AE CENTENNIAL
(1910 – 2010)

Then…

Do you recognize any of these Curtiss-Wright Cadettes from 1943?

and Now…

Building information modeling session in the Immersive Construction Lab (ICon) Lab
Dear Alumni and Friends,

I am pleased to report that the department continues to move forward in 2009, following a number of successes in 2008.

The Fall 2008 ABET accreditation visit was held from Oct. 26-28 and the department came through in flying colors. The evaluator was highly impressed with the quality of our program and had no deficiencies, weaknesses or concerns to report. This is a great testament to the quality of our students, faculty, and staff. I am immensely grateful to them and all our supporters (alumni and friends) who work very hard to ensure that we remain the premier architectural engineering program in the country.

We continue to work towards the implementation of the department's new five-year Strategic Plan. In this regard, an action plan has been drawn up with defined tasks and activities, and will be discussed with members of the Industrial and Professional Advisory Council (IPAC) this spring.

The search is ongoing for a new faculty in the AE Mechanical Systems Group, with a particular focus on research interests in the area of Sustainable Building Energy Systems. We hope to be able announce the successful candidate in the next issue of this newsletter.

The annual AE Career Fair was held at the Bryce Jordan Center on October 28 with 166 companies participating. This was very successful and details are included on page 10 of this newsletter.

Progress is being made in the planning for the AE Centennial in 2010. We would like to involve as many alumni and friends as possible and would ask that you visit the centennial web-site (details on page 3) to monitor the plans and to participate.

I am pleased to announce the re-formation of the Penn State Architectural Engineering Society (PSAES) – see page 8. This is intended to help AE alumni to reconnect with themselves and with the Department. I would like to thank Karen Sweeney, Ari Tinkoff, Jonathan Dougherty, Lee Brandt, Jay Ruby, Megan Hawk and Chip Israel for helping to get this off the ground. Please visit the PSAES web-site to register your interest and participate in the forthcoming activities.

I am most grateful for your continued support particularly in these difficult economic conditions.

Best regards,

Chimay J. Anumba

Dr. Chimay Anumba

Head—Dr. Chimay Anumba

DEVELOPMENT OFFICE

Without the financial support of Architectural Engineering alumni, companies and friends, the inner-workings of the AE department and the advancement of our academic programs, faculty and research would not happen. There are many ways to support the AE department as outlined in the fall 2008 newsletter. However, making a major donation to set up an endowment is an excellent way to make a substantial difference and keep the AE department at Penn State one of the best in the world. Currently, the greatest need for endowment gifts within the AE department consists of:

- **Graduate Fellowships**: These endowments of $250,000 will enable us to retain or attract the best students for graduate studies, during which they can contribute to the department's research and scholarship. These students will also be trained to be the next generation of AE faculty and scholars.

- **Endowed Professorships**: These endowments ($1 million) will support a professorship in one of the AE option areas – structural, mechanical, construction, or electrical/lighting. The funds generated from the endowment will be used to support teaching, research and other needs of students and faculty working in that option area.

- **Department Head Chair**: An endowment for a department head chair ($3 million) would provide the AE department head with discretionary funds that will enable him to ensure the preeminent position of the department. The plan would be to use this fund to create a strategic new faculty line, and to enhance the department’s international visibility and its leadership of the architectural engineering field. This will involve the establishment of international partnerships with other leading centers of excellence (academic and industrial), the hosting of prestige lectures by leading international speakers on aspects of architectural engineering, and leadership of global initiatives, amongst others.

As 2010 marks the centennial of the Department of Architectural Engineering here at Penn State, what better way to set the department up for the next 100 years than to establish a centennial endowment? If you wish to do this, please contact me or the AE Department Head, Dr. Chimay Anumba.

There are a number of ways to make an endowed gift to the department, but the levels of these gifts are sometimes unknown to the general alumni population. Therefore, if you wish to impact the department in perpetuity, you can visit this web-site: [www.giveto.psu.edu/ReasonsForGiving/Endowments](http://www.giveto.psu.edu/ReasonsForGiving/Endowments) for details of endowment levels and other major gift opportunities.

A hearty “Thank You!” goes out to all of you who have generously supported our programs in the past. As an ongoing reminder to all of you who make annual gifts to Penn State, please remember that all gifts intended for the AE program should be so designated, as general gifts to Penn State are not automatically directed to the AE department.

For the Glory,

Eric J. Ziegler
Associate Director of Development
ejz3@psu.edu
A Look to the Future: 2010

The AE department will host the 6th International Conference on Innovation in Architecture, Engineering and Construction (AEC) from June 9-11, 2010, as part of the activities to mark 100 years of architectural engineering at Penn State. Organized in collaboration with the Centre for Innovative and Collaborative Engineering at Loughborough University, UK, the conference will provide an excellent international forum for celebrating innovative research and industry developments in AEC. The middle day of the conference, June 10, 2010, is billed as an Industry Day and alumni would be particularly welcome to talk about their innovative projects. There are also numerous sponsorship opportunities and potential corporate sponsors should contact Nancy Smith on 814-865-6395 or njsarc@engr.psu.edu for details. Full details of the conference are on the web-site: www.engr.psu.edu/ae/AEC-Innov/index.asp.

CALL FOR PAPERS

The scope of the conference is wide, covering all aspects of the AEC (architecture, engineering and construction) sector. Papers are invited from both industry practitioners and researchers on the following and related topics:

- Theoretical and conceptual aspects of innovation;
- Lessons from other industry sectors
- Innovation in design (architectural, structural, etc.);
- Innovative construction methods and processes;
- Innovative procurement methods;
- Innovative construction technologies;
- Innovative approaches to collaborative working;
- Innovative project delivery methods;
- Novel construction planning and scheduling methods;
- Building Information Modeling (BIM) innovations;
- Developments in information and knowledge management;
- Innovations in healthcare facility design and construction;
- Organizational/human aspects of innovation;
- Innovative approaches to facilities management;
- Innovative approaches to construction and project management;
- Innovations in construction e-Business;
- Innovative use of IT in design and construction;
- Innovations in sustainable construction;
- Innovative building mechanical systems;
- Next-generation lighting systems;
- Developments in building envelope systems;
- Innovative lessons from failures;
- Innovative approaches to environmentally-conscious architecture;
- Developments in High Performance Building Systems.

In addition to the above, proposals are invited for special sessions on focused topics that fall within the overall theme of ‘Innovation in AEC’.

Email session proposals to anumba@engr.psu.edu.

The format for submitting abstracts and final papers can be found at the conference website: www.engr.psu.edu/ae/AEC-Innov/index.asp.

PAPER SUBMISSION SCHEDULE

Abstract Submission: Sept. 1, 2009
Abstract Acceptance: Sept. 15, 2009
Full Paper Submission: Nov. 30, 2009
Final Papers: Feb. 15, 2010
Early Registration Deadline: Mar. 15, 2010
Alumni Updates

50’s
Former AE department head Gifford Albright ’53 wanted to let us know that although close, according to an official reference (index of American Sculpture), the PSU Nittany Lion Sculpture is 7’6” long; his smart car is 8’-10” long—so the SMART car has the Lion by more than a nose!

60’s
Donald Taylor ’69 is the architect president at d w taylor associates inc in Ellicott City, MD. He is the managing principal of the architectural design firm, which specializes in residential, mixed-used and low-rise commercial projects. Don’s current projects include a 400,000 square foot TOD mixed-use project in Salt Lake City, UT and a 220,000 square foot residential urban infill project in city center Columbus, Ohio. Delma Lambert Taylor, Don’s spouse for 39 years, was Gifford Albright’s administrative assistant during the late ’60s and immediately recognized Giffy in the “smart car” in the fall newsletter, before reading the caption. They are looking forward to seeing many old friends in 2010.

70’s
Stan Senft, PE ’71 is a vice president with McNair Construction Co., Inc in Winston-Salem, NC.
Carole Cramer-Pait ’79 is a director of public works for the Department of Army, stationed at Ft. George G. Meade in Ft. Meade, MD. Carole works on HVAC issues in more than 400 facilities.

80’s
Christine (Tina) Callista Subasic ’89 is self-employed at C. Callista Subasic in Raleigh, NC, a consulting service which specializes in masonry and sustainable design. The focus on sustainable design has taken her across the U.S. speaking to architects, engineers, and masonry material manufacturers on sustainability and masonry. She also does a lot of technical writing and assists manufacturers in navigating sustainable design criteria. Tina is looking forward to seeing her fellow AE grads for their 20th anniversary in 2009. Anyone interested in a reunion please contact her at: cssubasicpe@aol.com.

AE Class of 1989 Reunion
Hard to believe it’s been 20 years since we graduated! If you are interested in a reunion sometime in 2009 (date yet to be determined), contact Tina (Callista) Subasic at ts subasic@aol.com with AE REUNION in the subject line. Include your name, contact information, and the kind of activities you are interested in (family event, adult-only event, etc). We are also looking for people willing to help organize events.

90’s
Michelle (Frangkiser) Boynton ’91 is a consultant with Brummitt Energy Associates, Inc. in San Diego, CA.
Jean (Munion) Tripp ’92 and her husband Erick welcomed a new son, Aidan, into their home on Apr. 8, 2008. Jean is employed at Skanska USA Building in Blue Bell, PA, as a systems & controls manager.

Mark Deili ’93 is the Director of Business Development at dck Worldwide in Cincinnati, OH. His responsibilities include planning, developing, coordinating, and supervising business development and marketing efforts at the divisional level for new target markets and prospects. He and his wife, Cindy ’93 have been blessed with three boys: Max 8, Alex 5 and Ben 2.

Rick Burtt ’96 and his wife Kimberly welcomed their daughter, Samantha Joy, into the world on Aug. 21, 2008. Rick is working as a military construction project manager with the Colorado Army National Guard and has recently been promoted to the rank of major in the United States Army Reserve. Congratulations, Rick and Kimberly.

Timothy J Militzer ’97 has had quite a few changes this past year. He was recently married and started a new position as a project developer with Siemens Building Technologies in Ohio. Congratulations Tim!

Vincent D’Ambrosio ’97 and Mark Konchar ’88g, were among 40 individuals selected by Building Design + Construction magazine as some of the brightest stars in the AEC universe. What makes these 40 individuals stand out above the rest is the fact that they are all under the age of 40. This amazing group includes young architects, engineers, contractors, developers, an inventor, and a lawyer — all of whom stood out among a group of 208 outstanding entrants in their fourth annual “40 under 40” competition.

Congratulations Vincent and Mark!

John Peterson ’99 is working in Bethesda, MD at HP Critical Facilities Services delivered by EYP.

AE Class of 1999 Reunion
Members of the AE Class of 1999 are in the midst of planning the class’ ten year reunion slated for spring/summer 2009. To help in planning, please send current contact information (name, address, phone number, and email) to Jonathan Dougherty at jonathanndougherty@yahoo.com. Please include AE ‘99 Reunion in the subject line.

00’s
Meghan Louise Howard ’01 is self-employed at New Product Design as a consultant in new product design for building materials in Columbus, OH.
Erik Sohn ’01 is an Associate III with Wiss, Janney, Elstner Associates, Inc. in Fairfax, VA. He and his wife, Schalyn welcomed their first child, Schaffer Charles Sohn on May 15, 2008. Congratulations Erik and Schalyn.

Benjamin Kovach ’02 and his wife welcomed their first child, Xavier Michael, on Feb. 5, 2009. Bennie is working with Balfour Beatty Construction in Fairfax, VA. Congratulations!

Alicia (Carbin) Uдович ’05 is now residing in Hampton, VA.

Caitlin (Ferrell) Mueller ’06 is a project engineer with Structura, Inc., in Rockville, MD.

Patrick Murphy ’07 is now working in Alexandria, VA, as a mechanical engineer with Vanderweil Engineers.

Timothy Mueller ’07 is busy with his second year of law school at the Columbus School of Law in Washington, D.C. Even with his demanding schedule, Tim still found the time to write an article that will be published this Spring in the 25th Anniversary Volume of

Five New Faces of Engineering

Drawing from a pool of 19 New Faces of Engineering nominees (published in the December issue of Insights), ASHRAE has selected five individuals to be recognized during National Engineers Week (EWeek), Feb. 15–21. Among those five individuals are two AE alumni Brad Wilson, P.E., ’01 and Leighton Deer, P.E., ’02. Brad is an associate project manager at PAE Consulting Engineers in Portland Oregon and has already achieved a major career goal: to design comfortable, healthy buildings based on emerging technologies. He has helped to conceive and design the largest radiant cooling panel system on the West Coast, which is currently under construction as part of a major new facility at Portland International Airport. This project also includes heat recovery and a geo-exchange system with 200 vertical wells. His portfolio already includes four buildings that have been rated gold in the U.S. Green Building Council’s Leadership in Energy and Environmental Design certification program. His energy-efficient designs have saved an estimated 31 billion BTU’s per year, translating into a savings of nearly $500,000 per year in energy costs.

Leighton is an associate mechanical designer with HGA Architects and Engineers in Minneapolis, MN. He is committed to sustainability and the design of high performing buildings. In his work on a variety of projects including research and development facilities, performing arts centers and college campuses, he has combined energy modeling, computational fluid dynamics, daylighting analysis, and advanced mechanical systems. He is the mechanical designer of a university classroom and science building that will use underfloor air distribution coupled with energy recovery ventilation for minimal energy consumption. This project is slated for LEED® Gold certification. Deer has also served as the project administrator on several other LEED projects. Not only has he worked toward sustainable design of new construction, but Deer has worked to reduce the energy consumption of existing facilities by performing energy audits and evaluations, and greenhouse gas emission reports.

Allen May ’88g, 53, passed away suddenly on Aug. 30, 2008, at his residence. Born August 29, 1955, in York a son of Arthur A. and Joan E. (Stump) May of York, PA, he was a graduate of Dallastown High School and earned his bachelor and master’s degrees in engineering from Penn State. He was vice president of engineering for Providence Engineering Corp. in Lancaster, PA, for the past 11 years. During his 30-year career as a structural engineer he had worked for firms in York, Lancaster, and Baltimore; and held a professional engineering license in numerous states.

2009 Outstanding Engineering Alumni Named

The architectural engineering department is pleased to announce that Charles (Chip) Israel ’84 has been named a 2009 recipient of the Outstanding Engineering Alumni Award. An award ceremony will be held on Monday, Apr. 26, at the University Park campus. The Outstanding Engineering Alumni Award is the highest honor conferred by the College of Engineering and recognizes graduates who have reached exceptional levels of professional achievements.

Chip Israel has been a lighting designer for more than 20 years. In 1992, he founded Lighting Design Alliance, a full-service architectural lighting design firm, where he built a highly-select team of lighting-design professionals who now serve a variety of clients worldwide. As president, Israel works closely with the owner, the design team, and manufacturers to ensure lighting systems are fully integrated with the architectural design and enhance the designer’s concepts.

He serves on the board of directors and is director of education for the International Association of Lighting Designers (IALD); president of the IALD Education Trust; past president of the Designers Lighting Forum; member of the hospitality Committee and Bridges & Building Committee of the Illuminating Engineering Society of North America (IESNA); and member of the board of directors of the La Sfacciata Lighting Academy.

Karen Sweeney, ’80 joined Turner Construction Company in 1980 as a field engineer in the Pittsburgh Business Unit upon her graduation from Penn State with a bachelor of architectural engineering degree. Currently she is vice president for Diversity and Inclusion. As such, she has overall responsibility for the activities of both office services and project operations. She provides business development and operational management direction to the construction team as the project develops and monitors its progress through her operational teams, monthly reports and periodic site visits.

During her career with Turner, Sweeney started in Pittsburgh as a Field Engineer and then Assistant Superintendent on a 45 story office tower, progressing to estimating engineer in the business unit before transferring to the San Diego Business Unit in 1985 as an MEP coordination engineer on a complex $60 million Hospital renovation and addition in Escondido, CA. Sweeney transferred to the Washington, D.C. Business Unit in 1989 and worked in the estimating and purchasing departments on bid and cost guarantee projects in the Mid-Atlantic region. In 1990, she became a project engineer for the American Medical Laboratory Project in Chantilly,

(Continued on page 6)
AE Sabbatical Leaves

Two AE faculty members, professor Richard Behr and associate professor Michael Horman recently returned from sabbatical leaves.

Dr. Behr was formally appointed the founding director of the Smart Spaces Center for adaptive aging in place on July 1, 2008, following a yearlong white paper production effort undertaken by high-level representatives from six Penn State colleges (Arts & Architecture, Engineering, Health & Human Development, Information Sciences & Technology, Liberal Arts, and Medicine). The Smart Spaces Center is housed administratively in the Penn State Social Science Research Institute (www.sssi.psu.edu/).

Research universities and their research sponsors often extol the benefits of conducting interdisciplinary research. However, as anyone who has ever embarked on such an interdisciplinary adventure will acknowledge, forming effective research teams from diverse disciplinary homes and then conducting successful interdisciplinary research is an exercise much easier said than done. Nevertheless Dr. Behr made significant progress in building functional bridges and making preliminary collaborative connections across the myriad Penn State disciplines theoretically aligned with the ambitious goals of the Penn State Smart Spaces Center. In addition, he made significant progress in laying out the groundwork for a successful working relationship between the Penn State Smart Spaces Center and AARP in Washington, D.C.

One promising area of Smart Spaces research that will involve AE directly is optimized indoor environments to enable adaptive aging in place. Currently, AE lighting faculty Drs. Rick Mistrick and Kevin Houser, along with AE doctoral student Michael Royer, are working with geriatrician Noel Ballentine, M.D. and sleep expert Dr. Ed Bixler from the Hershey College of Medicine, and social scientist Dr. David Almeida from the College of Health & Human Development to evaluate the effects of novel artificial light interventions on the sleep behavior and depression levels of nursing home residents. This is the type of highly interdisciplinary research that will become the hallmark of the Smart Spaces Center at Penn State.

Associate Professor Michael Horman travelled to Australia to study the project delivery of high performance “green” buildings. He spent a semester in Swinburne University of Technology in Melbourne in their Colleges of Engineering and Business. Leveraging his ongoing research at Penn State’s Lean and Green Research Initiative, he employed our process modeling protocol to study Australian Green buildings. Australia, like Europe, has been practicing sustainability much longer than the United States. With the harsh climate, low water, abundant sunshine, and frequent wildfires in Australia, Associate Professor Horman wanted to determine whether the processes for design, construction, and operation differ for Australian sustainable buildings than those employed in the United States.

Guest Speaker

Hankin Chair, Director of Research of PHRC Bohumil Kasal was an invited speaker at the China Urban Housing Congress as well as a member of the team of international experts in Chengdu (earthquake in China - City Resilience Roundtable: Rebuilding and Restoration after the Sichuan Earthquake), in Beijing/Chengdu during July. Dr. Kasal was also the keynote speaker at the Site Assessment of Concrete, Masonry and Timber Structures (SACOMATS) Conference which was held in September in Varenna, Italy.

(Continued from page 5) ALUMNI PROFILE

VA. She was promoted to project manager in the Special Projects Division (SPD) in 1993, specializing in tenant fitout and renovation work for law firms and hospitals, and in 1994, was promoted to senior project manager. In 1995, Sweeney became manager of SPD and was promoted to vice president in July 1998, where she led teams for projects with the Navy under NAVFAC, as well as private projects for law firms and small ground-up projects. Sweeney was promoted to vice president and general manager of the Cleveland OH Business Unit in 2000, where she led numerous projects with the Cleveland Clinic, MetroHealth Medical Center and Cuyahoga Community College, until March 2005, when she joined the Maryland Business Unit as vice president and general manager.

Current Board and Advisory positions include:

◊ ULI Executive Committee, Baltimore Chapter
◊ Greater Baltimore Committee, President’s Advisory Council, and Transportation and Built Environment Task Force
◊ In Counsel With Women, Founding Member, Cleveland, OH
◊ Penn State Engineering Society Board (PSES)
◊ Penn State College of Engineering Industrial and Professional Advisory Council (IPAC)
◊ Penn State Architectural Engineering Alumni Board
Building Failures Class Features Visiting Lecture Series

In a course where industry-based examples and actual case histories are critical to the learning process, students in Professor Kevin Parfitt’s AE 537 Building Performance Failures and Forensic Techniques (Building Failures) class once again had the opportunity to learn from the industry’s best. As has been the practice since the course inception, Building Failures continued the tradition of hosting a number of practitioners seeking to share their experience and knowledge with Penn State AE students this past fall. Representing various segments of the building performance and forensic fields, guest speakers for this year and the topics they presented are noted as follows:

◊ Steven P. Bentz, P.E., R.R.C., project manager, Facility Engineering Associates, P.C. (FEA); “Roofs and Fall Protection – Where’s the Connection?”
◊ Michael J. Drerup, P.E., managing engineer, E’ponent; “Façade Forensics.”
◊ Louis F. Geschwindner, PhD, P.E., vice president special projects, American Institute of Steel Construction (AISC); “A Tribute to the World Trade Center.”
◊ Bob Piro, vice president, Structural Preservation Systems; “Concrete Deterioration and Repair.”
◊ Nicholas A. Piteo, P.E., senior engineer and Alex J. Kosis, staff engineer, Simpson Gumpertz & Heger (SGH); “Fundamental Wall Waterproofing Concepts.”
◊ Gary Wentzel, unit manager and associate principal, Wiss Janney Elstner (WJE); “Recent Failure Case Histories: The David L. Lawrence Convention Center Floor Collapse and Case Study of a Structure with Gypsum-Containing Grouts.”

In addition to the visiting practitioner lectures, Building Failures features a variety of learning opportunities for students including traditional lectures, active learning by examining campus buildings, building systems failures research, report writing and case studies of historical failures.

The definition of failure as used in the course is; “any system that does not perform as intended.” As a result, course topics include a variety of architectural and structural failure and performance issues such as water penetration through roofs and facades, full and partial collapse of structures, fire damage and remediation, disaster response, masonry deterioration and historical preservation among others. Professor Parfitt makes frequent use of failure case history information not just from the literature but from actual practice obtained from industry or his personal experiences.

Raymond A. Bowers Distinguished Lecture

Raymond A. Bowers (B.S. AE, 1931) established an endowment to fund the Raymond A. Bowers Program for Excellence in Design and Construction of the Built Environment. On November 5, the Raymond A. Bowers Distinguished Lecture Series presented John Gero as the first presenter in the lecture series.

John Gero is a research professor at the Krasnow Institute for Advanced Study and at the Volgenau School of Information Technology and Engineering, George Mason University. Formerly he was professor of design science and co-director of the Key Centre of Design Computing and Cognition, at the University of Sydney. He is the author or editor of 46 books and over 550 papers and book chapters in the fields of design science, design computing, artificial intelligence, computer-aided design, design cognition and cognitive science. He has been a visiting professor of architecture, civil engineering, cognitive science, computer science, design and computation or mechanical engineering in the United States, United Kingdom, France and Switzerland.

His lecture titled “Recent Developments in Design Computing: Increasing Design Creativity” discussed design computing, which is the use of computation in the design process. In the past, most applications were concerned with improving the efficiency of the design process. His talk highlighted recent research in design computing which is concerned with augmenting designers’ creative capabilities. Computational systems modeled on human behavior and models unrelated to human design processes were presented, along with results demonstrating their capacities.

Gero discussed how situated cognition from cognitive science lays the foundation for a different kind of computation, one that takes account of experience and the interactions involved with the design as the design progresses. It provides novel computational approaches to understand and augment designing and design creativity. The talk concluded with implications for designers of new results from neuroscience research.
The Penn State AE Society is Re-Born!

by Ari Tinkoff ‘95

The AE department would like to announce the re-formation of the Penn State AE Society (PSAES) and associated Board of Advisors. The purpose of the PSAES is to stimulate the continued interest and professional development of all graduates of Architectural Engineering (AE), by promoting fellowship and communication among the alumni, faculty, and students of the department.

As students, the AE Program had a significant impact on our personal and professional development and created opportunities for lasting friendships. Through the Penn State AE Society, we can expand upon our ever-growing network of geographically diverse alumni and provide industry insight to the department and to each other. Additionally, the Society’s board and its involved members will work with faculty, the department head and current students in an advisory capacity to support the best preparation of AE’s for the future of the profession.


Our first charge is to help the department plan and organize the AE Centennial Celebration in 2010! As part of the preparation, we are asking alumni to send cool pictures and fond memories of your time at Penn State with fellow AE’s and faculty.

For more information about the society and upcoming events, and to get ‘plugged-in’ to your AE roots once again, please visit the PSAES website: www.engr.psu.edu/ae/psaes/index.asp.

Please remember that all alumni of the Department of Architectural Engineering are part of the membership of the Penn State AE Society. Your involvement in this worthwhile organization will ensure its success. Alumni who are interested in joining the Society as either a board member or participating in the committees and events, please send an email to (aelumni@engr.psu.edu). We are looking for people in all geographies, all disciplines, and graduation years to share ideas and a little bit of their time.

Hankin Distinguished Lecture

The Hankin Distinguished Lecture Series was established in 2006 in honor of the late Bernard Hankin. World-class speakers are invited to Pennsylvania State to address students and faculty. This year’s Hankin Distinguished Lecturer was Mr. Nicolas P. Retsinas, director, Joint Center for Housing Studies at Harvard University. The title of his presentation was, “State of Affordable Housing.”

Mr. Retsinas was appointed director of Harvard University’s Joint Center for Housing Studies in 1998. The Joint Center is a collaborative venture of the Graduate School of Design and the Kennedy School of Government. The center conducts research to examine and address the most critical housing and community development issues in America. Mr. Retsinas is a Lecturer in housing studies at the Graduate School of Design and the Kennedy School of Government, and is also a lecturer in real estate at the Harvard Business School.

Prior to his Harvard appointment, Mr. Retsinas served as Assistant Secretary for Housing-Federal Housing Commissioner at the United States Department of Housing and Urban Development and as Director of the Office of Thrift Supervision. Mr. Retsinas also served on the Board of the Federal Deposit Insurance Corporation, the Federal Housing Finance Board and the Neighborhood Reinvestment Corporation. Retsinas received a Meritorious Service Award from the U.S. Treasury Department in 1997. He also received the Excellence in Public Service Award from the Rental Housing Association in 1998 and the Housing Leadership Award from the National Low Income Housing Coalition in 2001. Mr. Retsinas is in the National Housing Hall of Fame and was named one of the most influential people in real estate by the National Association of Realtors, in home building by Builder Magazine, and in multifamily housing by Multi-Housing News.

Mr. Retsinas also served the State of Rhode Island as the executive director of the Rhode Island Housing and Mortgage Finance Corporation from 1987 to 1993. He received his master’s degree in city planning from Harvard University and his AB in economics from New York University.

Mr. Retsinas has lectured and written extensively on housing, community development and banking issues. He has co-edited Low-Income Homeownership: Examining the Unexamined Goal (2002), Building Assets, Building Credit: Creating Wealth in Low-Income Communities (2005) and Revisiting Rental Housing (2008). He has also co-authored Opportunity and Progress: A Bipartisan Platform for National Housing Policy (2004) and Our Communities, Our Homes (2007). He is a Fellow at the National Academy for Public Administration and the Urban Land Institute.

RENEW CREW takes on SOLAR Energy Challenge

Jude Simpson

Twelve students from EDSGN 498A, a new Embedded Education Abroad Program established by the Penn State Center for Sustainability, will design and deploy a solar electric system for the Sandy Bay K-12 Alternative School on Roatan Island, Honduras, over spring break. The group, nicknamed “Renew Crew” is a team made of members of the Penn State National Electrical Contractors Association.
Department News

The NECA Student Chapter was established in the spring of 2008 by architectural engineering graduate student Sara Klinetob. Their trip will coincide with the ELECTRI International 2009 Cross-Border Meeting on the island – an activity designed by NECA to increase interaction between U.S. and Latin American electrical contractors. Dr. David Riley, the NECA Chapter advisor, helped the student leaders plan the project and develop the course as part of NECA’s Talent Initiative which aims to increase the visibility of careers in electrical construction and renewable energy. The pilot program at Penn State will be used to launch a national model service trip for other NECA student chapters interested in engaging in international solar PV service projects.

Once in Honduras, the students will work in conjunction with an established electrical firm in Roatan, Vegas Electric. The custom engineered 2.46 kW grid-tied solar electric system array will be prefabricated at their facility, and then transported to the school for installation. Charles George, the owner of Vegas Electric will also help ensure the system is maintained after the students depart.

The ultimate goal of this dedicated team of students is to use this opportunity to create, promote and explore sustainable renewable energy solutions to improve living conditions for low-income communities in Honduras. This type of experiential learning is a fundamental component to ensuring the success of technologies transfer related to solar energy and energy efficiency while creating a sustainable model to emulate. This model will further be used to create a more expansive program called Renewable Energies in Central America (RECA) to help more students gain a greater respect and knowledge of the world around them through cross-border, student-industry relationships.

Honoring the Pillars of AE

Professor Thomas B. Brown grew up in southwestern Pennsylvania and participated in his family’s coal mining business. He attended Williams College, in Massachusetts and received a bachelors degree in art history. He then came to State College where he worked on a degree in architecture while being employed in the architecture office of Phillip Hallock, a professor in the architecture department. He graduated from Penn State in 1956 with a B. Arch. degree. He earned his M.S. in architectural engineering in 1968.

He became an instructor of architecture in 1962 when the architectural engineering program was in the architecture department of the College of Engineering and Architecture. Then, with the move of Architecture into the newly formed College of Arts and Architecture and the formation of the new Architectural Engineering Department in 1964, he became an instructor in architectural engineering.

He was promoted to assistant professor in 1969 after completion of his master’s degree. He retired in 1991 after 29 years of service to the University. For many years, Professor Brown was responsible for the facilities in AE and for scheduling of all classes. He taught steel and wood structures classes to architecture and AE students as well as basic plumbing. But he is most likely remembered more for his materials and working drawings classes. It was those all night working drawings projects in the second year of the program that played a significant role in developing the “family” atmosphere of the AE programs of his day.

Throughout his teaching career, Professor Brown continued to practice architecture locally. He has many State College area homes and commercial buildings to his credit as well as the “standard” Center Region Parks & Recreational park restrooms. He was an expert on building codes and conducted many continuing education programs on the subject. After his retirement in 1991 he continued to be active in the practice of architecture. He and his wife June continue to live in State College and can often be found at one of their many favorite local restaurants.

Thank you for all that you’ve given AE. You are truly a pillar of our department!
In his welcoming statement from the press box high above the event floor of the Bryce Jordan Center (BJC), Professor M. Kevin Parfitt officially confirmed that the 15th annual AE Career Fair would go down in history as the largest AE department career fair ever held. The Oct. 28, 2008, event, hosted at the BJC for the first time, was attended by 166 companies and over 600 students from freshmen to graduate students. In addition to the AE students who participated, Professor Robert Holland, who assisted in the planning and set up for the event, coordinated participation by the Penn State architecture program, in particular students from his professional practice class. Students from a number of other Penn State programs were also in attendance including a contingent from civil engineering. As in previous years, we were pleased to welcome seniors from the architectural engineering programs at North Carolina A&T State University and Tennessee State University. And, for the second year in a row, senior civil engineering students from Bucknell University accompanied by their faculty advisor, Dr. Kelly Salyards (BAE, MAE 2000; Ph.D. 2007) were represented at the event.

Four companies generously agreed to support the AE program by serving as Career Fair Industry Leaders, the highest registration category available. Filling these prominent positions this year were Forrester Construction Company, Rockville, MD; HDR, Inc. Alexandria, VA; Southland Industries, Dulles, VA and Turner Construction Company, Philadelphia, PA. Support for the AE Career Fair included an unprecedented 50 Corporate Partners and 50 Sponsor companies in addition to the many General registrations for the 2008 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.

Despite some concerns over the economy, there was record breaking industry interest and attendance at the event according to Lori Smith, AE career fair assistant. In a posting to the AE Career Fair web-site Smith noted: “Due to the overwhelming response to the AE Career Fair, our registration filled to capacity early this year. In order to assist with recruiting activities for the companies who were not able to attend this year’s AE Career Fair, we decided to continue the “E-Career Fair” once again.” A number of firms took advantage of being listed on the E-Career Fair web-site in order to pursue recruitment of entry level and intern engineers for their companies.

Monday night’s Career Fair Social was held at the Hintz Family Alumni Center. These beautiful surroundings were a comfortable choice for the many companies and students who attended. The Social remains an excellent way for students, faculty and companies to talk and get acquainted in an informal setting.

If you are interested in being on our mailing list to get information about the 2009 Career Fair, please send your company contact information to Lori Smith at LoriSmith@psu.edu.

To see all of our sponsors, please visit our website at: http://www.engr.psu.edu/ae/job_placement/career_fair/companies2008.asp

THANK YOU!

Career Fair 2009
The next AE Career Fair will be held on Sept. 21-22, at the BJC. General registration will open on Apr. 20. If you would like information on recruiting AE students graduating in May 2009 summer interns or updates on the 2009 AE Career Fair, contact Lori Smith or visit the AE Department Career Placement web-page at http://www.engr.psu.edu/ae/job_placement/career_fair/indexPrefair2009.asp.
Your support is making a difference...

AE Donors - October 2008—February 2009

We are extremely grateful for the outstanding support that we regularly receive from our alumni and friends. Your support is even more critical in these difficult times with both the Department and students facing cuts. We acknowledge below gifts made between October 2008 and February 2009. If your name has been inadvertently left out, please notify us and we will rectify it.

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Thank you one and all for your support of the Penn State AE Program!

McKamish, Inc.
Gift and Endowment

We thank McKamish, Inc. for making a gift of $150,000 to establish the MaKamish Family Trustee Scholarship and for giving an additional $25,000 to the Penn State Chapter of the Mechanical Contractors Assoc. (MCA). These will make a big difference to all our students!
A pilot study was recently carried out in the architectural engineering department's Building Envelope Research Laboratory to compare the structural behavior of three types of masonry that have some sustainable attributes. Of various properties in green wall construction, high thermal storage capacity and high thermal insulation capacity are particularly of interest in single family dwelling construction. With increasing interest and demand for use of more green materials in construction, both traditional materials and modern materials are being evaluated to address this need.

In this study, the three masonry types chosen consisted of commonly used masonry: concrete masonry unit (CMU), a modern material: autoclaved aerated concrete (AAC), and an indigenous material: adobe. AAC is a factory produced lightweight precast concrete product that weighs on the average one-fourth the weight of concrete. Adobe is basically a brick made of sun-dried mud (the oldest way of making bricks) that has good thermal insulation and thermal energy storage properties. With renewed interest in the use of adobe in certain parts of the country, cement stabilized units and mortar have been introduced to enhance the structural properties of adobe masonry. The research looked into comparing the bending capacity and shear resistance capacity of walls made of the three different masonry types under the conventional dry condition and also wet condition simulating walls soaked in rain.

The construction of typical four-foot-by-four-foot walls is shown in Figure 1. Specimens were tested using the loading frame shown in Figure 2. Figure 3 shows typical CMU specimen failure modes in flexure and shear. Figure 4 shows one of the walls attached to the water spray rack to make it wet before being tested for load capacity. The spray rack is also shown in Figure 2 after the wet wall specimen has been removed from the rack and set up for flexural test. Load-displacement plots were generated to represent the result of the tests. As an example Figure 5 shows the typical shear load-displacement test results for AAC masonry wall and its shear failure mode.

The study generated some results that may be of interest to engineers, architects, and builders. The results showed that AAC masonry can have same order or even larger shear capacity compared to conventional CMU in both dry and wet conditions. The study also showed that cement stabilized adobe can have shear strength comparable to ungrouted hollow CMU masonry. However, wetness significantly reduces the adobe capacity. Water penetration into masonry walls could have adverse effects on the structural and serviceability performance if the water is trapped and not properly dried out. The pilot study concluded that both the AAC and adobe masonry have shown promising results and merit more in-depth evaluation for introduction to the residential construction industry.

This pilot study was partially funded by a Penn State Bowers Program grant. Steve Grossenbacher was the graduate student working on the project, and Lisa Iulo (assistant professor of architecture) was Co-PI. Several undergraduate students including Joseph Ridgeway, Philip Riegel, Daniel Clark, and Michael Hopple helped Steve Grossenbacher in carrying out the tests under the supervision of Paul Kremer, research associate.
The Department of Architectural Engineering was pleased to present a one-day workshop on "High Performance Buildings: Present and Future." More than 60 faculty and industry leaders attended the workshop which took place on Jan. 9, 2009 at the Penn Stater Conference Center at the University Park campus.

The objective of the workshop was to identify and explore the issues involved in the design and construction of High Performance Buildings (HPB) from a variety of perspectives – designers, manufacturers, owners, researchers, contractors, etc. The intent was to produce a coherent set of issues that can be addressed by collaborative research and development initiatives between the participating organizations.

The AE department’s pragmatic definition of a HPB is “a building that is energy efficient, healthy, productive, and safe, and which reduces the environmental impact of the built environment through the use of integrated design and construction systems and appropriate materials.” As such, it goes beyond the traditional focus on energy efficiency to include aspects of high performance in structural systems, building envelope systems, construction methods and processes, information systems, and other systems. It is within this wider context that the workshop was conceptualized.

The workshop involved representatives from different sectors of the building industry who could help to identify the major, specific design and industry sector interaction challenges that need to be addressed. The workshop was intended to be the first in a series that will seek to move forward the HPB agenda and, in due course, transform the HPB design and construction process from the anecdotal, point solution state to a formalized design and construction process.

Keynote speakers (listed below) were specially selected to lead the discussion by providing their expert perspectives on aspects of HPB Systems.

♦ Glenn Bell, senior principal and chief executive officer of Simpson Gumpertz and Heger, Inc. (SGH) in Waltham, MA.
♦ David Kaneda, principal, Integrated Design Assoc., Inc. (IDeAs) in San Jose, CA
♦ Michael Sahm, UTC fellow, Manager Integrated Green Building Design in East Hartford, CT

A panel discussion addressed a set of questions that are critical to the delivery of HPB. Breakout and poster sessions provided an opportunity for participants to contribute to discussions on focused themes including: mechanical systems, structural systems, lighting and electrical systems, construction systems/management, and systems integration. During a summary session, participants identified action items which will lead to a series of follow-up workshops, as well as bilateral and multilateral initiatives involving the participating organizations.

Further details on the HPB workshop are available on-line at (www.engr.psu.edu/ae/HPB/index.asp). If you are interested in attending future workshops, please contact Nancy Smith (njs1@psu.edu) in the AE department office to be added to the mailing list.
Alumni Association Dissertation Award

Congratulations to Josephine Lau, a 2009 recipient of the Alumni Association Dissertation Award. The Alumni Association Dissertation Award provides funding and recognition to outstanding full-time doctoral students who have passed their comprehensive exams and received approval of the dissertation topic, or to M.F.A. students in their final year. This award is considered to be among the most prestigious available to Penn State graduate students and recognizes outstanding achievement in scholarship and professional accomplishment. Award winners will be recognized at the Graduate School Alumni Society’s spring social and recognition dinner on Saturday, March 28, 2009, at The Nittany Lion Inn.

NAHB Student Chapter to Compete

This year, the National Association of Home Builders student chapter has 25 student members drawn largely from civil and environmental engineering and architectural engineering. The officers elected are Brian Wolfgang, president; Neal Diehl, vice president; Daniel Weida, treasurer; and Jeremy McGrath, AE/CE student representative.

The NAHB student chapter at Penn State has established a group of seven members who will compete in the NAHB student chapter Residential Construction Competition at the International Builders Show in Las Vegas, NV.

The 2009 competition team consists of seven core members, from multiple degree programs. The four majors represented are civil and architectural engineering, economics and architecture. A course is being offered for the first time, this year, for participants on the team. CE/AE 496A is considered a lab section and provides one credit hour for work on the competition. The instructors for the course are Dr. Bo Kasal and Dr. Jack Willenbrock.

This year’s competition is sponsored by Centex Homes, with a development in San Antonio, TX. The project will encompass phase one of the 152 townhouse sub-division.

Students Study Abroad

Sede di Roma, Rome, Italy

Thirty-two students from the second and third year of architectural engineering traveled to Rome, Italy for a seven week study abroad program in May and June of 2008. Course work included an architectural design, architectural history, cartography of Rome and medieval masonry structures. Courses were taught by a combination of University Park and Rome-based faculty. The students also participated in faculty led field trips to Pompeii and Paestum as well as to Florence, Tuscany, and Venice. When the students were not busy with course work they were able to travel to experience the sights and culture of Italy and Europe.

ASHRAE Graduate Student Grant-In-Aid

Congratulations to Mohammad Heidari Nejad for being selected as a recipient of an ASHRAE Graduate Student Grant-In-Aid for the 2009-2010 academic year. Mohammad joined the AE department in Fall 2008 as a M.Sc. student from Shariff University of Technology, Tehran, Iran. As his proud advisor, Dr. Jelena Srebric says, “It is a great success to have a graduate student win this prestigious award during the first semester of his graduate studies. I can confirm that we plan to keep him around for Ph.D. studies and have him contribute new knowledge to the building industry in the coming years.”

IFMA Scholarship Awarded

Alyssa Adams (AE 5th year) was awarded a $5,000 scholarship from the International Facilities Management Association (IFMA) Foundation. Adams traveled to Dallas to accept her scholarship which was awarded to her by the Central Pennsylvania Chapter of IFMA.

AE Student Selected as 2009 WISE Intern

AE student Charles Haack has been selected to be one of ASHRAE’s (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) 2009 WISE (Washington Internships for Students of Engineering) program interns. Each year, outstanding engineering students are selected to spend nine weeks in a special summer program in Washington, D.C. to learn how government officials make decisions on complex technological issues and how engineers can contribute to legislative and regulatory public policy decisions. The WISE Program is ranked as one of the best Internship opportunities in the U.S. by the Princeton Review.
Howard Brandston Student Lighting Design Education Grant

The Howard Brandston Student Lighting Design Education Grant was established to encourage and recognize students who have demonstrated exceptional professional promise through the presentation of an original and ingenious solution to a supplied design problem. The 2008 Howard Brandston Student Lighting Design Education Grant recipients are Marissa Gesell and Christie Clowes of Penn State architectural engineering. They received the Brandston Grant at the IES Welcome Event on Nov. 9, 2008, in conjunction with the IES Annual Conference in Savannah, GA.

Two New Future AEs

Two AE graduate students and their wives welcomed daughters into their families:
Craig Dubler '04 and his wife, Jessica welcomed Isabelle Rene into their family on December 6, 2008. Isabelle arrived weighing 5lbs 3oz. and was 19 inches long.
Brendon Burley '05 and his wife, Heather welcomed their daughter, Teagan Marie to their family on January 29, 2009. Teagan arrived weighing 7 lbs 9.8 oz. and was 20 inches long.

Congratulations to both families!

Commencement

Commencement for the College of Engineering was held on December 20, 2008. Architectural Engineering conferred 14 B.A.E., 11 M.A.E., 3 M.S., 3 M.Eng. and 1 Ph.D. degrees. Congratulations to our most recent graduates!

SSAE Hosts Pumpkin Carving Contest

Seven teams joined together to compete in what we hope will be an annual event in the AE department. These teams brought all of their artistic and creative skills together to create some very interesting Jack-O-Lanterns. While the more traditional scary face was displayed, there was also a skyline, a skull, and a silhouette of AE Associate Professor Moses Ling. Although competition was tough, one group’s pumpkin stood out from the others. Calvin Douglass and Justin Herzing’s entry was selected by faculty, staff, and graduate students as the winner for their unique use of toothpicks.

Penn State Students Attend ASHRAE Winter Conference in Chicago!

This January a group of 24 Penn State architectural engineering students packed up all of their warmest clothes, drove out to the State College, PA Airport and flew to Chicago for the ASHRAE Winter Conference.

To kick off the conference the Penn Staters attended the Plenary Session in which the ASHRAE headquarters renovation was discussed. During this session awards were presented to the 2008 student design competition winners, of whom Penn State finished first in system selection and second in system design!

The next day, following the morning program, the seminars started. For the fifth-year students working on their senior thesis projects, these seminars were a huge push in the right direction. Also the opportunity for the students to network with a room full of professionals interested in the same topic was invaluable. Penn State students not only attended the seminars, but also presented information at seminars. One student member, Josephine Lau, presented her research on ultra-violet germicidal radiation (UVGI).

Sunday night some of the students went to the presidential reception which was another excellent opportunity for the students to meet and mingle with professionals involved in ASHRAE. It was there that they learned that their Advisor, Dr. William Bahnfleth, was nominated for vice president and that one of their members, Charlie Haack, had been selected to be the ASHRAE WISE (Washington Internships for Engineering Students) intern for this summer!

Finally, the AHR Expo was amazing. The AHR Expo allowed students to get up close and personal with all sorts of HVAC&R equipment. Overall, the conference was superb. Through all of the activities the students were engaged and excited to be participating. It is a crucial part of their education to interact with professionals to discuss different systems, equipment, and trends in the industry. In this way they can prepare themselves to engineer tomorrow. Thank you to the sponsors of the Penn State group for an excellent trip!
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

Office Phone

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Type of Organization

Occupation and Title

Responsibilities

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