The Periodical of the American Academy of Environmental Engineers®

Summer 2009

ENVRONMENTAL Engineer

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Campaign 4000

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OFFICES

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Craig Kelman & Associates Sales Manager: Alan Whalen 1-866-985-9782 • FAX 1-866-985-9799 e-mail: awhalen@kelman.ca Managing Editor: Terry Ross Design/Jayout: Jackie Vitug

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The Role of Practitioners in Educating the Future Environmental Engineer

Becoming a mentor allows more experienced professionals to give guidance to young people seeking information and direction.

Recognizing the importance of educating the environmental engineer of the future, we recently published the Environmental Engineering Body of Knowledge (EnvEBOK) that describes the knowledge and core competencies important for the understanding and practice of environmental engineering.

In the EnvEBOK, we defined 18 outcomes of an environmental engineering education. Bloom's Taxonomy was used to estimate the appropriate cognitive rigor and applicative relevance level expected for each outcome at the baccalaureate and masters (or equivalent) level and after the masters plus four years of professional experience. It was clearly recognized in the EnvEBOK that much of the knowledge and core competencies required to practice environmental engineering are acquired after formal education is completed. The EnvEBOK defined the role that educators must play to implement the EnvEBOK, including both academics and practitioners. I would like to devote this President's Page to the contributions that practitioners must make to training environmental engineers for professional practice.

The most important role environmental engineering practitioners can play is to mentor the new engineer. Becoming a mentor allows more experienced professionals to give guidance to young people seeking information and direction. Mentoring provides a great experience and the satisfaction of helping another person grow and develop professionally. Research has demonstrated that mentoring is good for both the mentor and the protégé in developing self-awareness and interpersonal and communication skills. Through the mentoring relationship, protégés will develop a better understanding of the profession he/she has selected, will optimize their educational experience, and appreciate the discipline culture, all resulting in higher retention within environmental engineering and a more satisfied workforce.

Other important contributions to environmental education include:

- 1. Environmental engineering practitioners should demonstrate sound approaches to issue resolution and problem solving, consistent with the competency levels outlined in the EnvEBOK.
- 2. Environmental engineering practitioners should demonstrate a lifelong

learning attitude and keep their knowledge current through self education and continuing education such as attendance at formal seminars and/or advanced course work.

- 3. Senior environmental engineers should encourage young environmental engineers to become actively involved in at least one professional society. Active participation in professional and/or business societies is an important element of professional development and can play an important role in fulfilling environmental engineering challenges and opportunities in the field.
- 4. Environmental engineering practitioners should demonstrate a commitment to ethical standards of practice in their profession, serving as a positive role model and exemplifying desired personal and professional behavior that is desired.

AAEE considers education of future environmental engineers as a high priority in its strategic plan, both during formal education and life-long learning. The importance of proper preparation of young people for future challenges cannot be overstated. As President Obama said when he addressed the National Academy of Sciences on April 27, 2009, "...we know that the progress and prosperity of future generations will depend on what we do now to educate the next generation." **E**

ACADEMY NEWS

Board of Trustees Meeting

The Spring Board of Trustees meeting was held on May 6 and May 7 in Washington, D.C. Highlights of the meeting include:

- Presentation of the 2008 Audit Report
- Approved Eminence
 Committee Report
- Approved procedures for selecting Honorary Members
- Approved revisions to the Bylaws
- Approved the nomination of Dan Wittliff to replace Richard Gabrielse as NSPE Representative
- Approved development of a new Sustainability Certification.

2009 Examinations

On May 4 the Admissions Committee completed evaluations of over 110 applications paving the way for examinations to be conducted during July and August. Coupled with holdovers from previous years, more than 150 examinations will be administered this summer.

If you are called upon to serve on a peer review panel or as a Chief Examiner, your cooperation and assistance in this effort will be appreciated and you will receive 0.5 PDH credit per interview.

Updating Examinations

The work of the Academy's Examination Committees (one for each specialty) is never-ending. As soon as an examination is fully updated, it is almost time to begin the cycle again. And, when work on the written examinations is in a phase outside a committee (for example, field testing of replacement test items) there is work needed on the oral examinations. The Hazardous Waste Management Committee and Air Pollution Control Committee are still working on updating their exams. EE

2010 Election Results

The ballots have been counted. While the results will not be official until the Annual Meeting when the Teller's Report is confirmed by the Board, the following individuals have been elected for 2010. Current President-Elect, Dr. Cecil Lue-Hing, will succeed to the Office of the President; Brian P. Flynn will be President-Elect;

Michael W. Selna has been voted as Vice President; and R. Tim Haug and James F. Stahl have been elected to the two open Trusteeat-Large positions.





Cecil Lue-Hing

R. Tim Haug



Brian P. Flynn



James F. Stahl



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EXECUTIVE DIRECTOR'S PAGE

by Joseph S. Cavarretta, CAE

Only 114 Donors Needed to Attain Campaign 4000 Goal

AAEE kicked off its Campaign 4000 fundraising effort in 2007 with a goal to raise \$150,000 over three years to support the Academy's ambitious fiveyear Strategic Plan.

The funds are being used to upgrade communication systems, improve academic outreach, host local and regional meetings, and promote the value of Board Certified Environmental Engineers (Licensed PEs) and Board Certified Environmental Engineering Members (Non-licensed environmental engineering practitioners) to the engineering community. To participate in Campaign 4000, members pledge to donate \$1,000 over three years or \$333 per year.

When Campaign 4000 launched, 12 members of AAEE's Board of Trustees and 20 other Academy members pledged the full \$1,000 or more over three years. One prominent member promised \$1,000 per year for three years instead of \$333 per year. 14 others have stepped up to make partial pledges ranging from between \$10 and as much as \$600, for a total in contributions and pledges of \$36,983.50.

Campaign 4000 contributors are listed in the article "Academy Contributors" in this issue of *Environmental Engineer*. AAEE members contribute to Campaign 4000 for many reasons. Here are a few of them: "Board certification in AAEE is both an honor and a privilege. Giving \$1,000 to a volunteer organization that is maintaining the integrity of certification is the least I can do to give something back to the profession that has served me so well. The needs are high and resources are limited so we all need to do our part."

- Steve Kellogg, P.E., BCEE, Senior Vice President, CDM

"AAEE, through its certification programs, provides assurance that well-qualified environmental engineers are available to carry out projects at a time when funds and public trust are in short supply. The Academy's new programs evolving from its five year plan including engineering education, the Body of Knowledge, sustainability certification, and outreach to the profession through workshops makes this an exciting time to be involved. Participating in Campaign 4000 was an easy decision based on all that the Academy is doing for the profession." – Mike Selna, P.E., BCEE, Senior Advisor, Sanitation Districts of Los Angeles County

"The contribution of the Academy in advancing the professionalism and status of Environmental Engineering through its certification program has been immeasurable. It is necessary to continue the momentum of the Academy's excellent work and to further promote the standard of certification for Environmental Engineers nationally and internationally. In this regard, I was pleased to make a contribution to the Academy to help the Academy continue its mission and to achieve future growth."

- Pat Canzano, P.E., BCEE, CEO, Delaware Solid Waste Authority

"I made a financial commitment to Campaign 4000 because I strongly believe in supporting the goals and activities of AAEE. I feel so strongly about this, that I intend to set up a Charitable Remainder Annuity Trust on behalf of the Academy when I retire from active practice. This will provide a charitable writeoff, income for my family, and a bequest to the Academy." – Brian P. Flynn, P.E., BCEE

"Campaign 4000 gave all Diplomates [BCEEs] the opportunity to renew the positive direction of the Academy. Over a few prior years, the Academy had problems that drained both our resources and enthusiasm. The Campaign was a call to put those problems behind us and provide 'a little extra help' to restore the Academy's recognition and stature as a leader in educating the public regarding environmental issues and how environmental engineering impacts such issues." – Charles Willis, P.E., BCEE, President, Willis Engineers

"I contributed to Campaign 4000 in recognition of the value of the Academy to the environmental engineering field. I value the mission and goals of the Academy and the credential my certification gives to me. As an educator I feel that I demonstrate to my students the value of professional regulation and life-long learning by maintaining certification in my field." – Debra R. Reinhart, Ph.D, P.E., BCEE, Pegasus Professor, Interim Director NanoScience Technology Center, Interim Assistant VP for Research, University of Central Florida "To reach its goal of \$150,000, AAEE needs 114 more donors. Are you among the few who will help?"

The title, Campaign 4000, reflects AAEE's goal to grow membership to 4,000 in five years. Like membership growth, many of the Academy's goals are interdependent. For example, improving our communications systems will enable AAEE to recruit more environmental engineers to become certified and allow us to serve and manage the growing membership more efficiently and effectively. Hosting regional and local meetings will not only provide local environmental engineers and environmental engineering practitioners with a great information resource but also build awareness of, and interest in, AAEE certification. The same holds true with academic outreach: As more professors and students learn about AAEE's accredited certification program, more become active participants in the Academy and promoting the industry at large.

To reach its goal of \$150,000, AAEE needs 114 more donors. Are you among the few who will help? By doing so, you are empowering the Academy to visibly increase its positive impact on the environmental engineering industry. As the Academy's official Campaign 4000 letter says: "Very few investments at this level have the potential to make such a significant impact on our environment and way of life."

To all current Campaign 4000 donors who are reading this pitch: THANK YOU for your dedicated commitment. For those who are considering becoming a Campaign 4000 contributor, I am very interested in hearing from you. Please call or email me at your convenience: (410) 266-3311; email: jcava@aaee.net. **E**E

MEMBER NEWS

Walter R. Niessen, P.E., BCEE, was named the 2008 Pioneer Award Recipient. The Pioneer Award was established by the American Society of Mechanical Engineers and the University of Maryland's International Conference on Incineration & Thermal Treatment Technologies. The purpose of the award is to recognize outstanding leaders and sustained contributors as well as to encourage young engineers and students in the field of Incineration and Thermal Treatment Technologies throughout the world. Mr. Niessen is President of Niessen Consultants and became AAEE certified in 1974. He holds two specialties with AAEE, Air Pollution Control and Solid Waste Management.

Rao Y. Surampalli, Ph.D., PE., BCEE, Dist.M.ASCE, has been voted to become Distinguished Member of ASCE. Dr. Surampalli is one of 10 distinguished civil engineers to be selected by the ASCE Board of Direction. He will be inducted at a ceremony in October 2009. Dr. Surampalli is currently Engineer Director of USEPA and AAEE's 2009 Kappe Lecturer. He has been certified in Water Supply and Wastewater Engineering since 1985. Lieutenant Colonel Thomas C. Timmes, Ph.D., P.E., BCEE, has joined the faculty of the Department of Geography and Environmental Engineering at the U.S. Military Academy at West Point, New York. The courses LTC Timmes will be teaching are primarily Physical & Chemical Processes and Biochemical Treatment. He will also support undergraduate research efforts. LTC Timmes has been an environmental engineer with the U.S. Army Medical Service Corps for seventeen years. He has been certified in Water Supply and Wastewater Engineering since 2005.



IN MEMORIAM

James E. Foxworthy, Ph.D. P.E., BCEE, passed away on April 5, 2009. Dr. Foxworthy was Professor Emeritus of Civil Engineering at Loyola Marymount University. AAEE named Dr. Foxworthy the 2005 Edward J. Cleary Award recipient, which recognizes individuals for their superior administrative and technical skills and public services in the conduct of environmental protection programs. He had been AAEE certified in General Environmental Engineering since 1980. (*A tribute compiled by Past President Timothy G. Shea, Ph.D., P.E., BCEE, and Joseph C. Reichenberger, P.E., BCEE, is on page 9*). **Ralph A. Lopez, P.E., BCEE**, of Miami, Florida, passed away in 2008. He was a graduate of the University of Florida. Mr. Lopez had been AAEE certified in Water Supply and Wastewater Engineering since 1977.

Leo Louis, P.E., BCEE, passed away January 22, 2009, at the age of 93. He was a Past President of the American Water Works Association. Mr. Louis, an AAEE Life Member, had been certified in Water Supply and Wastewater Engineering since 1957.

Albert H. Stevenson, P.E., BCEE,

passed away December 28, 2008. Mr. Stevenson (pictured here speaking at AAEE's 50th Anniversary Banquet in 2005) served as AAEE's first president



after it had formed into an independent organization in 1967. He was a Life Member who had been certified in Sanitary Engineering since 1957. **E**E

In Memoriam: Professor James E. Foxworthy, Ph.D., P.E., BCEE

ames Foxworthy, an emeritus professor of civil engineering and former dean of what is now Loyola Marymount University's Frank R. Seaver College of Science and Engineering passed away on April 5, due to complications from Parkinson's disease. He was 79.

Jim was awarded the Academy's Edward J. Cleary award in 2005. He was an outstanding teacher – the "teacher's" teacher. He inspired students to do their best; he focused on building engineers. His legacy is seen in the impact of graduates who learned under him have had in California.

Jim was born February 23, 1930, in Los Angeles, graduated from Redondo Union High School in Redondo Beach, CA and went on to El Camino college in pre-engineering. To gain some practical experience, he enlisted in a reserve combat engineer battalion in Torrance only to find his unit shipped off to Korea building bridges and operating water treatment plants. That's what interested Jim in sanitary engineering - now environmental engineering. After the war he pursued his engineering education under the G.I. Bill graduating from El Camino College and earning a bachelors (1955), masters (1958) and doctorate (1965) from USC.

With masters and a PE in hand, Jim started teaching in 1958 at Loyola University as it was called then. At the same

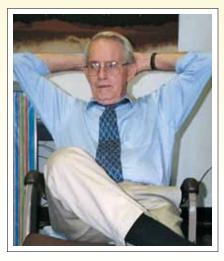
Remembering...

"I first met Jim Foxworthy as a confused freshman farm boy from Fresno. "The Fox" proved not only to be a great teacher, but also a great listener. He could speak volumes by just puffing on his beloved pipe. He'd sit back in this chair, hands behind his head and say 'now, my son...' and some pearls of wisdom would clarify my dilemma." – Jim Stahl, former Chief Engineer and General Manager, Sanitation Districts of Los Angeles County and Cleary award winner 2001.

time working on this Ph.D. His doctoral thesis focused on the fate of coliform organisms in wastewater discharges from ocean outfalls. He was the first chair of the Civil Engineering Department and revamped the entire Civil Engineering curriculum. He subsequently served as dean of the College of Science and Engineering from 1968 until 1980. In 1968, Jim started the part-time evening masters degree program at Loyola – a program which continues today as a tribute to Jim. He became the university's first executive vice president, serving in that position from 1980 to 1984. In 1983, all male, Loyola University merged with Marymount College to become Loyola Marymount University. He returned to teaching and retired in May 2004.

He spent a lot of his "non-academic time" consulting to the County Sanitation Districts of Los Angeles County and other agencies. Hydraulics, aquatic chemistry and microbiology were his favorite subjects. He personally designed the fluids/hydraulics laboratory used by the students today.

Jim was a great teacher and mentor to thousands of engineering students at LMU. He was your counselor, but not your father; he was your friend, but not your buddy; he was funny, but never at a student's expense. When Loyola Marymount University civil engineer-



ing is mentioned, Jim Foxworthy is the first name that comes to anyone's mind. Many of Jim's students have gone on to distinguished careers; many are Diplomates in the Academy.

Jim is survived by his wife, Peggy, whom he married in 1950, and four children; Michael, Mary Ellen, John and Tim. He was predeceased by three children; Paula, Brian and Steven.

Note: much of the historical information was provided by Joe Haworth, P.E. Public Information Officer Retired, County Sanitation Districts of Los Angeles County in an article "James E. Foxworthy, Ph.D., P.E., DEE, Builder of Engineers," *Environmental Engineer*, Vol 36, No. 4, Oct, 2000. **E**E

"Jim Foxworthy was so knowledgeable about his subject that he could present theory and, more important, its practical applications."

– Dennis Diemer, General Manager, East Bay Municipal Utility District.

"Dr. Foxworthy was an outstanding teacher and an excellent mentor. His courses in fluid mechanics and water and wastewater treatment first aroused my interest in environmental engineering; and it was his guidance and encouragement that led me to apply to graduate school. Thanks to the excellent education I received under his tutelage and others at LMU, I was able to go on to earn advanced degrees, and to enjoy a long and very rewarding career in the field of environmental engineering."

 Stephen J. Randtke, Professor of Civil, Environmental, and Architectural Engineering, The University of Kansas.

Academy Contributors



The American Academy of Environmental Engineers is pleased to recognize these individuals who contributed to several Academy funds during the 2009 certification renewal process.

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California Water Environment Association & AAEE Breakfast

At this year's annual conference in Palm Springs, the California Water Environment Association (CWEA) and the American Academy of Environmental Engineers (AAEE) hosted a joint breakfast to recognize exceptional achievement in the field of Environmental Engineering. CWEA's Engineering Research (E&R) Committee Chair Zeynep Erdal initiated the proceedings. Mike Selna continued with an introduction to AAEE, which explained that the mission of the organization is to improve the practice, elevate the standards and advance the cause of environmental engineers. Paul Friedlander highlighted the 2009 E&R award recipients. The keynote speaker for the event Glen Daigger, Ph.D., P.E., BCEE then presented a state of industry discussion titled Sustainable Practices for the Wastewater (and Water) Industry.

Dr. Daigger reviewed the causes of our global water situation, such as exponential population growth, increased standard of living, climate change, and urbanization. As a result of these factors nearly half the global population will experience water stress by 2025. Dr. Daigger highlighted the evolution of the environmental engineering profession, emphasizing problem solving and resource recovery initiative. The 21st Century urban water management system will include water conservation, distributed stormwater management, distributed water treatment, water reclamation, energy recover, nutrient recovery, and source separation components. Water and Wastewater electrical energy consumption is small compared to overall consumption. For example the average global resident uses 1,450 watts per person, with a mere 18 to 25 watts per person used for water and wastewater related activities. That said, about half of that energy is used for water distribution.

Dr. Daigger encouraged the profession to embrace innovative strategies, such as decentralized systems, to respond to these challenges. Societies which sustain, remain true to their core values and adapt practices to existing realities. Dr. Daigger concluded by listing the core values of the profession such as, dedication to public service, environmental protection, belief in science-based approaches, and perseverance that will lead to sustainable solutions.

About the Author: Wendy Wert, P.E., BCEE, is an Environmental Engineer with the Sanitation Districts of Los Angeles. Ms. Wert has been certified in Water Supply and Wastewater Engineering since 2006.



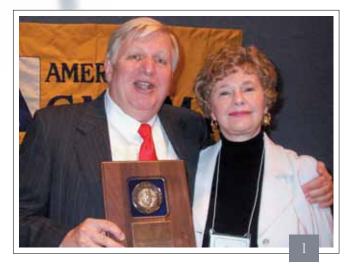
Paul Friedlander presenting award to Zeynep Erdal (lt), Mike Selna (ctr lt), Paul Friedlander presenting award to Jon Ganz (ctr rt), Featured Speaker Glen Daigger (rt).

by Wendy Wert, P.E., BCEE

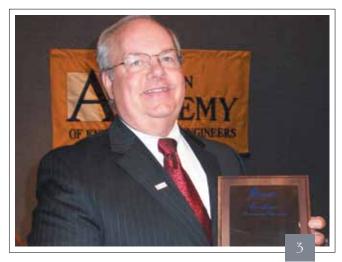
The 39th Annual AAEE Awards Banquet

The 2009 Annual AAEE Awards Banquet was held on Wednesday, May 6, at the National Press Club in Washington, D.C.









The event started with a Champagne Reception in which attendees had a chance to view panels of the winning E3 entrants as well as to fellowship with one another.

Many of AAEE's leadership, both past and present, attended this year's event. Additionally, many dignitaries were also in attendance. They included Peter King, Executive Director, APWA; Larry Jacobson, Executive Director, NSPE; John Skinner, Executive Director, SWANA; Brian Parsons, Executive Director, EWRI; Lance Hoboy, Acting Director, ABET; Stacy Hirata, P.E., Acting Chief, Environmental Community of Practice Directorate of Military Programs, U.S. Army Corps of Engineers; Tom Curtis, Deputy Executive Director, AWWA; Charles Willis, AAEE Past President (1997); William P. Dee, Immediate Past President (2008); and Stephen Kellogg, AAEE Past President (2007).

Stephen R. Maguin, Chief Engineer & General Manager of the Los Angeles County Sanitation Districts and Chair of AAEE's Excellence in Environmental Engineering Awards Committee, served as the Master of Ceremonies for this event where



- 1 2009 Gordon Maskew Fair Award Recipient, Thomas E. Wilson, Ph.D., P.E., BCEE, and wife Cheryl Wilson.
- 2 AAEE President-Elect Cecil Lue-Hing, Ph.D., P.E., BCEE (left) congratulates Grand Prize-University Research winners Dr. Sam Beattie (center) and Dr. Hans van Leeuwen, P.E., BCEE (right) for their project, Production of Single Cell Oil from Cellulosic Biomass by Fungal Processing entered by the Center for Crops Utilization Research at Iowa State University. Dr. van Leeuwen served as Engineer-in-Charge.
- 3 Richard Bedard accepted CH2M Hill's Honor-Design Award for their project, City of Clovis Sewage Treatment/Water Reuse Facility.
- 4 Philip Friess and Stephen Maguin, P.E., BCEE. Mr. Friess accepted the Grand Prize-Research Award on behalf of of the Sanitation Districts of Los Angeles County for their project, An Innovative Approach to Disinfection for Recycled Water in Los Angeles County. Stephen Maguin, Chair of AAEE's Excellence in Environmental Engineering Awards Committee and Master of Ceremonies of the AAEE Awards Banquet, served as Engineer-in-Charge.







five individuals were recognized and presented with awards for their excellence and leadership in environmental engineering and 17 awards were presented to the winners of the Excellence in Environmental Engineering Competition.

The Gordon Maskew Fair Award is given for substantial contributions to the status of the engineering profession, the quality of the world's environment and the Academy. The 2009 recipient is Thomas E. Wilson, Ph.D., P.E., BCEE. Dr. Wilson has been AAEE certified in Water Supply and Wastewater Engineering since 1985.

The Stanley E. Kappe Award is given for the performance of extraordinary and outstanding service contributory to the advancement of Academy objectives. The 2009 recipient is Stephen P. Graef, Ph.D., P.E., BCEE. Dr. Graef has been AAEE certified in Water Supply and Wastewater Engineering since 1986.

The Edward J. Cleary Award is given for superior administrative and technical skills and public service in the conduct of environmental protection programs. The 2009 recipient is Wal-



- 5 Stephen P. Graef, Ph.D., P.E., BCEE, was presented the 2009 Stanley E. Kappe Award by Sandra L. Tripp, P.E., BCEE.
- 6 AAEE President Dr. Debra R. Reinhart, P.E., BCEE, presented the 2009 Edward J. Cleary Award to Walter J. Bishop, P.E., BCEE.
- 7 President Reinhart presents the Grand Prize-Design Award to Daniel Lynch, P.E., who served as Engineer-in-Charge for CH2M's project, Broad Run Water Reclamation Facility.
- 8 President Reinhart presents Michael Zapinski, P.E., with the Honor-Design award for AECOM's project, Back River Wastewater Treatment Plant.









ter J. Bishop, P.E., BCEE. Mr. Bishop has been AAEE certified in Water Supply and Wastewater Engineering since 1983.

Honorary Board Certified Environmental Engineers are elected by the Board in recognition of their position of eminence in the environmental engineering field and sustained contributions to the advancement of environmental engineering. This year, two individuals were selected. They are Perry McCarty, Ph.D. and Michael J. Rouse.

The winners for the entries in the 2009 Excellence in Environmental Engineering Awards are:

- Superior Achievement Award: CDM & PUB, Singapore's national water agency, Marina Barrage, Singapore
- **Research Grand Prize Award:** Sanitation Districts of Los Angeles County, An Innovative Approach to Disinfection for Recycled Water
- Research Honor Award: CDM, Biologically Enhanced High-Rate Clarification



- President Reinhart presents Jyh-Wei (Al) Sun, P.E., BCEE, with the Honor Award-Research for CDM's project, Biologically Enhanced High-Rate Clarification. Mr. Sun served as Engineer-in-Charge.
- 10 Thomas Kispert, P.E., BCEE, shows off his plaque for Honor Award-Design. Mr. Kispert served as Engineer-in-Charge for McMahon's project, Heart of the Valley Metropolitan Sewerage District Wastewater Treatment Facility Improvement.
- 11 Thomas W. Friedrich, P.E., BCEE, accepted the Honor Award-Design for Jones Edmunds & Associates' H. Clay "Junk" Whaley, Sr. Memorial Water Plant on which he served as Engineer-in Charge.
- 12 President Reinhart presents the Honor-Planning Award to Donald W. Clause, P.E., BCEE and Harry Kleiser for Malcolm Pirnie's project, Enhanced Use Lease Development at Hill Air Force Base. Mr. Clause served as Engineer-in-Charge.







- Planning Grand Prize: Kennedy Jenks, ACWA Energy Independence Project
- Planning Honor Award: Malcolm Pirnie, Enhanced Use Lease Development at Hill AFB
- Design Grand Prize: CH2M Hill, Broad Run Water Reclamation Facility
- Design Honor Award: AECOM, Back River Wastewater Treatment Plant
- **Design Honor Award**: CH2M Hill, City of Clovis Sewage Treatment/Water Reuse Facility
- Design Honor Award: CH2M Hill, Twin Oaks Valley Water Treatment Plant DBO Project
- Design Honor Award: Jones Edmunds & Associates, Inc., H. Clay "Junk" Whaley, Sr. Memorial Water Plant



- President Reinhart presented two awards to Malcolm Pirnie's Douglas M. Owen, P.E., BCEE. Malcolm Pirnie won Grand Prize-Operations/Management for the New York State Thruway Authority Statewide Stormwater Management Program and Honor-Small Projects for the Seneca Lake State Park Sprayground. Daniel J. Lowenstein, P.E., BCEE, (not pictured) served as Engineer-in-Charge for both projects.
- 14 Dr. Cecil Lue-Hing presented one of the two Honorary Board Certified Environmental Engineer awards to Perry McCarty, Ph.D. The other recipient, Michael J. Rouse, was unable to attend the banquet.
- 15 President Debra Reinhart presents the Grand Prize-Planning Award to David Kennedy, P.E., BCEE, for the Kennedy/Jenks project, ACWA Energy Independence Project. Mr. Kennedy served as Engineer-in-Charge.
- 16 CDM won Grand Prize-Small Projects for their project Groundwater Remediation Using Enhanced Bioremediation. On hand to accept were Shawn Turner (CDM), Leslie Turner, P.E., BCEE (CDM and Engineer-in-Charge), Troy Pfaff (Rockwell Automation), and David Anderson (CDM).



- **Design Honor Award:** McMahon, Heart of the Valley Metropolitan Sewerage District Wastewater Treatment Facility Improvements
- Operations/Management Grand Prize: Malcolm Pirnie, Inc. New York State Thruway Authority Statewide Stormwater Management Program
- University Research Grand Prize: Center for Crops Utilization Research, Iowa State University, Production of Single Cell Oil from Cellulosic Biomass by Fungal Processing
- University Research Honor Award: University of Cincinnati Department of Civil and Environmental Engineering, Improved Water Quality in Northwest Tanzania
- Small Projects Grand Prize: CDM, Groundwater Remediation Using Enhanced Anaerobic Bioremediation
- Small Projects Honor Award: Malcolm Pirnie Inc., Seneca Lake State Park Sprayground
- Small Firms Grand Prize: Applied Environmental Technology, Onsite Nitrogen Reduction with Two-Stage Biofiltration

Full profiles of all winners and award recipients were present in the Spring 2009 (V45, N2) issue of Environmental Engineer and can also be found on the Academy website at www.aaee.net.

Thank you to Sammi Olmo and Dr. Tom Wilson for providing the photos for this feature. ${\rm E\!E}$

21 CDM won for several of their projects, including the top prize of Superior Achievement for Marina Barrage, Singapore. Pictured from left to right are: Yap Kheng Guan (Director of Drainage, PUB, Singapore's national water agency) and Su Pei Lin (Senior Project Manager, Best Source); Grand Prize-Small Projects Award winners Troy Pfaff, P.E. (Rockwell Automation), Shawn Turner (CDM), Leslie Turner, P.E., BCEE (CDM), and David Anderson (CDM); Superior Achievement Award winners Brendan Harley, Sc.D., CEng (CDM) and Robert L Hurdle, P.E. (CDM); Honor-Research Award winner Jyh-Wei (Al) Sun, P.E., BCEE; and former AAEE Past President and Senior Vice President of CDM, Stephen Kellogg, P.E., BCEE



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Career Fair at Patrick Henry High

By Michael Selna, P.E., BCEE



At the invitation of Yvonne Walden, Employer Outreach Specialist at Patrick Henry High School in San Diego, California, the Academy participated in the school's Career Exploration Fair on March 4, 2009. The Academy's booth provided handouts, a continuously running DVD presentation, and even an environmental quiz. Many of the display materials were loaned by the Sanitation Districts of Los Angeles County. Over 150 students ranging from freshmen to seniors stopped at the booth to discuss environmental issues such as water pollution, air quality and global climate change. The students' energy, genuine concern, and inquisitive approach to environmental issues were remarkable.

Patrick Henry High is unique in that it has an Engineering Academy and an Advanced Placement (AP) Environmental Science class. Many of the students were already aware of issues such as global climate change and energy efficiency through the efforts of Engineering Academy Chair Kathy Schulze and Environmental Science instructors Lara Dickens and Kris Voss.

The environmental quiz provided an opportunity to engage the students, and after each student finished the quiz, discussion of the answers allowed more dialogue. Seventy students completed the quiz, the results of which are summarized at the end of the article. The majority of the students answered the questions correctly, even though they had not been exposed to this specific information, showing their general environmental awareness.

Participation in the Career Fair is aligned with the Academy's Strategic Plan goal of improving K-12 environmental education. With fewer students pursuing careers in engineering and sciences, it is important that we make an effort to show young people that environmental careers are fulfilling and can make a difference. The teachers and administrators at Patrick Henry High School are doing an outstanding job of conveying that message. We thank them for including the Academy!

Michael Selna is Senior Advisor with the Sanitation Districts of Los Angeles County. He currently serves as an AAEE Trusteeat-Large and has been AAEE certified in Water Supply and Wastewater Engineering since 1996.

Environmental Quiz

Percentage of students choosing each answer shown in red.

- 1. How many people on Earth lack safe drinking water?
 - a. 100,000 (4%)
 - b. 100,000,000 (35%)
 - c. 1,000,000,000¹ (61%)
- 2. How many degrees Fahrenheit will the Earth's atmosphere warm by 2100 if greenhouse gases are not controlled?
 - a. 1 degree F (7%)
 - b. 6 degrees F^1 (60%)
 - c. 20 degrees F (33%)
- 3. How many gallons a day of water does the average person in the United States use?
 - a. 20 gallons (25%)
 - b. 80 gallons¹ (66%)
 - c. 200 gallons (9%)

- 4. What do you think is our greatest environmental challenge²?
 - a. Water pollution (12%)
 - b. Safe drinking water (14%)
 - c. Air pollution (20%)
 - d. Global climate change (31%)
 - e. Solid waste (trash) (9%)
 - f. Other all of the above (11%) Population (1.5%) Energy (1.5%)
 - ¹ Answer considered correct
 - ² All answers considered correct



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Financial Statements

Independent Auditors' Report

We have audited the accompanying statements of financial position of American Academy of Environmental Engineers (a non-profit organization) as of December 31, 2008 and 2007, and the related statements of activities and cash flows for the years then ended. These financial statements are the responsibility of the Academy's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of American Academy of Environmental Engineers as of December 31, 2008 and 2007, and the changes in its net assets and its cash flow for the years then ended in conformity with accounting principles generally accepted in the United States of America.

> MULLEN, SONDBERG, WIMBISH & STONE, P.A. Annapolis, Maryland April 30, 2009

NOTE: The accompanying notes are an integral part of these financial statements.

Statements of Financial Position

December 31, 2008 and 2007

ASSETS				
	2008	2007		
CURRENT ASSETS				
Cash and cash equivalents	\$ 93,426	\$ 125,402		
Accounts receivable	18,390	21,592		
Pledges receivable	4,080	6,881		
Prepaid expenses	43,111	39,659		
Total current assets	159,007	193,534		
PROPERTY AND EQUIPMENT				
Net of accumulated depreciation	7,606	3,202		
OTHER ASSETS				
Pledges receivable, net of discount to present	_	5,130		
Trademarks, net of accumulated amortization	9,589	10,804		
Total other assets	9,589	15,934		
Total assets	\$ 176,202	\$ 212,670		
LIABILITIES AND NET	ASSETS			
CURRENT LIABILITIES				
Accounts payable and accrued expenses	\$ 7 495	\$7251		

Accounts payable and accrued expenses	\$ 7,495	\$ 7,251
Due to Foundation	-	38,171
Deferred revenue	198,610	188,485
Deferred sponsorship revenue	_	7,000
Total liabilities	206,105	240,907
NET ASSETS Unrestricted	(61,140)	(59,474)
Unrestricted — board designated	31,237	31,237
Total net assets	(29,903)	(28,237)
Total liabilities and net assets	\$ 176,202	\$ 212,670

Statements of Activities

Years Ended December 31, 2008 and 2007

	2008	2007
REVENUES, GAINS AND OTHER SUPPORT		
Certification fees	\$ 344,324	\$ 345,005
Publications	64,594	66,765
Meetings	48,085	28,209
Contributions	39,824	75,504
Other income	15,289	15,942
Environmental Engineer	4,910	5,665
Kappe lecture	3,400	8,500
Investment income	1,786	462
Total revenues, gains and other support	522,212	543,052
EXPENSES		
Program service expenses:		
Memberships	36,038	35,171
Environmental Engineer	35,409	34,904
Publications	20,072	19,244
Public education	15,073	7,204
Certificate/membership	14,552	12,762
Meetings and seminars	7,520	8,051
Kappe lecture	2,497	10,353
Committee expense	1,089	1,548
Total program service expenses	132,250	129,237
Management and general expenses:		
Staff salaries, fringe benefits and contract employment	252,976	253,781
Office expense	100,981	96,970
Legal, accounting and miscellaneous fees	14,856	15,566
Officer and trustee expenses	13,792	9,743
Insurance	4,547	4,443
Depreciation and amortization	3,166	3,526
Awards	1,080	748
Bad debt expense	230	380
Total management and general expenses	391,628	385,157
Total expenses	523,878	514,394
Change in net assets	(1,666)	28,658
NET ASSETS AT BEGINNING OF YEAR	(28,237)	(140,437)
NET ASSETS AT END OF YEAR	\$(29,903)	\$(28,237)

Notes to Financial Statements December 31, 2008 and 2007

Note 1 – Summary of Significant Accounting Policies

Nature and Organization

American Academy of Environmental Engineers (AAEE) was founded in 1955 to improve the practice of environmental engineering by certifying properly-qualified environmental engineering specialists, accrediting university environmental engineering curricula and by informing the public and environmental engineers through lectures, publications and other venues regarding proper environmental practices.

Income Taxes

The Academy is exempt under Section 501(c)(6) of the Internal Revenue Code from paying federal income tax on any income except unrelated business income. No provision has been made for income taxes as the Academy has no net unrelated business income.

Basis of Accounting

The Academy prepares its financial statements in accordance with accounting principles generally accepted in the United States of America. The basis of accounting involves the application of accrual accounting; consequently, revenues and gains are recognized when earned, and expenses and losses are recognized when incurred.

Revenue Recognition

Certification fees and certain other revenues are recorded as deferred revenue upon receipt and are recognized in the period to which the fees relate.

Contributions received are recorded as unrestricted, temporarily restricted, or permanently restricted support, depending on the existence and/or nature of any donor-imposed restriction. Support that is restricted by the donor is reported as an increase in unrestricted net assets if the restriction expires in the reporting period in which the support is recognized. All other donor-restricted support is reported as an increase in temporarily or permanently restricted net assets, depending on the nature of the restriction. When a restriction expires (that is, when a stipulated time restriction ends or a purpose restriction is accomplished), temporarily restricted net assets are reclassified as unrestricted net assets and reported in the statement of activities as net assets released from restrictions. Unexpended grant awards are classified as refundable advances until expended for the purpose of the grants since they are considered conditional promises to give.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingencies at the statement of financial position date and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents

For purposes of the statement of cash flows, cash and cash equivalents represent deposits in checking and savings accounts.

Accounts Receivable

Accounts receivable consists of amounts due for certification fees, royalties and reimbursements at the end of the year. The Academy considers all accounts receivable to be fully collectible. Accordingly, an allowance for doubtful accounts has been established.

Pledges Receivable

Contributions are recognized when the donor makes a pledge to give to the Academy that is, in substance, unconditional. Contributions that are restricted by the donor are reported as increases in

Statements of Cash Flows

Years Ended December 31, 2008 and 2007

	2008	2007
CASH FLOWS FROM OPERATING ACTIVITIE	S:	
Change in net assets	\$(1,666)	\$28,658
Adjustments to reconcile change in net assets to net cash provided (used) by operating activities:		
Depreciation and amortization	3,166	3,526
Pledges receivable	7,931	(1,501)
(Increase) decrease in operating assets:		
Accounts receivable	3,202	(4,240)
Prepaid expenses	(3,452)	4,731
Increase (decrease) in operating liabilities:		
Accounts payable and accrued expenses	244	1,245
Due to Foundation	(38,171)	33,496
Deferred revenue	10,125	(14,740)
Deferred sponsorship revenue	(7,000)	4,500
Net cash provided by operating activities	(25,621)	55,675
CASH FLOWS FROM INVESTING ACTIVITIES	5:	
Acquisition of property, equipment and trademarks	(6,355)	(3,891)
Net change in cash	(31,976)	51,784
Cash and cash equivalents at beginning of year	125,402	73,618
Cash and cash equivalents at end of the year	\$ 93,426	\$ 125,402

unrestricted net assets if the restrictions expire in the fiscal in which the contributions are recognized. All other donorrestricted contributions are reported as increase in temporarily or permanently restricted net assets depending on the nature of the restrictions. When a restriction expires, temporarily restricted net assets are reclassified to unrestricted net assets.

Property and Equipment

Property and equipment acquisitions in excess of \$500 are capitilized and recorded at cost less accumulated depreciation and amortization. When assets are retired or otherwise disposed of, the cost and related depreciation are removed from the accounts, and any resulting gain or loss is reflected in income for the period. The cost of maintenance and repairs is charged to current income as incurred; where as significant renewals and betterments are capitalized. Depreciation and amortization of property and equipment are provided on a straightline basis. Leasehold improvements are amortized over their estimated useful lives or the life of the lease, whichever is shorter. Furniture and equipment are depreciated over three to ten years.

Fair Value of Financial Instruments

The carrying amounting including cash and cash equivalents, accounts receivable, pledges receivable, accounts payable and accrued liabilities, approximate fair value because of the short maturity of these instruments.

Program Service Expense

Program service expense represents the direct cost of performing programs. Direct costs do not include salaries and related expenses. Management and general costs have not been allocated to such programs.

Reclassification of Prior Year Balances Certain reclassifications of the prior year balances have been made to comform to current year presentation.

Note 2 – *Concentration of Cash Balances* At various times during the year, the Academy maintained cash-in-bank balances in excess of the federally insured limit. During 2008, the federally insured limit was raised from \$100,000 to \$250,000.

Note 3 – Pledges Receivable

Pledges receivables are as follows at December 31:

	2008	2007
Receivables in less		
than one year	\$ 4,080	\$ 6,881
Receivables in one		
to five years		<u>5,890</u>
Total pledges		
receivable	4,080	12,771
Less: discounts to		
net present value		(760)
	<u>\$4,080</u>	<u>\$12,011</u>

Pledges receivable are reflected at present value of estimated future cash flows using the discount rate of 4.73%, depending on the date of the original pledge.

Note **4** – *Property and Equipment*

Property and equipment are summarized below for the years ending December 31:

	2008	2007
Furniture and		
equipment	\$33,141	\$210,134
Leasehold		
improvements	6,951	6,951
	40,092	217,085
Less accumulated		
depreciation	<u>(32,486)</u>	(213,883)
Net property and		
equipment	\$7,606	\$3,202

Depreciation expense for the years ended December 31, 2008 and 2007 was \$1,950 and \$2,137, respectively.

Note 5 – Trademarks

Trade costs incurred by the Academy are amortized over fifteen years. Amoritization expense for the years ended December 31, 2008 and 2007 was \$1,216 and \$1,389, respectively.



Note 6 – Lease Commitment

The Academy leases office space under a noncancellable operating lease which expires on August 31, 2013. The current monthly payment is approximately \$3,100 per month with a 3% annual escalation clause. Future minimum lease payments required under the lease for the years ending December 31 are as follows:

2009	36,541
2010	37,637
2011	38,766
2012	39,929
2013	<u>41,127</u>
	<u>\$194,000</u>

Rent expense for the years ended December 1, 2008 and 2007 amounted to \$45,644 and \$49,650, respectively.

Note 7 – Employee Benefit Plan

The Academy established a 401(k) Retirement Plan in 1997 for all employees meeting certain eligibility requirements. Employees may contribute up to 15% of their eligible compensation to the plan, subject to the limits to Section 401(k) of the Internal Revenue Code. The Academy does not match employee contributions.

Note 8 – Related Party Transactions

The balance due (to) from the American Academy of Enviromental Engineers Foundation amounted to \$-0- and \$38,171, for the years ended December 31, 2008 and 2007 respectively.

Note 9 – Unrestricted Net Assets - Board Designated

It is the policy of the Board of Trustees of the Academy to review its plans for future projects from time to time and to designate appropriate sums to assure adequate financing of such projects.

Snow Fund — represents a \$10,000 unrestricted contribution for which the Board of Trustees designated for some future use. The Board directed that the \$10,000 principal remain intact and that the interest can only be used for purposes designated by the Board. Total designated funds as of December 31, 2008



and 2007 amounted to \$14,528. Total accumulated interests as of December 31, 2008 and 2007 amounted to \$4,528. The Academy cashed in the Certificate of Deposit for operating purposes during the year ended December 31, 2000 and intend to reestablish the certificate of deposit when funds are available.

Kappe Fund — represents a \$10,000 bequest received from the Estate of Stanley E. Kappe during 1985. This unrestricted bequest is used for the purpose of recognizing the contributions of Stanley E. Kappe to the environmental engineering profession. The Board has designated the fund as a Quasi-Endowment. Hence, the principal portion of this fund is to remain intact and the interest can be spent on funding the Kappe Lecture Series. The Board has also designated additional funds and any annual contributions to the Kappe Lecture to be used to fund the Kappe Lecture Series. Total designated funds as of December 31, 2008 and 2007 amounted to \$16,709. Total accumulated interest as of December 31, 2008 and 2007 amounted to \$3,694. The Academy cashed in the certificate of deposit for operating purposes during the year ended December 31, 2001 and intends to reestablish the certificate of deposit when funds are available.

Note 10 – Going Concern

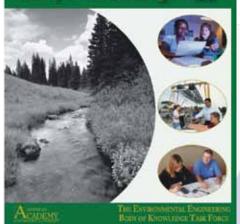
These statements are presented on the basis that the Academy is a going concern. Going concern contemplates the realization of assets and the satisfaction of liabilities in the normal course of business over a reasonable length of time. The accompanying financial statements show a current year accumulated deficit in unrestricted net assets of \$29,903.

The Academy has developed a plan to reduce expenses and increase revenues. The Academy continues to implement the plan. Management has projected cash flows for one year.

The Academy's continued existence depends on the success of cost reductions and developing new sources of revenue. **EE**

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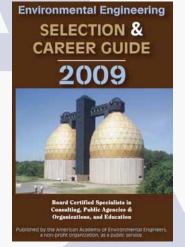
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CONFERENCE PURPOSE & WHO SHOULD ATTEND

The purpose of NCER 09 is to bring together scientists and engineers, policy makers, planners and partners who are actively involved in or affected by all aspects of ecosystem restoration regardless of project or program size and provide an interactive forum to share their experiences and research results concerning large-scale ecosystem restoration on both national and international levels.

Conference participants will also have the opportunity to learn about both large-scale and small local ecosystem restoration efforts and what their colleagues working at these levels have learned, what factors contributed to success, and how barriers and obstacles were overcome.

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NCER '09 will help you expand your knowledge, share your experience and network with colleagues from across various disciplines such as engineering, science, economics and the social sciences. This is an excellent opportunity to increase your "toolbox" with cutting edge science, modeling and data management tools. Join us and participate in the ecosystem restoration discussion on:

- Effective partnering to integrate planning, policy, science and engineering to provide effective, relevant and timely solutions
- Combining state-of-the-art approaches, technology, tools and information to solve problems and achieve environmental sustainability
- Ensuring the continuity and completion of large-scale, multiple year projects that involve multiple government agencies, non-government organizations, tribal governments and other partners
- Setting goals and objectives
- Defining success

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