter president, stated, “I don’t know if we would’ve been able to get the study sessions started this semester without the support of DAVIS Construction.”

**Washington, D.C. 2012**

The annual field trip to Washington, D.C., for the AE third-year class took place March 16-18, 2012. Construction site tours included the FDA Consolidated Center for Biologics Evaluation and Research, City Center DC and the USGBC headquarters. These tours gave students with the opportunity to observe the construction process on active jobsites and provided exposure to several different building systems, with relevance to all of the design disciplines. Students were also offered the chance to interact with AE alums, as well as enjoying some free-time for sightseeing and shopping.

Thanks to Clark Construction Company, James G. Davis Construction Company and Gilbane Company for the financial support and time investment from their staff in order to make this year’s trip an enriching experience for our students! Also, a special thanks to Erik Sohn ’01, with WJE Associates, for sharing an insider’s view of the post-earthquake monument restoration effort in Washington, D.C. To the AE alumni who participated on these projects and gave your time for the students, our sincere gratitude. Any alum interested in participating in the 2013 D.C. trip, please contact Moses Ling at mosesling@psu.edu.

**SSAE Options Social**

The Student Society of Architectural Engineers held the SSAE Options Conference on Feb. 2, 2012. The Conference focused on professional development and allowed the students one-on-one interaction with industry members and alumni in order to learn about potential career paths in each of the options.

First AE Town Hall Meeting

AE students and faculty participated in a town hall meeting on Mar. 19. The event provided a forum for the students to ask questions and exchange ideas with the AE faculty on a number of issues related to the AE program and curriculum. More than 50 students and 12 faculty were present for the event.
ALUMNI UPDATE — Let us hear from you!

Have a message you want to share: fill out this form, or complete the Alumni Update Form on-line at the AE website at www.engr.psu.edu/ae/contact/Alumni-Update-Form.asp.

Name

Date of Degree(s)  Option

Home Address

Home Phone

Employer

Address

Office Phone

E-Mail Address

Type of Organization

Occupation and Title

Responsibilities

Additional Comments (may be published in the next newsletter if applicable)

This publication is available on alternative media upon request. UEd #: ENG 12-41

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