Panos Tsopelas, assistant professor of civil engineering, is getting ready to shake the foundation of Pangborn Hall with two and a half tons of quaking steel.

The seismic specialist is constructing an earthquake simulator that will allow him to test the effects of earthquakes on model buildings, giving him data useful for configuring new building materials for quake-prone areas.

The seismic simulator project will gather data for work funded by the National Science Foundation. The NSF has given Professor Tsopelas and his research partner, Gokhan Pekcan of the University of Nevada, Reno, a $75,000 grant to analyze catastrophic earthquakes in Turkey and Taiwan, which occurred a month apart in 1999.

"The NSF wants to gather as much data as possible on the performance of structures under earthquake simulation," Professor Tsopelas said. "We're looking at new technologies to protect structures from quakes similar to the ones in Turkey and Taiwan."

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The lab, called the Structural Control and Aseismic Research Laboratory (dubbed the S.C.A.R.e lab by cheeky students) houses the quake simulator. The machine is made up of nine low-friction bearings that slide along rails bolted to a concrete slab. A massive, 2.5-ton steel platform sits on top of the bearings, which can be set into quake-like motion by an electrohydraulic generator. A computer controls the simulator’s speed, or “magnitude,” by giving the electrohydraulic generator instructions to mimic actual earthquake motions. Other

...continued on page 4

Research Helps Patients Move Beyond Injuries

Assistant Professor Joseph Hidler’s lab sits in Independence Square inside the National Rehabilitation Hospital in Washington, D.C. To the left of his lab sits the shell of a car, door open and ready for the next training session. Behind the car sits a kitchen with cameras and other electronic monitoring devices. Wide paths wind throughout the area, making it easier for those who use wheelchairs to navigate.

It is here that patients at the National Rehabilitation Hospital, one of the country’s top-ranked rehabilitation facilities, re-learn the everyday skills that have been compromised through accident or debilitating illness such as a stroke.

“The idea is you try to get patients as comfortable as possible with a natural setting,” Professor Hidler said. “It’s pretty neat. A lot of the stuff in the kitchen is instrumented with electronics that monitor how they’re doing. If a stroke patient placed a hand on a hot part of the stove, a sensor would indicate that.”

Helping patients rebound from injuries in as normal a way as possible is what his research is focused on. In particular, a great deal of research is being done on helping to restore walking ability in patients who have neurological injuries, such as stroke and spinal cord injury. The cornerstone piece of equipment that enables Professor Hidler to do this research is a unique robotic orthosis called the Lokomat which, when used in conjunction with a harness, helps move the patient’s legs while they attempt to walk on a treadmill.

One of only three such devices in the United States, the Swiss-built Lokomat (Hocoma, Inc., Zurich, Switzerland) is part of the Applied Neuromuscular Biomechanics Lab that has been funded through Catholic University, grant money and a very generous... continued on page 5
New Faculty

Farid Ahmed, Ph.D., joined the Department of Electrical Engineering and Computer Science as an assistant professor in 2001. His research interests focus on multimedia authentication, digital watermarking, computer networks, data and network security, optical information processing and wavelets. Previously, he worked as a research and development engineer in digital watermarking at Digimarc Corporation. He continues to be the founding adviser of the ACM student chapter at CUA.

John F. Leonard became the assistant dean of graduate programs in 2002 and at the same time became director of the Engineering Management Program. Mr. Leonard has extensive engineering experience in systems engineering, mechanical engineering, marine engineering and naval architecture. He was a professor at the Defense Systems Management College from 1989 to 1997. He managed engineering and acquisition projects for 23 years at the Naval Sea Systems Command and provided consulting services to the Office of the Deputy Director of Defense Open Systems Joint Task Force and the Office of the Deputy Director of Defense MBUS CIO. He has taught systems engineering at Washington University. Defense Systems Management College and Catholic University. He is very active in the Washington Metropolitan chapter of the International Council on Systems Engineering. He has a bachelor's degree from Ohio State University and master's degree in management and engineering.

Kamala G. Ruzzene joined the faculty in 2003. Her research focuses on systems engineering, management and economics, and the use and evaluation of service learning and service teaching experiences. She organized several meetings for faculty and students to exchange ideas about fundraising, research and program offerings. She worked with George Schneider, Ph.D., director of school and center programs in the development office, to meet with our current donors and alumni on a weekly basis. An effort is underway to form an engineering advisory council.

New Kaman Awards for Faculty Excellence

Charles H. Kaman, an aerospace engineer who graduated from The Catholic University of America in 1940 with a bachelor's degree in aeronautical engineering, established the Kaman Family Scholarship in 1940. He was distinguished with the ONR Young Investigator Award in 2001. He published five articles in refereed journals and has an additional right article under review. Professor Sheehan has shown herself to be an outstanding educator in all areas of teaching. On the Summer course from 2001 through April 2002 she submitted six research proposals and received five research awards totaling approximately $550,000 in new funding from ONR, NSF, U.S. Army, NSWC-Dahlgren and TRW. He was distinguished with the Distinguished Young Investigator Award in 2001. He has published five articles in refereed journals and has an additional right article under review. Professor Ruzzene's research and scholarship accomplishments reflect the School of Engineering's ideals. From January 2001 through April 2002 he submitted six research proposals and received five research awards totaling approximately $550,000 in new funding from ONR, NSF, U.S. Army, NSWC-Dahlgren and TRW. He has directed a new course, ME 508 Design of Mechanical Engineering, with the 2002 Kaman Award for Excellence in Teaching. The school also recog- nized Frances Sheehan, Ph.D., assistant professor of mechanical engineering, as co-recipients of the 2002 Kaman Award for Excellence in Teaching.

Dean's Message

Welcome to the inaugural issue of CUA Engineering News. As I write this message, the academic year 2001-2002 has just ended, as has my first year as Dean of CUA's School of Engineering. The past year has been very exciting and eventful. The school has made remarkable progress:

- Following the finalization of the university strategic plan, the School of Engineering completed a strategic plan aimed at supporting the goals of the university and striving for excellence in research, education and service.
- The Charles H. Kaman awards, which include the Kaman Award for Excellence in Research and the Kaman Award for Excellence in Teaching, were established to recognize faculty members who excel in the above areas. The awards are funded by a generous endowment made by Mr. Kaman, an alumnus of the school.
- The overall physical condition and landscaping of Pangborn Hall were greatly improved by our work with the university facilities maintenance department. Research and teaching laboratories were provided with new and state-of-the-art equipment through the school's discretionary funds.
- In May 2002 the school held its annual diploma distribution ceremony to grant 61 bachelor's degrees, 41 master's degrees and five doctoral degrees. The announcement of the awards received by undergraduate students and the recognition of the contributions made by major professors and graduates greatly enhanced the commencement program.
- The Accreditation Board of Engineering and Technology visited the school for the re-accreditation of all engineering programs. The visit was a success for the school because ABET found no deficiencies with our engineering programs. The school will receive the final decision of ABET in 2002.
- Our faculty continues to be very active in funded research and publications. During the academic year 2001-2002 about 40 proposals were submitted, of which 21 were funded. The total new research money was $1.5 million, granted by agencies such as the National Science Foundation, Office of Naval Research (ONR) and NASA. Professor Ruzzene was recognized in 2001 with the Kaman Award for Excellence in Research. The school also recognized Frances Sheehan, Ph.D., assistant professor of mechanical engineering, as co-recipients of the 2002 Kaman Award for Excellence in Teaching.

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To enable the School of Engineering to achieve excellence in research, education and service while supporting the university’s recent strategic plan, Dean Charles Nguyen, D.Sc., formed a strategic planning committee for the school during the first months of his term as dean of engineering. Timothy Kao, Ph.D., chair of the Department of Civil Engineering, served as the committee chair. Members of the committee were the chairs and directors of the school’s programs, including Mark Misunnik, Ph.D., chair of biomedical engineering; Nader Namazi, Ph.D., chair of electrical engineering and computer science; Steven Brown, Ph.D., chair of mechanical engineering; and Donald Purcell, former director of the Engineering Management Program.

After many months of working on the plan and soliciting comment and input from across the faculty, the committee presented the final version of the strategic plan in March 2002 to the school executive committee, which consists of all chairs and program directors and is chaired by the dean. The executive committee approved the strategic plan with some slight modifications. The final document, which was presented to the school faculty for their review and comment on July 31, 2002.

A detailed description of the school strategic plan will be available on our Web page at http://engineering.cua.edu/strategic plan.

To be consistent with the format of the university’s strategic plan, the engineering school strategic plan lists a set of objectives to achieve each goal. Furthermore, a set of strategies or action items has been outlined for each objective.

The school and I are very grateful to Dr. Kao and his committee for their effort in establishing the school strategic plan,” said Dean Nguyen. “The school finally has a working document that serves as a guideline for its activities and is consistent with the university vision. Every future action of the school will be guided by this important document.”

Dean Nguyen also added: “As we were developing the strategic plan, we already had implemented some of the stated strategies including establishing the Kaman awards, hiring an assistant dean, creating an instrumentation specialist and a computer technician, and increasing substantially proposal submissions and funded research, to name a few. I expect that this is a dynamic document that will be constantly updated as we move the school forward over the coming months and years.”

A detailed description of the school strategic plan will soon be available on our Web page at http://engineering.cua.edu/strategic plan.

Earthquake … continued from front page

computer equipment monitors the effects of the quake on model “buildings” that will sit atop the steel platform base.

Professor Tsopelas is looking to expand on work he did with other students at the State University of New York at Buffalo, where they started working in 1992 with declassified military research concerning granular materials. The supports, which resemble huge thick absorbers, have been used for launching missiles from submarines and for easing the landing process of missiles or aircraft carriers. Engineers like Professor Tsopelas and his colleagues have found new uses for the technology, using it to support buildings and absorb the kinetic energy generated by earthquakes. Some of the hydraulic supports have already been put into production, sold and installed in skyscrapers and other structures around the world.

Another technology Professor Tsopelas plans to evaluate is seismic isolation, a design methodology aided by devices that separate a structure from its foundation, thus reducing damage by allowing the structure to flow over or “ride” seismic waves.

He also is studying technology for “smart structures,” which use computers and algorithms to control and monitor the building’s automated protection systems to respond accordingly.

CUA Establishes Degree Partnership with Defense Acquisition University

CUA’s School of Engineering and the Defense Acquisition University established a strategic partnership for students to receive a Master of Science in engineering within the Engineering Management Program or a certificate of engineering management. Frank J. Anderson, president of DAU, and Dean Charles Nguyen of CUA’s School of Engineering signed the agreement on July 31, 2002.

The program will enable members of the defense acquisition, technology and logistics workforce to use certain Defense Acquisition Workforce Improvement Act (DAWI) Act courses toward degree and certificate requirements within the CUA School of Engineering. The program will be available to any member of this workforce who has an engineering or physical science bachelor’s degree from an accredited university, has at least level I certification in one or more DAWIA acquisition career fields and meets the admission requirements for the CUA Engineering Management Program.

The CUA Engineering Management Program has provided military and Department of Defense technical professionals with convenient, quality education for 25 years. The majority of the program’s graduates have been from the military services, the service departments or the defense industry.

Hidler … continued from front page

donation by a NIH trustee whose child was born unable to use his arms or legs. Professor Hidler wants to use the Lokomat to build on previous studies that showed that patients with spinal cord injuries, multiple stoke and confidence improved when therapists helped them walk on treadmills. His research with the Lokomat will focus on the effectiveness of robotic-assisted gait training in restoring walking capabilities in stroke and spinal cord patients.

The study begins this fall and involves two parts: basic scientific investigations changing conditions in neural and muscle properties after neurological injuries and clinical analyses of how patients respond to the Lokomat therapy over an 8- to 12-week period.

“When a therapist brings a patient into my lab who can’t walk on their own, our primary objective is to understand the mechanisms responsible for their walking deficit,” Professor Hidler said. “Once we understand the cause of the impairment, we can then develop a targeted therapeutic intervention that will hopefully result in restoring walking ability and consequently functional independence. We think we have a good plan, and we think it makes a lot of sense. The results coming in look promising, but we need a long time before we have all of the results.”

Pilots in previous studies were walked on treadmills with the help of four therapists, one supporting each leg and balancing the patient’s body. Variations from fatique on the part of the therapists made it difficult to quantify the results or to maintain the necessary consistency for patients in the therapy. Patients who benefitted from such intensive therapy have problems with balance and coordination that require great physical exertion from therapists. As a result, therapy had to be limited to one and a half hour to accommodate this fatigue factor.

“If we take a patient and help them walk, we know that they get better, but the studies didn’t tell us why we understand why,” Professor Hidler said. “With the Lokomat, we can see what works and at the same time we can study the mechanics of the movement.”

The goal of the robotic march that attach to the patient’s legs have small motors at the hip and knee joints that move the legs, all of which are monitored and controlled by a computer. As a result, the patient can be fully supported and balanced as they work their muscles and find a way to use their legs again. For his study, patients probably will use the Lokomat for a half hour three days a week for eight to 12 weeks. The many sensors on the machine and the computer will enable researchers to track a patient’s progress and fine-tune the Lokomat to match the patient’s needs.

“We have full control over the patient’s walking pattern, which really separates this research from the random studies that have been done,” Hidler said. “We’re really privileged to get one of these machines.”

Therapists and doctors at the National Rehabilitation Hospital will play a key role in the study too, especially when it comes to identifying patients who might be helped by the study and in preparing those patients for their time in the Lokomat.

“Not everybody benefits from this sort of approach. We may not get a lot of patients who need a lot of assistance,” Professor Hidler said. “For people with balance problems, such as stroke patients, the machine can remove their fear of falling. They can concentrate on walk- ing instead of worrying about falling and that helps them. As soon as they’re medically stable, we try to get them up and walking naturally and comfortably.”

Response from patients who have participated in some of the initial work for the study has been overwhelmingly favorable. Professor Patients are fully supported in the Lokomat as they re-train their muscles for walking.

Hidler said their most common question is “When can I come back?”

“I’ve yet to meet a patient who doesn’t really enjoy it,” he said. “Many of them are struggling to find meaning in their injuries. They know that once they’re off the machine they won’t walk as they did when they were on it, but they also know that what they contribute to the research might help someone else with a stroke or spinal cord injury down the road.”

In addition to its research and clinical benefits, the Lokomat has helped Professor Hidler with his teaching responsibilities. He typically divides his day between his research at the National Rehabilitation Hospital in the morning and his classes for the Department of Biomedical Engineering in the afternoon. Sometimes, the students come to the center for experiments and for a more hands-on approach to learning.

“We can educate students so much better,” “They get here and they start to understand how to work with patients and how to collect and analyze real data.”

And statistical improvements can influence a patient’s life in big ways. Professor Hidler mentions a study in which a patient’s life was dramatically enhanced by improving his walking speed by just 0.4 kilometers per hour after 12 weeks of therapy. “That doesn’t sound like a lot,” he said. “But before his therapy, he walked too slowly to make the light to cross the street, so he couldn’t go out of the house. Now, because he can walk just 0.4 kilometers per hour faster, he can cross the street and get to the store. It’s interesting how you have to put things into perspective — a little bit of change can have huge consequences in someone’s life.”
Recreating the Miracle of Flight

The five seniors had worked for months, designing and building a radio-control model airplane. But when they showed up at an airfield in Titusville, Fla., with a plane that looked more like an oversized bird, the judges doubted the aircraft would get off the ground. In the end, the plane lifted a payload of 9.8 pounds and the project, titled “A Wing and a Prayer,” was pronounced a success by the CUA professor who accompanied the mechanical engineering majors to Florida last April. The students, who called themselves the Flying Cardinals, earned a respectable 15th place at a competition that drew 30 undergraduate teams from U.S. universities and five from overseas.

“When we rolled the plane out on the runway, nobody thought it would fly,” says Filippo Gavelli, assistant professor of mechanical engineering. “Our goals were ambitious and we didn’t meet all of them but I’m very proud of the students and the work they put into the competition.”

His students were the first ever from Catholic University to participate in the Aerospace Design East Competition, which challenges engineering students to design, build and test a radio-control aircraft that can take off and land. The aircraft must weigh the heaviest possible cargo.

The group began designing the plane last year, hands-on venture required of all CUA mechanical engineering majors. Kamilla Schwing and team members Brendan Walsh, Lucy Donnellan, Kristen Dwyer and Eric Mack decided to explore aerodynamics.

Charles Nguyen presented Dr. Daniel Mulville with a plaque commemorating his award.

At the School of Engineering reception, Dean Charles Nguyen presented Dr. Daniel Mulville with a plaque commemorating his award.

Daniel Mulville: Alumni Achievement Award

Daniel R. Mulville, who received a Ph.D. in structural mechanics from the School of Engineering in 1974, was awarded the 2001 Architecture, Engineering and Invention Alumni Achievement Award. The School of Engineering held a reception in his honor during Homecoming weekend that was attended by faculty, staff, alumni and current students.

Dr. Mulville is the associate deputy director of the National Aeronautics and Space Administration. He serves as the administrator’s most senior adviser and plans, directs and manages the daily operations and renovation activities of the agency. Dr. Mulville leads the agency’s Program Management Council and Capital Investment Council, which review all major programs and NASA’s annual $14 billion budget.

Before this assignment, Dr. Mulville served as NASA’s chief engineer. He was responsible for overall management of the technical readiness and execution of all NASA’s programs and for ensuring that development efforts and mission operations of the agency were conducted on a sound engineering basis. Dr. Mulville developed NASA’s program and project management policy and the procedures used throughout the agency for all program activities. More information on him can be found on the NASA Web site at www.nasa.gov.

Clark Construction Awards $40,000 to Civil Engineering

The Clark Construction Group has donated $40,000 to the Department of Civil Engineering to support the construction concepts and civil engineering student research. The gift will be disbursed in four separate yearly payments of $10,000, starting immediately, to the chair’s discretionary fund. In donating the gift, Michael Asa, Clark vice president and the Clark Group liaison to the Edward J. Pryhyla University Center project in Washington, D.C., thanked the $40 million project director at Clark Group, cited the quality of the CUA civil engineering graduates that Clark Group has employed over the years as the major reason for the gift.

Charles C. Nguyen

CUA Names New Dean for the School of Engineering

The Very Rev. David M. O’Connell, C.M., president of The Catholic University of America, has announced the appointment of Professor Charles C. Nguyen, D.Sc., as dean of the School of Engineering, effective June 1, 2001.

A 1982 doctoral graduate, with honors, of George Washington University, Professor Nguyen joined the faculty of CUA’s School of Engineering in 1983 as an assistant professor that same year. He received tenure and was promoted to the rank of associate professor in 1987 and to the rank of professor in 1992. Professor Nguyen has published 65 technical and scientific papers in the field of electrical engineering and robotics and has also co-edited three books. His research interests lie, among other things, in the areas of time-varying control systems, control of large space structures, decentralized control and control of robotic manipulators. His research has been funded by government agencies such as NASA, the U.S. Air Force and the Engineering Foundation. He has been the principal investigator in at least 15 different research projects.

Since 1997, he has served as chair of CUA’s Department of Electrical Engineering and Computer Science. He has worked to facilitate the scholarly productivity of faculty, to raise the academic profile of his department and to increase enrollment in the school. He is founder and editor-in-chief of the International Journal of Intelligent Automation and Soft Computing and an associate editor of the International Journal of Computers and Electrical Engineering.

After making this appointment, Father O’Connell noted that: “Dr. Nguyen’s intensive dedication to scholarship, research and teaching have prepared him well for faculty leadership, as his service in the role of department chair attests. His loyalty and commitment to the university and the School of Engineering have been unwavering and have produced in this university citizen a real passion for which he is known and respected by the administration, his colleagues and students alike.

I am grateful for his generosity in accepting this position. I know that he and the faculty will work well together as the School of Engineering moves forward.”

Established in 1936, the engineering programs at CUA became the School of Engineering in 1938. Fully accredited by the Accreditation Board for Engineering and Technology, the school offers bachelor’s and master’s degrees in computer engineering, civil and electrical engineering and as well as a doctorate in engineering.

Noteworthy Activities

• Steven Brown, Ph.D., mechanical engineering, was selected as a Young Investigator by the National Oceanic and Atmospheric Administration (NOAA/NESDIS); Camp Spring, Md., June 2002.
• Massimo Ruazze, Ph.D., mechanical engineering, was selected as Office of Naval Research Young Investigator for 2001.
• Frances Sheehan, mechanical engineering, was selected as an NSF Career Award Winner.
• Bink Tran, Ph.D., biomedical engineering, was given the 2001 Maimonides American Heart Association Award by the Women’s Board of the National Capital Area Council. He also was given the 2002 Women’s Board Award and the American Heart Association Award by the Women’s Board of the National Capital Area Council.
Grants


Conferences


William Kelly, Ph.D., civil engineering, gave a presentation on the future of engineering and participated on a panel at the annual meeting of the Consulting Engineers Council of Metropolitan Washington in Arlington, Va. June 2001. He was also a panelist at the ABET annual meeting, Lake Tahoe, November 2001.


Rui Tran, Ph.D., biomedical engineering, presented computer and sensor paper presented at the IEEE International Conference on Artificial Intelligence and Soft Computing at Lake City, Utah, May 2001. The paper was "Edge Adaptive Restoration of Noisy Medical Images." He also presented "Medical Bridge Programs in the United States: Past, Present and Future." and "Improved and Natural Hazards Considerations in Bridge Management Systems.


Waters Resources Student Project Wins National Award

For the second year in a row, civil engineering students enrolled in the Systems Design (CE 576) course were named finalists in the 2002 Student Design Competition. The American Society of Mechanical Engineers awarded the third students in their respective schools of engineering and architecture and to major in mechanical engineering. In addition to her mechanical engineering major at CUA, Ms. Schwing said: "I have enjoyed every minute of my time at Catholic. I will never forget the memories that being head counselor and co-instructing a lab for Eye Engineering. After the course events, our senior project trip to Florida, and, yes, even the classes. I have had good times and bad times in the past four years. However, everything has always been there to help — the faculty, the staff, classes, and the best friends, the relationship of my family, Karlena and Mel always knew I would be a good engineer and the excitement of my experience. This understanding made sharing these times so much more enjoyable.

Mr. Walsh's older brother, Brendan Walsh, graduated in 1994 as a university scholar with a bachelor's degree in mechanical engineering and a minor in both mathematics and philosophy. He served as the president of ASEE during the 2001-2002 academic year and the C.C. Chang Award from the mechanical engineering department in recognition of his outstanding academic achievement. In addition to graduating from CUA, Mr. Walsh was commissioned second lieutenant in the United States Marine Corps. After a six-month initial assignment at the Basic School in Quantico, Va., he is scheduled to attend flight school in Pensacola, Fla. Ms. Schwing's older brother, Bryan, graduated in 1999 with a bachelor's degree in mechanical engineering. He went on to receive his master's degree in mechanical engineering from the Georgia Institute of Technology in 1999. He then accepted a position with Duke/Fluor Laboratories. Ms. Schwing's sister, Karlena, received a degree in environmental management in 1999 as a university scholar with a bachelor's degree in mechanical engineering. She then went on to receive a master's degree in mechanical engineering from the Georgia Institute of Technology in 1999.

Update on Student Organizations

The American Society of Mechanical Engineers

ASME highlights from the fall semester included the presentation of the Student Design Competition. The American Society of Mechanical Engineers awarded the third students in their respective schools of engineering and architecture and to major in mechanical engineering. In addition to her mechanical engineering major at CUA, Ms. Schwing said: "I have enjoyed every minute of my time at Catholic. I will never forget the memories that being head counselor and co-instructing a lab for Eye Engineering. After the course events, our senior project trip to Florida, and, yes, even the classes. I have had good times and bad times in the past four years. However, everything has always been there to help — the faculty, the staff, classes, and the best friends, the relationship of my family, Karlena and Mel always knew I would be a good engineer and the excitement of my experience. This understanding made sharing these times so much more enjoyable.

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There is a long-standing rivalry between the schools for engineering departments and planning at Catholic University. To foster a closer connection between the two schools, the Undergraduate Student Government has established the Student Design Competition. The competition is open to all engineering students and is judged by representatives from different schools. In February 2002 SWE organized and sponsored a design competition for the fall semester, ASME toured the Garber Research Facility in SFT, Md., where the National Air and Space Museum restored historic aircraft. The semester was capped off with an outdoor barbecue at the Smithsonian Institute.

The Society of Women Engineers

In August 2001 SWE held a four-day summer KEYS program and hosted 25 middle-school-age girls. The girls learned about engineering, participated in fun design activities and took a trip to the National Air and Space Museum. In November 2001 SWE members attended a conference at Cornell University in New York, which gave them the opportunity to network with other students and professionals in other fields. In February 2002 SWE organized and sponsored a design competition for the fall semester, ASME toured the Garber Research Facility in SFT, Md., where the National Air and Space Museum restored historic aircraft. The semester was capped off with an outdoor barbecue at the Smithsonian Institute.

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One of Eye on Engineering's goals is to encourage young people to consider engineering as an undergraduate course of study and later as a career. "Through my GOE experience, I have finally decided to major in some engineering field," wrote an Iliu from Rye, N.Y. "I really enjoyed myself this week, thank you to the counselors and my newfound friends." Eye on Engineering was made possible through a generous gift by Jose Veigas, a 1951 electrical engineering graduate.

Eye on Engineering 2002

The 2002 Eye on Engineering program for high school seniors was a great success. Thirty-five young women and 49 young men, representing 22 states, participated June 23-28 in this 14th annual event. Through lectures, discussions, workshops, and field trips, participants were able to gain insights into the principles and applications of civil, biomedical, mechanical, electrical and computer science engineering. Lectures included an introduction to engineering by the dean of the School of Engineering, Charles M. Neely, a presentation on engineering as a career by representatives from each of the engineering departments and daily plenary sessions by various engineering professionals from the Washington area. "Shakes and Quakes" and "How Does My Computer Work?" were two of the six labs offered.

Each engineering discipline was represented by at least one lab. Participants were also given a taste of campus life at CUA. They roomed in the dorms at Ecclesiastical Village and ate at the dining halls. A cookout, dance and evening trips to local attractions, such as national monuments and Shear Madness at the Kennedy Center, were among the week's highlights.

One of Eye on Engineering's goals is to encourage young people to consider engineering as an undergraduate course of study and later as a career. "Through my GOE experience, I have finally decided to major in some engineering field," wrote an Iliu from Rye, N.Y. "I really enjoyed myself this week, thank you to the counselors and my newfound friends." Eye on Engineering was made possible through a generous gift by Jose Veigas, a 1951 electrical engineering graduate.

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Congratulations to the Class of 2002!

Doctor of Philosophy
Christopher Arvisio
George J. Faison
Sang-Jin Han
Uyen Dinh Nguyen
Adam K. Wolfe

Master of Biomedical Engineering
Gonzalo G. Mendez

Master of Civil Engineering
William L. Deese Jr.
Kirk Anthony Hemphill
Konofop Muehl
Asha Nang
Amir Mohammad Sepehrzadeh
Leopold Tandjong

Master of Electrical Engineering
Gonzalo G. Mendez

Master of Mechanical Engineering
Narmoon Boo Sun
Matthew Ingl
Ning Liu
Mohamed Shafiqzaman
Fumitoshi Sonoma

Master of Science in Computer Science
Gay Sergio Augumenta
Thomas Oyade
Zihong Xu

Master of Science in Engineering
Mohammed El-Assali
Abdullah Abdulaziz Al-Aamri
Fadi Alkhalifah
Mohamed A. Al-Torki
Michael Patrick Breden
John Earl Campbell
Paleon Chalavan
Robert Vincent Daniels
Christopher Paul Dorgan

Master of Science in Electrical Engineering
Nawroz K. Elhassan
Farrel L. Goff
Richard Villanueva Guzman
George M. Kouchery
George Soon Kim
Donald Eddy Lima Larronde
Diana U. Le
Juan Pablo Lumia Lami
Sohert Leon Murphy
Matthew Pyburn
Jeffrey Scott Smith
Tom Craig Trougl
Jeffrey Dale Warr
William W. Wente
Dakotah Nicole Wilson
Robert Allen Wolf

Bachelor of Biomedical Engineering
Mary Elizabeth Bedini
Tara Michelle Calabrese
Chyuanli Jo Cao
Matthew Patrick Fronheiser
Erik King
Daniel Michael Kostrzewa
Anna Lackord
Margaret Mahoney
Heather Jean McDonald
Danaa Elita Monto
Theodore Daniel Nottage II
Gabriela Soloduk Corral Ray
Laura Louise Widh

Bachelor of Civil Engineering
Mary Elizabeth Bodine
Tara Michelle Calabrese
Chyuanli Jo Cao
Matthew Patrick Fronheiser
Erik King
Daniel Michael Kostrzewa
Anna Lackord
Margaret Mahoney
Heather Jean McDonald
Danaa Elita Monto
Theodore Daniel Nottage II
Gabriela Soloduk Corral Ray
Laura Louise Widh

Bachelor of Electrical Engineering
Akhil P. Akre
Benjamin King Bailey
Joseph Louis Brodnik
Catherine Elizabeth Cannon
Melissa A. Currie
Robyn Eason
Kelly Michelle Kings
Glenn Joseph Klingerman
Matthew Edward Kriston
Anya Theresa Lagasse
Laura Louise Walz

Bachelor of Mechanical Engineering
Michael Charles Butler
Lucy Elizabeth Dunleavan
Benjamin E. Dunleavan
Kristen Marie Dunleavan
Theodore Thomas Finne
Jonathan George Frye
Eric Edward Mack
John Ting J. Mynatt
Kamilla Jon Schrenk
Gregory John Smith
Bernad Michael Widh

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