The Water Quality Center (WQC) at ASU is striving hard to identify hidden dangers in our water and find ways to get rid of these nefarious materials. Established by Professor Morteza Abbaszadegan with a grant from the National Science Foundation (NSF) in 2001, the WQC is an Industry-University-Cooperative Research Center - the only such NSF Center focusing on water quality in the nation. Since its inception, the WQC has been involved in performing applied research to investigate physical, chemical and microbial processes that affect potable water supplies and to improve the quality of our drinking water. The WQC provides an umbrella structure for a prestigious group of professionals working together in the areas of environmental engineering, microbiology, chemistry and hydrology to resolve water quality problems. The center provides research capabilities to its members in a variety of water quality areas. Center researchers not only look for microbial and chemical contaminants but are also developing new ways to treat contamination of water. Having safe water delivered to the faucet is a goal for all nations. However, even in a country as advanced as the United States this goal can be elusive. The U.S. Environmental Protection Agency estimates that the drinking water sources of more than 110 million people in the U.S. could be at risk due to a loop hole in current policies that can strip Clean Water Act protections from drinking water sources.

continued on page 9.
More than 130 family members, friends and business associates of Enamul Hoque (MS, ’85) took part in a ceremony Saturday, December 1, 2007 marking his $250,000 gift to Arizona State University. Attendees included 11 of Enamul’s ASU classmates, some of whom traveled across the country to attend the event. Engineering School Dean Deirdre Meldrum and Executive Dean Paul Johnson presided over the event.

The event included naming of the E.M. Hoque Geotechnical Laboratory in the Department of Civil and Environmental Engineering in Interdisciplinary Science and Technology Building 2. The gift to ASU continues the Hoque family’s history of giving back to the community that began decades ago in their native Bangladesh. CEE Interim Chair Ed Kavazanjian noted that the endowment will help maintain the state of the art facilities in the lab as well as support undergraduate and graduate research.

Hoque earned his master’s degree in civil and environmental engineering at ASU in 1985. His Phoenix-based company, Hoque & Associates Inc., is a consulting engineering firm specializing in geotechnical exploration, civil engineering, construction materials testing, environmental assessment and solid waste engineering.
Welcome alumni, friends and supporters of Civil and Environmental Engineering. On behalf of the entire faculty, staff and student body of our department we thank Ed Kavazanjian for the past two years of fantastic service and leadership as Interim Chair of Civil and Environmental Engineering (CEE).

It is an honor and privilege to serve as the new Chair and I am excited about the possibilities and opportunities for engagement and scientific advancement over the coming years. The region, state, country and globe need bold new advances in technologies and strategies for improving the urban infrastructure in order to assure a sustainable and prosperous future.

Over the next five years we hope to increase the size of our faculty by nearly 50% to keep up with the demand by students, opportunities for research and support the mission and grand challenges of the Ira A. Fulton School of Engineering and Arizona State University. Our growth is anticipated to occur by focusing on novel civil engineering materials for structures, transportation, geotechnical and environmental applications while also developing a broader earth systems and engineering management capability. This will strengthen traditional civil engineering disciplines while expanding our understanding of how to engineer increasingly integrated civil systems. We will search for the brightest and most ambitious new faculty to join us in leading the nations need to improve our infrastructure and educate the next generation of students.

We hope to offer increased opportunities for undergraduate students to become involved in research, offer new academic programs and continue their high level of involvement in professional activities and societies which has blossomed over the past few years. Testimonies of nearly every undergraduate student with the opportunity to work in a professors lab are overwhelmingly supportive of the learning experience in helping them shape their future, put their class work into context and provides a financial means allowing them not to work at fast food or other retail jobs. Additionally, CEE will begin offering a new one-year masters of science and engineering option for students. This new graduate option aligns our program with a nationwide trend initiated by ASCE that aims toward developing a five-year professional civil and environmental engineering degree. In other graduate programs, an Earth Systems and Engineering Management graduate program being initiated and lead by CEE faculty will also be adopted. Student chapters of professional societies and volunteer activities like Engineers Without Borders have been gaining regional and national attention. CEE can serve as a catalyst for many of these opportunities, but increasingly we will be looking to the local and regional professional communities and individuals interested in partnering with us to support these activities.

These are exciting times for our department and field. Hopefully you can be involved, and I invite you to send me your thoughts and comments about the direction of our program.

Sincerely,

Paul Westerhoff, Ph.D., P.E.
Professor and Chair
On January 9 and 10, 2008, Brad Allenby chaired a workshop on Building the Global Sustainable Engineering Community. The Workshop, held at ASU, was sponsored by the Center for Sustainable Engineering, an NSF-supported consortium consisting of Arizona State University, joined by Carnegie Mellon University, and the University of Texas at Austin. The intensive meeting was attended by 35 international experts, and a number of ASU graduate engineering students were able to participate as observers. Panels presented overviews of international sustainable engineering initiatives, and explored opportunities for international collaborative efforts, as well as the theory and practice of sustainable engineering seen from the industrial and professional perspectives. Workshop attendees also addressed a range of issues including incorporation of sustainable engineering in the K-12 curriculum, an important value not just in itself, but also as an attractive way to introduce young students to the potential rewards, challenges, and excitement of engineering careers. The workshop is another step in establishing the leadership of the department of civil and environmental engineering in the areas of sustainable engineering, and, more broadly, earth systems engineering and management.

Jean Andino, associate professor in the Department of Civil and Environmental Engineering and in the Department of Chemical Engineering, received three National Aeronautics and Space Administration (NASA) Space Act Awards in 2007. Her first award was for her role in the development of a new technology that purifies air and water in enclosed environments. The award, as described on NASA's web site, was established “to provide official recognition of, and to grant equitable monetary awards for those inventions and other scientific and technical contributions that have helped to achieve NASA's aeronautical, technology transfer, and space goals.” The award-winning technology is described in an August 2007 NASA “Tech Brief” entitled “Photocatalyst Coated Magnet Composite Particles.” Andino received her second NASA Space Act Award for her role in developing a new technology to be used by the federal agency. The invention – a chemical assisted photocatalyst oxidation system (CAPOS) – is based on the use of a photocatalytic material and a gas that can be used to remove pollutants from indoor environments. Her latest award recognizes her invention of a “Hydrogen Detection and Quantification System,” which detects hydrogen and converts the signal to a concentration. NASA Space Act Awards recognize technical contributions to its aeronautical and space goals and include a small monetary award.

Edward Kavazanjian, associate professor and interim chair in the Department of Civil and Environmental Engineering was elected to the position of Treasurer of the ASCE Geoinstitute Board of Governors in October 2007. He was also recently appointed to the Committee of Geotechnical and Geological Engineering of the National Research Council Board of Earth Science and Resources, a Division of the National Academies of Science and Engineering.

Larry Mays, professor in the Department of Civil and Environmental Engineering, was elected Diplomat, Water Resources Engineer (D.WRE) by the American Academy of Water Resources Engineering (AAWRE), 2007. Mays has also been quoted in Newsweek Magazine, October 1, 2007 issue on Giving Globally: How to Heal the World, in the article Cool, Clear Water. “Part of solving the problems we have now might be to look at some of these traditional methods instead of building megaprojects,” says Larry Mays, an engineering professor at Arizona State University. In many cases, he says, the old ways are more dependable and sustainable than modern technologies.”

Our philosophy is to engage students and encourage them to discover new approaches of designing and constructing the built environment around us all in a sustainable way.
Ram Pendyala, professor of transportation systems in the Department of Civil and Environmental Engineering, was a co-chair of the inaugural Indo-US Symposium on Advances in Mass Transit and Travel Behaviour Research held February 2008 at the Indian Institute of Technology (IIT) in Guwahati, Assam India. The symposium, sponsored by the Indo-US Science and Technology Forum and organized by IIT and ASU, was conducted as a forum for transportation experts to gather and discuss new developments in the field, share experiences, and form an agenda for collaborative research and technology transfer activities.

Simon Washington, professor in the Department of Civil and Environmental Engineering has recently been invited to participate on the Editorial Boards of four journals including Associate Editor for the ASCE Journal of Transportation Engineering, Founding Editorial Board Member for the Journal of Transportation Safety Research and The Open Ergonomics Journal, Benthan Open and Editorial Board Member for the Transportation Research Part A. Elsevier.

Eric Williams, an assistant professor in the Department of Civil and Environmental Engineering and ASU’s School of Sustainability, testified on April 30 in the nation’s capital before the U.S. House Science and Technology Committee about the environmental and economic challenges of dealing with increasing amounts of electronic equipment waste, called e-waste, in the United States. Williams and other experts gave congressional representatives their perspectives on options for recycling, refurbishment, resale and safe disposal of the growing volume of old computers, televisions, cell phones, printers, video players and other popular consumer electronic products being rapidly added to the country’s waste piles. Williams’ ASU colleague, civil and environmental engineering professor Brad Allenby, said the hearing marked a significant step for the university’s reputation. Said Allenby, “That Congress asked Eric to testify on this issue of national concern is an encouraging sign of how ASU Engineering, and the new Center for Earth Systems Engineering and Management, are increasingly being recognized as leaders in sustainable engineering and related policy issues.” Allenby is director and Williams is vice director of the center. Its mission is to provide a basis for understanding, designing and managing the complex and integrated built, human and natural systems that increasingly characterize our planet. It combines research, teaching and public service in an effort to learn how engineered and built systems are integrated with natural and human systems in an age that scientists are calling the “Anthropocene” Age - or Age of Humans.

Matthew W. Witczak, professor in the Department of Civil and Environmental Engineering was honored at the Transportation Research Board (TRB) 87th Annual Meeting in Washington, D.C. with the 2008 Thomas B. Deen Distinguished Lectureship Award. This award recognizes the career contributions and achievements of an individual in areas covered by TRBs Technical Activities Division. Witczak, the 17th recipient of this award, delivered a lecture entitled, Pavement Performance Research Implementation: Its Uniqueness, Complexity, and Recommendations for Acceleration into Practice. Witczak has been a leader in pavement design and analysis for more than 30 years. He has received a total of 15 engineering, research, and construction awards. He is the past recipient of one of TRB’s first Fred Burggraf Awards and its K.B. Woods Award, the Association of Asphalt Paving technologists’ W.J. Emmons Award, the National Asphalt Pavement Association’s R.D. Kenyon Award, and Engineering News-Record’s “Construction Man of the Year” Award. He also received the A. James Clark School of Engineering Outstanding Commitment Award from the University of Maryland in 2004 and has been recognized by the American Society of Civil Engineers as an author of the most outstanding transportation journal paper. He was elected to the Asphalt Institute’s Roll of Honor in 2003 and was elected an AAPT Honorary member in 2007.
New Faculty

Rolf U. Halden, Ph.D., P.E., joined CEE in January of 2008. His research group, housed in the Center for Environmental Biotechnology at ASU’s Biodesign Institute, seeks to advance public health and societal sustainability through the use of biotechnology, green chemistry and green engineering. Halden, who specializes in bioremediation and the mass spectrometric determination of chemical and biological contaminants, is best known for his work on the occurrence of organohalogens, pharmaceuticals and personal care products in U.S. water resources, and the measurement of associated body burdens in humans. His research explores the connection between anthropogenic activities, environmental quality and human health. Current projects concentrate on structural attributes of persistent manmade chemicals, the genomic and proteomic characterization of microbes feasting on toxic pollutants, and the development of in situ microcosm arrays for enhanced environmental monitoring and remediation. Prior to joining CEE, Halden was Associate Professor of Environmental Health Sciences at the Johns Hopkins Bloomberg School of Public Health.

Analysis of ASU Travel Demand and Mode Use Patterns Completed

As one of the largest universities in the nation, ASU has a significant impact on traffic patterns and congestion around the Valley. With the first segment of the Light Rail line scheduled to commence operation in December 2008, the Maricopa Association of Governments (MAG) and Valley Metro awarded a research contract to CEE faculty member, Prof. Ram Pendyala, to estimate the total traffic generated by ASU and its impact on Light Rail, with emphasis on the Tempe and Downtown Campuses – the two campuses that are served by the Light Rail line. Pendyala’s research team included post-doctoral researcher Dr. Xin Ye, doctoral student Karthik Konduri, and undergraduate research assistant Joseph Plotz.

Pendyala and his team worked closely with numerous entities to gather data, analyze ASU travel demand, and estimate Light Rail ridership attributable to ASU under different scenarios. These entities included planning consultants to the agencies (HDR|SR Beard & Associates and Hexagon Consultants), ASU Parking and Transit Services, and ASU University Business Services. The team conducted an online survey of travel demand and mode use patterns for the university community and used the data obtained from 4,000 respondents to construct mathematical models that can be used to forecast travel demand and transit patronage under a wide variety of conditions.

Their results show that more than two-thirds of the university community commutes by driving alone to and from ASU. Faculty, Staff, and Students at the Tempe and Downtown campuses generate a total of about 120,000 trips to and from ASU everyday (including commuting, business, lunch, errands, and other daily activities). The models developed by Pendyala suggest that about 5,000 of these trips might shift to the light rail line once it is in operation.

Pendyala and his research team found that light rail ridership is considerably sensitive to service characteristics including travel time (speed), waiting time, and on-time performance. Fare was also an important determinant of ridership, particularly for the student market. Reducing service frequency by half or doubling the fare could result in a reduction in daily ridership of nearly 1,500 trips. Pendyala’s team integrated the mathematical models that they calibrated into a comprehensive sketch planning tool that the agencies could use to estimate ASU’s contribution to light rail ridership and Valley traffic under a wide variety of conditions and growth scenarios. The final report of the study is available at: http://www.public.asu.edu/~rpendyal/ASUTravelDemandProjectReport1.pdf.
AZSCE Endows Scholarship Fund

The Arizona Section of the Society of Civil Engineers (AZSCE) has provided a generous endowment of $25,000 for undergraduate Civil and Environmental Engineering students at ASU. CEE students Rene Bermudez and Jose Rodriguez and CEE Assistant Professor Claudia Zapata received the first $15,000 installment of the $25,000 endowment at the annual meeting of the AzSCE in September.

CEE Advising Center Expands

With the support of the Provost Office and the Engineering Dean’s Office, we have been able to add another undergraduate advisor to the CEE advising team to accommodate our increased undergraduate enrollment. Pamela Van Husen, former student services coordinator assistant, will now be working with Lauren Levin advising our undergraduate students. We have also welcomed Elizabeth Moore and Shawna Morgan to our advising team. Elizabeth is replacing Angela Vasco as our Graduate Advisor while Shawna has replaced Pamela as the student services coordinator assistant.

The Advising office will be relocating to new quarters in ECG 251 by the start of the fall 2008 semester. The new larger office space will include a waiting room for our students as well as a break room for the CEE staff. The new suite of offices, directly across from the main CEE office, will help to unite the services of the CEE department in one location.

Spring Resume Workshop Well Attended

This year’s Resume Writing Workshop, facilitated by the new Engineering Career Center, focused on how to tailor resumes to a particular field or industry. Emphasis was placed on how to provide both a technical and results-based focus as well as integrating transferrable skills for those ‘non-engineering’ related experiences many college students have. Many students also took advantage of the opportunity to drop off their resumes to have them evaluated for submission to the CEE resume booklet for the annual CEE Career Fair held February 20, 2008 at the Tempe Mission Palms Hotel.

CEE students also attended a spring workshop promoting scholarship opportunities within the Fulton School. Thanks to the annual donations from the Friends of Civil Engineering we were able to provide pizza lunches for the students at both these events.

Engineering Career Center

The new Engineering Career Center introduced this fall provides both scheduled and drop-in advising for engineering students and alumni. The center, located at the Brickyard, is devoted to helping students develop career-readiness skills including career choices, preparation of resumes and application letters, job search techniques, interview skills, professional dress, business communication, job/internship postings and placements and engineering internship programs.

Engineering Student Center

A new 7,500 square foot Engineering Student Center featuring study pods, wireless access, loaner laptop computers, a conference room, and meeting areas that can accommodate small groups is now open in the Engineering Center G Wing. Engineering students and student groups now have a state of the art facility in which to study, meet and conduct business.

Excellence In Academic Advising

The Civil & Environmental Engineering department is pleased to announce that Lauren Levin, Coordinator for the department Advising Center and Undergraduate Academic Advisor has won the 2008 award for Excellence in Academic Advising at ASU for an Experienced Advisor. Given by the Council of Academic Advisors with support from the ASU Parents Association, the Provost’s Office, and Career Services the award recognizes advisors whose work demonstrates effectiveness in recruiting and retaining students, and guiding them to success in their academic careers. Advisors are evaluated as well on their efforts to reach out to students, making them aware of scholarships, resources and services that can aid them in their education. Lauren will be presented with a plaque and $1,000 from ASU’s Parents Association. Lauren has also been invited to join the Provost’s advisory council on academic advising at ASU.
The Arizona State University chapter of Engineers Without Borders (EWB-ASU) is working to improve water distribution and sanitation systems in the village of Tsurakú, Ecuador. Located on the border of the Amazon rainforest, Tsurakú is home to 40 families of the Shuar tribe.

In August 2007, an ASU Engineers Without Borders reconnaissance team, including Civil and Environmental Engineering students Courtney Oversby and Elsy Escobar, and Mark Rohan and Uven Chong of Mechanical Engineering, completed a two-week assessment trip to evaluate the conditions in the village and prepare for designing environmentally, economically and culturally sustainable solutions for the village’s water and sanitation problems. Discretionary funds from our Friends of Civil Engineering account helped defray the CEE students’ travel costs.

The assessment included the following:

- Extensive interviewing of the leaders of the village, the health workers, the person in charge of construction, and each family in the village
- Testing of water quality, flow rates, soil types, and soil percolation throughout the village
- Surveying the land in order to assess the hydraulics of the distribution system
- Evaluation of the current water distribution system as well as investigating possible other sources of water
- Networking with people and groups with more experience in the region
- Assessing the availability of supplies in the surrounding areas and the common methods of construction and tools in the village

The team is currently designing solutions for the water and sanitation problems investigated on the assessment trip. These solutions will be partially implemented in follow-up trips in March 2008 and Summer 2008 and are scheduled for completion in Summer 2009.

EWB is a nonprofit, humanitarian student organization that pursues partnerships with developing communities to improve quality of life by implementing environmentally conscious engineering solutions. To learn more, or to donate time or funding to the project, visit http://ewb.asu.edu/tsuraku/index.htm

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2007-2008 Graduate and Professional Student Association (GPSA) Research Grant Competition

Brooke Mayer, a CEE graduate student working with Dr. Morteza Abbaszadegan, is the recipient of a GPSA Research Grant. Her project entitled “Strategies to Assess the Efficacy of Enhanced Coagulation and Disinfection for Enteric Viruses during Water Treatment Processes” was selected for funding in the amount of $2,000 from the ASU Office of the Vice President for Research and Economic Affairs, administered under the 2007-2008 Graduate and Professional Student Association Research Grant Program. Of the 159 proposals submitted for review 68 were awarded funding.

This program is the only one of its kind – run by and for graduate students with graduate student peer reviewers. The funds come from the Office of the Vice President of Economic affairs and this year totaled $110,000.

Congratulations Brooke!

2008 International Road Federation (IRF) Executive Leadership Fellow

Congratulations to Jordan Reed on his acceptance as a 2008 IRF Executive Leadership Fellow.

The IRF was founded to encourage technical transfer to developing nations in order to improve the quality of roads and thus the quality of living in those countries. The year after its inception, the IRF started a fellowship program where it would identify promising young engineers in developing countries and bring them to the US to pursue graduate degrees along with providing them with a scholarship. More recently, the IRF expanded this program with the ‘Executive Leadership Program’ where it identified students already in the US pursuing advanced degrees and forged connections with those students.

The program was designed to help the fellows connect with not only each other but also leaders in the industry on both the private and public sides. Students represented a broad range of schools and sub disciplines within transportation, from pavement specialists to traffic engineers. Students attended presentations at the Federal Highway Administration's Turner-Fairbank Research Center, the World Bank, and various major consulting firms such as Parsons Brinckerhoff. They also attended the Transportation Research Board annual meeting. The final days were spent in a classroom environment with lectures by various industry leaders/IRF members about leadership. During this portion students also worked in groups to build bridges made from food purchased at the local grocery store. Jordan's group ended up winning the overall competition.

WATER WATCH IN ARIZONA: CEE Team Keeping Eye On The Situation

Continued from Page 1

The Pinal Creek watershed is important for recharging the drinking water supply for Phoenix. Pinal Creek flows into the Salt River and eventually to the Roosevelt Lake, which is an important source of water supply for the City of Phoenix.

Under current policies streams within the watershed that do not have natural year-round surface water flow could be excluded from Clean Water Act protection, leaving these streams and watershed that ultimately supply Phoenix with drinking water open to unregulated pollution.

Abbaszadegan's team has developed a biosensor for rapid detection of bacterial pathogens in water, which has reduced the turnaround time from days into minutes. The team has also been working on the characterization of endocrine disrupting compounds (EDCs), pharmaceutically active chemicals and personal care products (PPCPs) present in the source waters in central Arizona. Their studies have shown that estrogenic chemicals are effectively removed through chlorination and water treatment processes.

Summer 2008
Fall 2007 Degrees Earned

Doctor of Philosophy, Ph.D.

Kiril Hristovski
Dissertation: Applications of Nanotechnology in Environmental Engineering: Arsenic Removal

Rezaur Rahman

Aleksander Aborowski
Dissertation: Development of a Modified Superpave Thermal Cracking Model for Asphalt Concrete Mixtures Based on the Fracture Energy Approach

Yang Zhang
Dissertation: Fate and Transport of Anthropogenic Nanomaterials in Water

Master of Science, MS

Sudheen Anantharaman
Saurabh Kumar Bansal
Brindha Dhanasekaran
Juan Erni Montes
KC Kruger
Peter Newell
Robert Louis Oxley
Ronald Pierce

Master of Science in Engineering, MSE

Sharon Jesu
Ravi Kantipudi
Sterling Margotts
Ryan Sauer
Jared Wegner

Bachelor of Science in Engineering, BSE

Jennifer Akins
Deborah Alvarado
Nerijus Baronas
Benjamin Betzold
Derek Boland
Adam Braham
Jarvis Carter
Carolina Chong
Lee-Yung Cossar
Erica Eggen
Quinn Farol
Kathleen Goode
Jared Grandy
Derek Hanson
Richard Hartsig
Hazem Hashash
Jeremy Haskins
Hussein Hussein
Adam Johnson
Jacobe Jonovich
Daniel Kiel
John Kliethermes
Arban Londo
Jesus Lopez
Keith MacKenzie
James Marino
Yvonne Martinez
Ajesha Mills
William Nanni
Edgar Ontiveros
Aaron Pellow
Matthew Phillips
Robert Richey
Julie Schjoll
Timothy Schmuck
Ramsey Sewingyawma
Sharvil Shridhar
Jason Sixkiller
Theodore Stayton
Emily Stevenson
Rebecca Sydnor
Timothy Vanderwalker
Christopher Yarn

107 CEE students make Dean’s List

Congratulations to the following students for making the Dean’s List for the Fall 2007 semester. The Dean’s List certificate is presented to students who have earned 12 or more credit hours in a semester with a 3.50 or higher GPA.

David Adams
Farouq Al Selaimi
Christopher Anderson
Jennifer Arnold
Tyson Baca
Lindsey Beames
John Beiter
Stephen Brown
Cory Brustling
Heather Campbell
Abel Cardenas
Timothy Cason
Bridget Cavanagh
Christy Cavano
Vanessa Chavez
Daniel Che
Steven Cheshko
Keith Christian
Justin Cooper
Lee-Yung Cossar
Bobby Cottam
Zbigniew Czupak
Erin Daugherty
Alexandria Detrio
Chelsea Dickkut
Scott DiMiceli
Michaela Doherty
Zhani Doko
Andrew Doumakes
Nathan Dunkin
Taylor Ehrick
Laila El-Ashmawy
Bret Esslin
Preston Ford
Parker Froehlich-Pascuzzi
Todd Garner
Skye Gentile
Christopher Gino
Matthew Glancy
Joseph Goldstein
Brandon Gosch
Lauren Graham
Adam Gushgari
John Halvarson
Derek Hanson
LaMont Harvey
Brian Heldt
Christine Hile
Zachary Hilgart
Canio Hoffarth
John Holman
Nadim Hoque
Rebecca Jamney
Leroy Johnson
Katherine Jones
Jessica Katz
John Kliethermes
Terrin Lane
Kevin Lardner
Hanna Look
James Marino
Joy Marsalla
Eric Martin
Nathan Merrill
Mitchell Miller
Mike Morrison
Aaron Mower
Renee Mulliken
Clifton Neff
Brian Nichols
Derek Nichols
Sean Nugent
Trent Owens
Matthew Owings
Josue Pano
Erica Parker
Carmen Parks
Slyssa Paulus
Aaron Pellow
Thomas Petersen
Tina Pourshams-Manzouri
Stanford Prescott
Paulina Reina
Ryan Riggs
Bryan Rodriguez
Jose Rodriguez
Nathan Rodriguez
Jose Rosado
Adam Rumpf
Sonia Runyan
Jonathan Samuelson
Jessica Scott
Michael Sotak
Muriel Steele
Karl Sturm
Taylor Swanson
Scott Taylor
Angela Tugaoen
Renee Vaughn
Elizabeth Weil
Charles Wessel
Ryan Whiting
Sean Wilson
Jake Wolf
Christopher Yarn
Tiffany Yee
Sarah Ziems
Friends of Civil Engineering (FOCE)
Industry and academia working together to educate tomorrow’s
civil and environmental engineering workforce.

MISSION
The mission of the Friends of Civil Engineering (FOCE) is to support the educational programs of the Department of Civil and Environmental Engineering (CEE). FOCE support for CEE department programs includes:

- Providing a source of discretionary funds (through an annual donation) that the department chair can use to support students, student activities, seminars and symposia, visiting scholars, and other needs;
- Assisting in promoting and growing FOCE;
- Sponsoring social events that bring industry professionals, students, and faculty together;
- Helping to attract top students to CEE at ASU and helping to retain these students at ASU;
- Assistance with raising endowed funds for CEE; and
- Helping educate ASU students about the industry by providing guest lecturers on industry-related subjects.

Friends of Civil Engineering Members

ALPHA Geotechnical & Materials
AMEC Earth & Environmental
Ames Construction, Inc.
Atwell-Hicks
Ayres Associates
Black & Veatch Engineers
Brown and Caldwell
Burgess & Niple
Carollo Engineers
CMX

Coe & Van Loo Consultants, Inc.
Consultant Engineering, Inc.
Damon S. Williams Associates
Dewberry
Dibble Engineering
Entellus
EPS Group, Inc.
Erie & Associates, Inc.
GEC SA & B
Golder Associates Inc.

Hatch Mott MacDonald
JACOBS Carter Burgess
Kennedy/Jenks Consultants
Kimley-Horn and Associates
Chris and Sandi Kmetty
Geza and Esther Kmetty
Lee Engineering
Malcolm Pirnie Inc.
M2 Group, Inc.
Michael Baker, Jr., Inc.
Nabar Stanley Brown

Ninyo & Moore
Otak, Inc.
PB Americas, Inc.
PBS&J
RBF Consulting
Stanley Consultants, Inc.
TranSystems Corporation
T & S Diversified
Waste Management
Western Technologies, Inc.
Wood Patel and Associates
New fund aims to make clean biofuel a reality

If we wanted to create the ideal environmentally friendly energy source, it would be a fuel that is easy and economical to produce and that does not pollute the air when burned. That is exactly what researchers at ASU intend to develop in a new program that uses bacteria and sunlight to generate hydrogen, a clean fuel that produces no greenhouse gases.

The project is one of the first to be funded by the ASU President’s Intellectual Fusion Investment Fund. This fund is supported by two recent gifts totaling $22 million and is used to make seed investments in research areas that push the boundaries of traditional academic disciplines.

Funding for the biohydrogen project is being administered through the Global Institute of Sustainability, which with ASU’s School of Sustainability has the goals of researching new, environmentally friendly technologies and educating students on sustainability.

ASU’s biohydrogen project aims to harness the energy in sunlight using microbial photosynthesis to produce hydrogen. A second part of the project is to create a microbial fuel cell technology that uses the leftover cyanobacterial biomass generated in the hydrogen production process as the energy source for additional hydrogen production. Bruce Rittmann, director of the Environmental Biotechnology Center at the Biodesign Institute at ASU and professor in the Department of Civil and Environmental Engineering, is leading the effort in this area.

“Hydrogen is the purest fuel you can think of,” says microbiologist Willem “Wim” Vermaas, a professor in ASU’s School of Life Sciences and the lead investigator on the project. “It generates energy without releasing CO2 into the atmosphere. It is the ultimate clean energy technology because you are splitting water to make the hydrogen. If you burn the hydrogen, you get water back. In essence, with our process you are converting solar energy into a clean fuel.”