ENTREPRENEURSHIP:
A Passion for the
Next Big Idea
FROM THE DEAN: 
David S. Dolling

Over the past two years, you might have noticed a theme in the publications, letters, and other communications from the School of Engineering and Applied Science. You might have noticed that we frequently speak of the transformation underway here at SEAS. There is a reason for this: a transformation is, in fact, occurring here.

Although it is a continuous process—like any growth—we perceive it most clearly in "stages" or at certain moments. We primarily notice the transformation through our successes . . . and SEAS has had a number of them this past year: increased new faculty recruitment, improved student recruitment, new academic programs, and new educational opportunities for our students, to name a few of the changes.

Perhaps the most talked about example is the Science and Engineering Complex. Over the past two years, GW and SEAS have moved steadily to prepare the way for the complex, and on October 15th of this year, the university's board of trustees unanimously approved its construction.

This issue of Synergy describes several of our achievements over the past year, and my article (page 26), addresses our transformation in more detail. Inside this issue are stories about some of the state-of-the-art research in our five departments, profiles of our environmental engineering program and our efforts to build a culture of entrepreneurship at SEAS, a look at new study abroad opportunities for SEAS students, an introduction to new faculty, and a number of other articles that, collectively, tell the story of our ongoing transformation.

Please take a moment to see what we've been doing here at SEAS. If you see something that intrigues or particularly interests you, e-mail me at dolling@gwu.edu. I'd be happy to talk to you about it.

Sincerely,

David S. Dolling
Dean
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Safety Tools

Dhafer Marzougui is a professor in the Department of Civil and Environmental Engineering and the director of the Highway Safety and Infrastructure Research Group at GW's National Crash Analysis Center (NCAC). “Our focus is transportation safety,” he says of the NCAC. “We develop the tools that researchers can use to improve safety.” Working toward this goal, Marzougui studies roadside hardware and highway infrastructure by looking at the placement of cable median barriers, the design of portable concrete barrier connections, height tolerances for guardrails, the design of breakaway sign supports, and other topics.

The approach begins with extensive computer simulations to identify a particular problem. “To make sure that the computer simulation is accurate,” notes Marzougui, “we compare its results to available crash tests. We use as many tests as we have our hands on. Once we identify the problem, we select one or two critical cases and run crash tests. The tests are well-documented using high-speed digital cameras and accelerometers, gyros, and other sensors that obtain the vehicle response and measure its speed.” He continues, “Let’s say that we found a particular roadside geometry that is critical for a certain barrier. We perform the computer analysis and tests and develop retrofits and recommendations or guidelines for the Federal Highway Administration. These guidelines can be implemented to improve the safety of the barrier and reduce the risk of injuries and fatalities.”

Marzougui is proud of the work his research team does and of the progress that they have made over the years. “We use finite element modeling for crash analysis; the structure is split into hundreds of thousands of small elements, a few millimeters in size,” Marzougui states. “Finite element analysis studies the response of the whole structure by summing up the response of all these tiny elements; the smaller they are, the closer the results are to reality. All part connections, contacts, and material behaviors are also explicitly incorporated in the model.” He adds, “The structure behavior is computed in small time increments—microseconds—to predict the crash event over the impact duration.”

According to Marzougui, computer simulation is a very powerful tool that gives researchers a better result—and gives it to them more quickly—than alternative methods. He recalls, “When we started, computers were not as powerful as today, so our models were limited in size, and we couldn’t include as many details in the models. Advances in computer and simulation technologies have allowed for more efficient and accurate analyses, and over the years our group has developed unmatched expertise in terms of knowing the finite element aspects and the crash codes and how to apply them in crash analyses.”

**Closer to Reality:** To analyze crashes, Professor Marzougui’s team uses finite element modeling that splits a structure into hundreds of thousands of small elements; the smaller they are, the closer the results are to reality.
X-ray Vision

James Hahn started his career doing research in computer graphics, visualization, and computer animation with applications for military uses, science and engineering, intelligence analysis, and entertainment. In the past ten years, however, he has moved toward applying his expertise to the medical field. Hahn, a professor in the Department of Computer Science, explains the shift, remarking, "I always thought we had great tools, but it seemed we could apply them to solve problems that make a real difference to patients."

In 2002, Hahn led an effort to write a proposal to establish the GW Institute for Biomedical Engineering (IBE), which the university funded under its Centers of Excellence program. Hahn believes that the Centers of Excellence program has been critical to the IBE's development. "This support helped gel the relationship between the medical school and SEAS, and it helped us find seed funding for collaborative research efforts," he recalls. Working through the IBE, he and his team have since undertaken a number of externally-funded projects, including various medical simulators and image guidance systems to help surgeons and other health care professionals.

In 2005, the National Institutes of Health awarded the team a prestigious $2.8 million R01 grant for research to improve a procedure called medialization laryngoplasty, which helps patients who have partial paralysis of the vocal fold to regain their voice. The procedure involves surgically placing a small implant through the thyroid cartilage, but it requires the surgeon to make the incision essentially "blind," since the internal anatomical structures are not visible from the outside. Hahn came up with a solution, which he describes as "using image guidance to give the surgeon a kind of 'x-ray vision.'"

Hahn explains, "Without our system, the surgeon looks at the patient, the pre-operative CTs [computed tomography], and endoscopic images of the larynx and tries to register and fuse all three spaces conceptually in his head. So there's a lot of variability--and even for skilled surgeons, the revision rate (having to do the surgery over) is quite high. With our system, all the imaging modalities are registered and fused by the computer into one comprehensive visualization space that allows the surgeon to see right through the surface of the patient and know where to make the incision."

While Hahn still works on this project, he is also active in other research projects. In 2008, he spent his sabbatical at the Children's National Medical Center (CNMC). "After spending a year at CNMC, I can see so many areas where we can make a real difference in giving the best medical care to our children," says Hahn, who is clearly excited about the possibilities of this effort.
As the sciences become increasingly data-centric, computer engineers face unprecedented demands for storage, more efficient energy use, and the need for better system support for data-intensive computing. Although central processing units (CPUs) have been getting faster and faster in an attempt to handle petabyte-scale datasets (a petabyte equals one quadrillion, or 10^15 bytes), hard disks have not. And this creates a big data challenge, which Professor Howie Huang of the Department of Electrical and Computer Engineering is working to tackle.

Researchers at a number of universities are working on various aspects of this problem, but Huang is taking a holistic approach to it, which he believes ultimately will yield a better result. “I’m looking at it from both a hardware and software perspective and working across layers of devices, systems, and applications,” he explains.

This approach is reflected in his two primary research projects: modeling for emerging memory technologies (flash memory, phase change memory, and solid-state drives or SSDs) and developing system support for them. Flash-based SSDs are new storage devices that hold the promise of high performance with low power consumption. However, to better utilize these devices we first need to better understand them. To do that, Huang is modeling them to be able to predict how they will behave in various scenarios.

Huang expects that his research will improve not only the overall performance of data-intensive computing, but its energy efficiency in particular. “In 2006, computer servers consumed 61 billion kilowatts per hour in power, and that figure will double next year,” he states. “By then, it will be three percent of U.S. electricity consumption. Computers will continue to consume more energy, so we must care about energy efficiency and how to better utilize energy.” Huang is working on a balanced scalable architecture, Amdahl Blade, which utilizes low power CPUs, motherboards, and SSDs for data-intensive applications. This unique approach improves the application I/O throughput by an order of magnitude while keeping power consumption constant.

These are big challenges, but Huang feels up to the task. Referring to his primary research goals, he muses, “The competition is high, but that makes it more exciting. I welcome challenges.” Fortunately, he has a history of managing the competition. Since coming to SEAS in 2008, Huang has received a prestigious IBM Real-time Innovation Award and a National Science Foundation High-End Computing University Research Activity grant, which he is working on jointly with Professor Alex Szalay of Johns Hopkins University.
The Bridge

He’s a doctor—an emergency physician, actually—who is on the engineering faculty . . . and he sees his job as building bridges, but not the concrete or steel variety. Dr. Joseph Barbera, a member of the Department of Engineering Management and Systems Engineering (EMSE) faculty, sees management science as the bridge that can connect colleagues across disciplines that otherwise do not often communicate or coordinate with each other.

Early in his career, Barbera worked as an emergency physician in a public hospital in the Bronx, where he dealt with a large number of trauma cases from handguns and other violence. He later joined a volunteer medical team that responded to deep coal mine fires, roof collapses, and other mine emergencies. His experience with trauma and with medical care in the austere coal mine setting prepared him for subsequent work as FEMA’s point person developing the medical elements of the national urban search and rescue system. He learned quickly that “for medical personnel working in a complex task force, an effective management system is required,” but he says, “the principles for healthcare delivery are the same across disaster types.”

Barbera came to the GW Medical Center in 1993, and in 1994 Professor John Harraill of EMSE, Dr. Barbera, and Professor Gerald Post of GW’s Elliott School co-founded the Institute for Crisis, Disaster and Risk Management. Since moving to the EMSE faculty in 1999, he has focused on teaching emergency management principles and on a number of successful research initiatives. His Institute research team produced a framework for the U.S. Department of Health and Human Services that coordinates healthcare resources across levels of government and the private sector during disasters; it is now a central strategy in the national Hospital Preparedness Program. He co-developed an emergency management curriculum for the Department of Veterans Affairs (VA), which the VA applied nationally across its healthcare facilities. And, an emergency volunteer management system that his team developed for Arlington County, VA, is now widely used in other locations.

Barbera also continues his work as an emergency medical responder, working both nationally and internationally. His most recent effort was with the U.S. Government’s search and rescue task force sent to Haiti following the January 2010 earthquake. Barbera blends his medical and management expertise in emergency response, but believes that “by focusing on management issues you can in some ways make a much bigger impact than by focusing primarily on the technical medical issues. Moving resources, for example, is a management issue in disaster response, and you can make a relatively big impact with a relatively narrow amount of work.”

“At the end of the day, engineering is a science, medicine is a science, and management is a science,” he muses. “And if they respect each other, it’s not that hard to construct an operating system that can incorporate all three; really, the bridge is the management science.”

**ON-CALL:** In addition to teaching and doing research, Dr. Joseph Barbera serves as an emergency medical responder, working both nationally and internationally.
Talkin’ about a Revolution

Professor Pinhas Ben-Tzvi conducts research on the advanced mechanics and control of robotics and mechatronics systems, the design of intelligent autonomous systems, and the development of novel sensors and actuators for microrobotic systems, miniature mechatronic systems, and biomedical applications. Spend some time talking to him about this research, and you will notice that he aspires to revolution. “There are only a few ways of improving things,” he says. “There is either evolutionary improvement or revolutionary improvement. I like revolutionary improvement.”

These aren’t just words for Ben-Tzvi, a professor in the Department of Mechanical and Aerospace Engineering and the director of GW’s Robotics and Mechatronics Lab. In one of his robotics research activities, Ben-Tzvi developed a new paradigm that generated a revolutionary improvement in mobile robot design: a hybrid system that combined locomotion (the ability to move) and manipulation (the ability to grasp, carry, etc.) and increased both the strength and resiliency of the mobile robot.

“The previous approach was to create two platforms for the robot, a mobility platform with a manipulation platform on top of it,” explains Ben-Tzvi. “The problem with these designs was that the degrees of freedom for mobility are used only for mobility and those for manipulation are used only for manipulation. These robots work outside, for example in search and rescue missions or earthquake sites, and it’s highly likely that they will fall and flip over at some point and then break, so they’re very limited. The hybrid mechanism mobile robot typically has half of the number of degrees of freedom, because its links are used simultaneously for both locomotion and manipulation; they’re sharing the functionalities symbiotically and they’re not as susceptible to breaking.”

Under a grant from the Defense Advanced Research Projects Agency, Ben-Tzvi’s lab is now working on a new mobile robot design with the capability of operating autonomously rather than through wireless remote control. This is extremely difficult to do, because the infrastructure necessary for autonomy requires much greater computing capacity and speed, new sensing capabilities, and complex decision making algorithms in order to perceive the environment and act upon it. “If you think about it, this is similar to what humans do,” remarks Ben-Tzvi.

Ben-Tzvi has also proposed a new project, Self-Configuring Robotic Pieces (SCoRP), which he explains with a scenario. “We would design smaller mobile robots that can move around very effectively, like agents,” he states. “They would be scattered all around, say in a collapsed building after an earthquake, and they would act as sensor agents collecting information through cameras and sensors, which they would share through wireless communication. When a need arises to actually act on the environment—for example, one of the robots finds a person in the rubble—then it calls the other robots, which swarm in from various locations and they self-assemble into the hybrid configuration needed for a particular task. We are going to pioneer this at GW,” he says confidently.
Growing the Environmental Engineering Program

The SEAS environmental engineering program is growing in breadth and strength, developing research and graduates who are making contributions to some of the vexing environmental issues that our world faces.

In research on water purification, wastewater treatment, and management of bio-solids, the faculty and students are looking for solutions that will help address problems associated with water scarcity, environmental pollution and sustainability, and energy use.

Professor Rumana Riffat of the Department of Civil and Environmental Engineering leads the environmental engineering program and the research program on wastewater and bio-solids treatment. With funding from the D.C. Water and Sewer Authority, she and her students conduct research for the Blue Plains Advanced Wastewater Treatment Plant to lower the level of nitrogen in the discharge from the wastewater that goes into the Chesapeake Bay. “As the regulations become tighter and tighter, they will need to meet these lower level concentrations, and we’re looking at ways of helping them do that,” she explains.

Riffat’s team is also working on another project related to bio-solids. “There are various classes of bio-solids that can be treated and processed to be applied on land for various purposes, for example to be used as fertilizer, soil conditioners, or in other ways. We are studying production of Class A bio-solids—basically sludge—that have been treated and processed, and we are trying to reduce the pathogens in the sludge to a very, very low level so that they can be applied on land for agricultural and other purposes,” states Riffat.

Professor Baoxia Mi, who came to SEAS last year after finishing a postdoctoral research position at Yale University, also conducts research on water purification and taking pollutants out of the water; however, her focus is on a treatment process that uses membranes with nano-size pores to filter water and separate particles, pathogens, bacteria, and even salt from the water. The process is called forward osmosis, and according to Mi, it is a novel process that holds a great deal of promise.

“There are two advantages to this process,” Mi says. “One is that it uses less energy than the more traditional reverse osmosis process. Another advantage of this process is that it can use renewable energy sources like waste heat from power plants, solar energy, and geo-thermal energy, unlike reverse osmosis, which must be driven by electricity.” In addition, forward osmosis can actually be used to generate energy. “By mixing sea water and fresh water, we are able to extract energy. There is actually energy stored in the solution,” Mi explains.

With the addition of Mi, the program has expanded not only its research areas but also research opportunities for students, both graduate and undergraduate. One of the strengths of the program, in fact, is its ability to offer research opportunities to its undergraduate students. “Both Professor Mi and I have undergraduate students involved in our research,” says Riffat. “This really helps to motivate the students; it gives them a hands-on laboratory experience that provides them with good exposure to research. This is not something that many environmental engineering programs are able to make available to their undergraduates.”

Perhaps one the greatest sources of pride in the program is its record of preparing students for further study and careers in environmental engineering. “Students who graduate from our program have had excellent job offers or are now graduate students at UC Berkeley, University of Virginia, Virginia Tech, and other well-regarded schools. We prepare our students to gain admission into highly competitive schools. Our graduate students are also very well-placed. Currently, three of them are at Aecom Water, one of the largest environmental companies in the world; others are at HDR, Dewberry, and Michael Baker, among other places” beams Riffat.
Getting It Started
Promoting Entrepreneurship at SEAS
Drawing on the Experience of **ALUMNI ENTREPRENEURS** and **FRIENDS**

"Why?" is sometimes the most interesting question to ask. It’s simple and direct, but it can evoke the multiple reasons and motivations that people often have for doing something. Take, for instance, the SEAS Seminar Series on Entrepreneurship, a new initiative led by the SEAS National Advisory Council (NAC) and Dean David Dolling. In response to this simple question, several NAC members and Dean Dolling recently explained their reasons for wanting to start the new seminar series; and in follow-on questions, they also explained what the project covers and how it can serve as a model for other projects.

Discovering the origin of the series “depends on who you talk to,” as Dr. Randy Graves says with a smile. Graves (D.Sc. ’78), who has been a member of the NAC since 1999, has a long history of promoting entrepreneurship at SEAS. “From my point of view, the idea goes back to six years ago,” Graves says, “when a group of us met regularly to put together some entrepreneurship and commercialization activities so that students could begin to see what’s available after graduation in terms of what they could do for themselves, and also what kinds of businesses entrepreneurs were starting.” During the transition from the previous SEAS dean, Timothy Tong, to Dean Dolling, the efforts subsided, but Graves later suggested reinvigorating this program to Dean Dolling. “Dean Dolling then brought it up to the NAC, and it was very well-received. This whole idea of using the NAC and some of the members of the Council who are entrepreneurs to start this new series as a kick-off to future activities was Dean Dolling’s idea,” Graves recalls.

“SAGE ADVICE: Alumni and friends share their wisdom with up-and-coming entrepreneurs. **Back row, left to right:** Lou Wagman, Elias Shams, Doug Humphrey, and Mark Walsh; **front row:** Dan Gordon and Marie-Louise Murville.

Howard Tischler (M.S. ’80), an NAC member and the chairman of the Council, also remembers interest within the NAC for the project. “The NAC had been kicking around the idea that SEAS should get more involved in entrepreneurship,” he confirms. “When you look at the U.S. and think about the fact that engineering should be one of the leading forces for the creation of new products here, we thought we should have some sort of program at SEAS. Dean Dolling started pushing more and more to do something on entrepreneurship and he set the direction, so to speak. He, Jim Howard [assistant vice president for development and alumni relations at SEAS], and I met, and he asked if I would help put this together and get it going.”

According to Tischler, passion was an important organizing factor for the seminars. “We came up with four topics for the first year of the series,” he recounts. “Some were passionate about one topic; others were passionate about another topic. We used that to identify who from the NAC would spearhead each topic and take care of moderating it and finding the panelists. It was a very cooperative effort. For example, Elias Shams [an NAC member and social entrepreneur] was instrumental in finding panelists.”

Dean Dolling also notes the important role that passion and enthusiasm have played in the seminars. “Our NAC members, as well as several other friends and supporters of SEAS, have great enthusiasm for this workshop series. Despite their very busy
started. We’ve created the seed and the seed has started to grow.”

The seed they hope to nurture is the start of a full-fledged entrepreneurship and technology commercialization program. And they have a range of motivations for offering it: it’s important for SEAS students; it’s a wonderful service to offer alumni; it will benefit the school and the university; it can contribute to the economic vitality of the country by fostering new business ideas.

“When I joined the NAC, I started talking about the need to get some entrepreneurship programs going, to get the technology commercialization going,” recalls Graves, “because it adds to the university’s reputation and prestige, and it also helps bring in R&D dollars, which is a way to have SEAS grow its research programs.”

Tischler is a bit more philosophical in his response. “Are there things we could do better? Yes. But the people who were there for the spring sessions have given us good feedback on the quality of these sessions, and after each of the sessions there was another half hour of one-on-one discussion with the panelists, which shows that we’re promoting thought about these issues with people.” He adds, “I view success as a journey not a destination. Clearly the objective for the spring semester was to get this started. In terms of meeting our objective of getting this off the ground, I’m very pleased with the level of participation of the students, faculty, and alumni, and of the alumni participation we have had on the panels. Whether you’re starting a business, a seminar series, or whatever you’re doing, one of the hardest things to do is to just get it started. We’ve created the seed and the seed has started to grow.”

The organizers kicked off the series in January with “How I Got Started: Getting Your Idea Off the Ground,” a panel discussion that covered the real-life experiences of three SEAS alumni entrepreneurs, Scott Gessay (M.S. ’88), Ashok Jha (M.S. ’92), and Elias Shams (M.S. ’96). They followed in February with a program on intellectual property presented by Asghar Mostafa (B.S. ’82), Randy Graves, Charles Watt (M.S. ’73, D.Sc. ’86), and Jeff Sonnabend (B.S. ’89). In March, Elias Shams lined up four experts—Dan Gordon, Doug Humphrey, Marie-Louise Murville, and Mark Walsh—who graciously volunteered their time to come to campus to discuss strategies for getting access to capital. The final seminar of the semester, “Product vs. Service Entrepreneurs,” took place during the GW Summit on Entrepreneurship in mid-April, and included panelists Allyn Kilheimer (B.S. ’63), Terry Collins (D.Sc. ’76), and Jonathan Gordon (B.S. ’05).

The organizers will soon debrief to evaluate its impact, but they are generally quite happy with what they have seen.
Tischler, on the other hand, takes a macro view. “I’ve been an entrepreneur for a number of years and I’d like to see more new ideas generated in this country than I’m seeing now. That’s one of the great things about the U.S.; it really is an environment where people can start from nothing and build on an idea, but a lot of people don’t know how to get started. We’re introducing this to people—how to get started if they have an idea—and what I’d like to see happen is for more students, alumni, and faculty from GW to start new businesses. That’s going to promote not just economic recovery but sustainability of the economy.” He then adds, “Another aspect was to engage more alumni in something that they can participate in. The nice thing about this is that we’ve gotten alumni to participate who were not very active before; it’s been very nice to see.” And as for the audience, “they have had very high-quality panelists; they have learned; and they have done so in a very interactive setting.”

But what do these aspirations mean in more concrete terms? Graves offers an example. “Stanford made $330 million off of the Google IPO. Now that’s a once-in-a-lifetime chance, but both Stanford and MIT have had very high-quality panelists; they have learned; and they have done so in a very interactive setting.”

Tischler agrees, saying, “One goal is the engagement of alumni and students in a discussion around entrepreneurship, but the bigger objective is to have more businesses originate out of people associated with the university. If you have more businesses coming out of the student and alumni populations, you probably have more money coming back into the university. It’s going to raise the quality of the engineering school as people see GW as a place to go and be successful in starting new businesses.”

The leaders of the entrepreneurship series also see their effort as a model for other projects between GW schools and for projects that will help contribute to the SEAS transformation. They point to the role of John Rollins, an alumnus of the GW School of Business, who helped organize the spring sessions and was moderator of the first session. “John was instrumental in helping me get this off the ground,” Tischler says. “He provided leadership for us early on, and then a number of us from the engineering school helped John with his business plan competition last spring.”

Wagman seconds the point, saying, “There’s tremendous synergy between what’s happening in the business school educationally and the technology that gets developed here at SEAS. Of course looking at it more broadly, one of the things that we’ve talked about is that this shouldn’t be limited to just SEAS and the business school. The hospital, the medical school, and the law school are certainly components of entrepreneurship as well.”

As for using the model internally, Wagman remarks, “I think it’s a great model and so far my sense is that it’s working very well. The NAC members are all volunteers, and everybody has been very engaged in this. I’ve seen more engagement in this program than I have in any of the activities prior to this in the NAC. When prompted for more details about the success of the model, Wagman modestly chalks it up to “the dean’s passion for this and Jim’s thoroughness in being a facilitator. [Jim] follows up on everything. He’s very organized, and he’s kept us organized. He has done a great job of making it happen. But key to that is the leadership that the dean is providing. You know, it’s interesting, we’re an advisory group to the dean, and we suggested this, but it’s the dean’s leadership that must be there to make it happen. If he wasn’t really enthusiastic about it, it just wouldn’t happen.”

In the end, after looking at the benefits that could accrue to all participants from this effort, Wagman brings it back to where it belongs: the classroom. “I think the essential part of all of this is to get the faculty involved in this process, the commercialization of intellectual property,” he advises. “By doing that, it provides recognition to the school, to its faculty, but it also provides educational opportunities as well. There are things that come out of this that can and should end up in the teaching curriculum.”

**Representing SEAS:** Left to right: SEAS alumni Jonathan Gordon, Allyn Kilshheimer, Terry Collins, and Randy Graves at the GW Summit on Entrepreneurship.
Christine Penfold
Getting a Headstart on GETTING AHEAD

Christine Penfold doesn’t shrink from responsibility; in fact, she seems to take it on eagerly. And although it’s not uncommon for SEAS students to juggle a rigorous curriculum with activities and work, few take on the kind of workload that Penfold embraced throughout her undergraduate career.

Penfold came to GW in fall 2007 knowing that she wanted to study systems engineering. She had considered other options, but chose GW’s systems engineering program after visiting. “I love math!” she says emphatically, “and systems engineering is the application of mathematics and statistics. I talked to Professor [Richard] Soland pretty in-depth before I came to SEAS and he detailed the curriculum and the types of courses I would take, which helped finalize my decision.”

Penfold came prepared, having already taken enough math, science, and Advanced Placement courses in high school to start college with a semester’s worth of credit. Not resting on her laurels, she decided to take 18 credit-hours for several semesters and graduated last spring after only three years. But this is only part of her story: on top of her heavy class load, Penfold remained active in a number of student organizations, an internship, and at one point, even a full-time job.

Now a master’s student in the systems engineering program, she already has the kind of work experience many people do not attain until they are a year or two out of college. In January 2008, Penfold began an internship with Booz-Allen-Hamilton, which she found using the SEAS Career Services website. She began doing data analysis, later transitioning into developing business intelligence and financial reports, and by January 2009 found herself working as the primary person responsible for financial reporting during her supervisor’s absence. “At one point, I was working 40 hours a week and taking 18 hours of classes,” she recalls.

Wanting to broaden and hone her skills, she applied for a job in the summer of 2009 at the U.S. Defense Intelligence Agency. She kept the job over the school year and became a permanent employee after graduation last spring. During the spring semester, she worked 32 hours per week as an IT project manager. Noting that this level of work is certainly not typical for students, Dean David Dolling says, “Compared even to the high demands placed on engineering students, this is exceptional. Christine is quite a high-achiever.”

“I’m the youngest person at work,” she smiles. “I’m deputy on one project and lead project manager on another; both have over 15 contractors on them. We go through a pre-defined development life cycle for the different releases and patches for each project. Since we have worldwide users, meetings can range from early morning to late evening, demanding a flexible schedule, which is sometimes difficult to accommodate with my schedule.”

As is often the case, the fruit of such responsibility is increased confidence. “I’ve learned a new set of skills because this is basically a management position, and I had no management experience before this,” Penfold states. “At my age, it can sometimes be intimidating to play my role at work. In the beginning I was a little worried, but they’ve given me a lot of faith, and it’s quite amazing that I can deal with the different issues that come up. There’s never a day when I’m not trying to contact people to iron out details of the projects.” But lest anyone think she’s not an average college student, she sighs, “Some days it’s nice, but sometimes I just want to plug in the headphones.”
Shariar Zaimi
Understanding Risks and TAKING THEM

Shariar Zaimi (M.S. ’79) came to the U.S. in 1977 to study electrical power engineering at GW. When he left his home country of Iran, he thought he eventually would return to work in his father’s construction company, but with the Iranian revolution of 1979, his plans changed. Indeed, he recalls thinking about changing his plans very early on, even before the revolution occurred. “I remember talking to my mom on the phone, and I said, ‘You know what, this is the culture I like, because it’s a culture of freedom and individual rights. It’s a society that is positive and optimistic and always looking forward.’ That’s where I felt my calling was.”

The path he has followed since then is the path of an entrepreneur. When asked why he decided to go the route of an entrepreneur, Zaimi laughs, “I guess I wouldn’t take orders very well.” But in a more serious response, he says, “Entrepreneurship is in you or it’s not. You know in your heart that you can do something better than it’s being done. I wanted to create a great engineering company, the best at what it does.”

After graduating from GW in 1979, Zaimi first worked at other companies to build contacts and project experience, and he says that he was fortunate to be able to work for great companies that gave him experience working on “national projects of extreme importance.” In 1985 he decided to go into business for himself and in January 1986, he launched Engineering Design Group (EDG). “And that’s a big plunge,” he adds.

Since taking that initial plunge, he has built, sold, and bought companies—and even gone into and out of retirement. “I built EDG to be the largest mission-critical engineering firm in the U.S.,” Zaimi explains. “We were a global company that engineered and managed the construction of data centers all over the world. I was working to take the company public in 2000, when GE offered to buy us. I became CEO of GE’s engineering and construction management business and served there until February 2005.”

After GE, he retired for a while but pretty quickly found out that retirement “is over-rated,” so he and three friends started Primary Integration, which is an industrial holding company. They re-created the engineering firm as EDG, and then bought or created five other companies from scratch.

In the process, Zaimi believes that he has learned a great deal. “You learn a lot about yourself, a lot more than you think,” he says reflectively. “You recognize your own risk tolerance and the risk tolerance of those around you. Each time you embark, the risk is pretty high, and you have to realize that you are not the only one taking the risk. The people that work with you are taking risks with you, and you have a responsibility toward them and their families and your family.”

As for the key to his success, he believes that it is perseverance. As he thinks about it more, Zaimi offers, “When you win, you celebrate your success for an hour, and when you lose, you mourn it for an hour, and then you move on. Both are going to happen. The lesson always is not to get too mournful about a defeat.”

EDITOR’S NOTE: Shariar Zaimi is a member of the SEAS National Advisory Council.
Events

SEAS Celebrates 125 Years of Engineering at GW
On October 1, 1884, the Corcoran Scientific School—the precursor to SEAS—opened its doors, bringing college-level science and engineering education not only to GW, but to the District of Columbia as well. Prior to the founding gift from William Corcoran that established the school, no college or university in Washington, D.C. offered such an education. One hundred and twenty-five years later, SEAS proudly celebrated its founding with a series of events, capped by the SEAS 125th Anniversary Gala in October 2009.

Leading off with a special 125th anniversary celebration of the Engineers Ball during the National Engineers Week activities in February 2009, SEAS continued to highlight the anniversary of its founding with a combination of events that ranged from a special Frank Howard Lecture series, a student softball game and barbeque, and an October 1st “birthday” celebration on the front lawn of Tompkins Hall, to the premier event, the SEAS 125th Anniversary Gala.

Held at Washington's magnificent Andrew W. Mellon Auditorium on October 29th, and attended by nearly 400 guests, the Gala blended a light-hearted look back at the school’s history with a sharply-focused look at its potential and at expectations of its future successes.

Dean David Dolling hosted the evening’s dinner and program, weaving together moments from the past with a vision of transformation for the future predicated on confidence in creativity and discovery.

An actor impersonating William Corcoran, the school’s founder, greeted and mingled with guests and bantered with Dean Dolling at points throughout the evening, while Dean Dolling tested the audience’s knowledge of SEAS’ history in “Trivial Pursuit, SEAS Edition,” advising participants to use the “learning aids” distributed to them for the game (horn-rimmed glasses and pocket protectors) and telling them that wearing the glasses and pocket protectors “might make you look the part and feel like a real engineer.”

A highlight of the evening was the GW Engineering Hall of Fame 2009 induction ceremony, honoring six SEAS alumni for their contributions to the engineering profession (article on page 35). This was followed by a keynote address by Dr. Charles Vest, president of the National Academy of Engineering, who spoke about engineering challenges of the 21st century—a period that he called the most exciting time in human history to be an engineer.

At the conclusion of the program, Dean Dolling addressed the crowd on the vital role that creativity and confidence have played and will continue to play in supporting and sustaining transformations through the years. “Creativity confronting challenges; discoveries generating confidence: that is how transformations occur,” he remarked. “And while a relative handful of people generally get the credit for transformations that occur in particular periods of history or particular fields of study, we all know that these achievements rest on the foundations built by teams of people supporting their efforts and encouraging their discoveries. And so it will be for us here at SEAS.”

EDITOR’S NOTE: Portions of this article are excerpted from “SEAS Celebrates 125 Years with Gala,” written by Jamie Freedman.
NEWS

SCHOOL OF ENGINEERING & APPLIED SCIENCE

R&D Showcase Highlights
Nearly 60 SEAS students competed through posters and presentations for $4,000 in prize money at the fourth annual SEAS Student Research and Development Showcase, held at GW’s Marvin Center on April 30, 2010. The competition’s winners were: First Prize: Taisen Zhuang for “Micro Vacuum Arc Thruster Propulsion System;” Second Prize: Huda Asfour for “Motion Reduction Algorithm Applied to Fluorescent Signals from Rat Hearts Using Multilevel Wavelet Analysis;” and Third Prize: Autumn Glenn for “Secondary Flow Measurements in Models of Curved Arteries.”

The annual showcase highlights the latest in student research and development at SEAS and creates opportunities for collaborating on cutting-edge research, networking and partnerships, and investing in promising technologies.

Research posters were on display throughout the event as a panel of judges, comprised of SEAS faculty and alumni, visited each display and spoke with the student presenters. More than 100 guests, including students, faculty, administration, alumni, and visitors to GW, attended. “We were very pleased with this year’s showcase,” said Can Korman, associate dean for research and graduate studies at SEAS. “The turn-out for the event was boosted by our outreach to area technology companies, government laboratories, and alumni. For the first time, we included undergraduate students, and we also invited prospective graduate students to the event so that they can directly see the quality of the SEAS graduate programs from our students.”

The showcase was generously sponsored by RiVidium and RCM, led by SEAS alumni Manny Rivera and Ron Martin, respectively.

SEAS Redoubles Cyber Security Efforts
Last fall, GW re-chartered the Cyber Security Policy and Research Institute (CSPRI), and SEAS Professor Lance Hoffman returned from “semi-retirement,” as he calls it, to serve as its director.

Professor Hoffman was the first director of the Institute, which he initially formed in 1993 to study computer security policy and perform research. The charter lapsed in 2007 after its next director went on leave from GW, but with new support and direction from the SEAS and GW administrations, CSPRI has re-formed and is exploring several potential projects, including a lecture series, a periodic lunch series that brings together researchers from various parts of the university to discuss their computer security work, and other projects. “The support from our new dean and the GW administration was key to this,” says Hoffman. “There has been a new awareness by the university community, by industry, and by the public at large of the importance of cyber security. In some sense, we were ahead of our time when we formed CSPRI back in 1993, but many— including Congress—are paying attention to cyber security now, so there is a much greater possibility of having an impact than 17 years ago.”

Hoffman says he also wants “to be a pied piper” to show others the GW projects underway in this area. He has high hopes for CSPRI, stating, “Cyber security is and will be integral to so many fields, including intellectual property, elections, medical devices, and energy systems, just to name a few. I want CSPRI to be a one-stop shop where people inside and research sponsors outside the university go when they have a question about computer security policy and research.”

In addition to research, CSPRI serves as a very important vehicle for U.S. Department of Defense, Department of Homeland Security, and National Science Foundation scholarships for students who want to study computer security and information assurance in exchange for two years of government service after their graduation.” Between 2001 and 2009, our students received more than $8 million in scholarships,” remarks Hoffman,” and we have prepared nearly 60 students in computer security and information assurance serving in 25 different agencies. We are proud of our alumni who have served and are serving in a number of federal positions, and of our efforts to help build the government cadre of computer security experts.”

For more information, please visit www.cspri.seas.gwu.edu or www.seas.gwu.edu/cybercorps/ (scholarship program)
A New Study Abroad Program

A common lament among engineering graduates is that they were not able to participate in a study abroad program because their curriculum was too prescribed; they could not join a study abroad program without falling behind, so they opted to stay on track and forfeit an overseas experience. Fortunately for SEAS students, this is not a trade-off they will have to make.

Last spring, SEAS inaugurated a study abroad program with University College Dublin (UCD) in Ireland, and SEAS students responded enthusiastically. Fifteen students boarded planes bound for Dublin in January, and they spent the semester studying alongside their Irish counterparts in a number of engineering, social science, and humanities courses that will count toward their degree programs.

Matt Knouse, who is the dean’s fellow for study abroad programs and an alumnus of other study abroad programs himself, says that the appeal of the program is its ease of application. “We’ve made this very easy for the students,” he explains. “Normally students have to do the legwork to contact other universities and then talk to their advisors to try to put together a plan of courses that will transfer. We met with UCD and proactively mapped out the courses in Dublin that are equivalent to our courses, so this takes a lot of the effort and uncertainty out of it for students.”

Once this impediment was removed, students responded immediately. Other factors have helped, too. According to Knouse, the school’s commitment to study abroad also helped make the experience possible for other students. “SEAS is serious about study abroad. The dean is 110 percent behind it, and the travel grants that he provided to students helped tremendously,” says Knouse.

“In fact, money from the Dean’s Excellence Fund is being used for these grants. Donors who contribute to the fund are helping to make study abroad possible for our students.”

Knouse adds, “Our counterparts at UDC have been wonderful to work with, and the program has been so successful that we’re looking to replicate it in several other locations worldwide.”

Lectures, Games and E-Ball Highlight E-Week 2010

SEAS students, faculty, and staff celebrated National Engineers Week (E-Week) last year with more than 20 events and activities, most of them planned and implemented by the students themselves.

Two highlights of the week were guest lectures by SEAS alumnus Allyn Kilsheimer (B.S. ’63) and Col. Frederick Gregory, the nation’s first African-American astronaut and a GW alumnus.

Mr. Kilsheimer addressed an audience of students, faculty, and friends at the Jack Morton Auditorium, recounting his experience leading the Phoenix Project team, the team responsible for rebuilding the Pentagon following the 9-11 terrorist attacks. Using a large selection of slides and some video, Mr. Kilsheimer took the audience through the various stages of the project, from the moment he received the call to respond right down to the dedication ceremony a year later, on September 11, 2002, when the rebuilding was completed, far under budget and ahead of schedule.

Mr. Kilsheimer spoke very forthrightly about his pride in this country, his anger at those who perpetrated this crime against it, and his passion for the rebuilding project. He generously praised the many, many contractors, civilians, and military personnel who also dedicated themselves fully to the task, sometimes working around the clock and at great risk to their own safety. He also recounted one anecdote after another that demonstrated the ingenuity of those working
on the project and the attitude that this was not “business as usual.”

Later that same day, students were treated to Col. Gregory's talk, which he styled as a conversation, in order to invite questions from the students. In his conversation, Col. Gregory recounted his experiences growing up in Washington, D.C., enrolling at the U.S. Air Force Academy, going through helicopter and flight training programs, serving in Vietnam, and ultimately, serving as a pilot or spacecraft commander on three Shuttle missions in 1985, 1989, and 1991.

The highlight of Col. Gregory’s talk was his recollection of being aboard the shuttle and of the various sights and sensory experiences that were a part of it. He described space as an enormous black velvet drape dotted with gleaming white diamonds, and recalled learning how to maneuver as a weightless being inside the shuttle.

E-Week 2010 also featured the perennial favorite—the egg drop competition—as well as a range of other games and competitions, lectures, the Engineering Industry Expo, and, of course, the Engineers Ball, known as “E-Ball.”

In addition to dinner and dancing, the evening included both faculty and student awards. The winners of the Professor of the Year awards were: Professors Sameh Badie (Civil and Environmental Engineering), Gabriel Parmer (Computer Science), Shahrokh Ahmadi (Electrical and Computer Engineering), Thomas Mazzuchi (Engineering Management and Systems Engineering), and David Chichka (Civil and Aerospace Engineering). Two students—Evan Tusini (Civil and Environmental Engineering) and Alta Berger (Electrical and Computer Engineering)—received awards for their leadership and involvement at SEAS.

**Seminar Series Covers Emerging Engineering Challenges**

Throughout the 2009-10 academic year, SEAS hosted a seminar series that highlighted a range of 21st century engineering challenges that confront us—challenges with potentially great impact for our health, safety, security, or simply the level of comfort that we define as quality of life.

Open to the entire SEAS community, the seminars were designed to make us aware of the global technological challenges with which today’s engineers are grappling and to discuss the range of research they are undertaking to search for solutions to these challenges.

The bi-weekly seminars were presented by various SEAS faculty members, with each session devoted to a different topic. A partial list of the topics addressed includes: energy and climate change, water quality and sustainability, cloud computing, nanotechnology, intelligent vehicle design and safety, and arms control and environmental treaty monitoring.

**SEAS Research Review**

SEAS faculty carried out an array of research this past year across a number of areas that impact important sectors. By the end of the spring semester, the faculty had received nearly $9.5 million in funding to undertake this research.

Funding came from various sources. In addition to National Science Foundation (NSF) grants—which comprise the bulk of the funding—SEAS faculty received support from other U.S. Government agencies, the private sector, GW, and foreign governments. A sampling of the research areas includes transportation safety, high-performance and supercomputing, nanotechnology and bio-nanotechnology, independently verifiable voting systems, image-guided surgery, emergency management, plasma applications to wound healing, robotics, and magnetics research as it applies to refrigeration.

Young faculty members and recently-hired faculty members successfully competed for research grants from the NSF and other agencies. Professor Joost Santos of the Department of Engineering Management and Systems Engineering received a grant to study extreme event preparedness; Professor Howie Huang of the Department of Electrical and Computer Engineering (ECE) has a collaborative grant with faculty at Johns Hopkins University for data-intensive supercomputing; Professor Vesna Zderic, also of ECE, is studying ultrasound-enhanced ocular drug delivery for the National Eye Institute; and Professor Pinhas Ben-Tzvi of the Department of Mechanical and Aerospace Engineering (MAE) is conducting robotics research funded by the Defense Advanced Research Projects Agency.

Several faculty members are working jointly or in teams with their SEAS colleagues on nanotechnologies. For example, Professors Michael Keidar and Ryan Vallance of MAE are exploring the use of carbon nanotubes to conduct electricity or heat, while another group of faculty from MAE, ECE, and the Department of Civil and Environmental Engineering are working to develop new courses in bio-nanotechnology to better prepare undergraduate engineering students for careers or graduate studies in this emerging field.

Faculty members have also continued their work with faculty from other disciplines, both within GW and beyond. Professor Rahul Simha of the Department of Computer Science (CS) is collaborating with colleagues from the Departments of Physics and Mathematics to continue research that aims to better understand fundamental design principles in nature’s networks, in particular the network of interactions among molecules in an average cell. Likewise, Professor James Hahn, also of CS, has been working to help establish a laboratory for image-guided surgery, surgical simulations, and medical visualization at the Institute for Pediatric Surgical Innovation.

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New Faculty

Dr. Philippe Bardet
Philippe Bardet is an assistant professor in the Department of Mechanical and Aerospace Engineering. He holds a Ph.D. in nuclear engineering from the University of California, Berkeley. His research interests are in experimental fluid mechanics and thermal-hydraulics, and he is particularly interested in turbulent free surface heat and mass transfer, in chemically reacting flows, and in high-temperature transfer for nuclear and solar thermal energy. Bardet teaches courses in fluid mechanics and heat transfer.

Dr. Evan Drumwright
Evan Drumwright is an assistant professor in the Department of Computer Science. Prior to joining SEAS, he was a visiting assistant professor at the University of Memphis. Drumwright’s research interests include physical simulation and controlling humanoid and manipulator robots. His previous research experience includes having collaborated with Honda Research Institute and with Willow Garage to create better robot simulations and to get their robots to perform occupational tasks. Drumwright won the Best Paper Award, Artificial Intelligence and Agents at the 2009 ACM Symposium on Applied Computing. He completed his Ph.D. at the University of Southern California.

Dr. Royce Francis
Royce Francis is an assistant professor in the Department of Engineering Management and Systems Engineering. He completed his Ph.D. at Carnegie Mellon University in the Departments of Engineering and Public Policy and Civil and Environmental Engineering, and comes to GW from the Johns Hopkins University, where he was a postdoctoral fellow. His research interests include: infrastructure management, sustainability assessment and risk analysis; regulatory risk assessment and policy-focused research, especially for environmental contaminants and infrastructure systems; and statistical/mathematical modeling approaches to decision support.

Dr. Tian Lan
Tian Lan is an assistant professor in the Department of Electrical and Computer Engineering. Lan received his Ph.D. from Princeton University. His primary research interests lie in the area of network security and communications. Lan’s research results have been published in various prestigious conferences and journals, and he received the IEEE GLOBECOM 2009 Best Paper Award and the IEEE Signal Processing Society 2008 Best Paper Award.

Dr. Manlap “Alex” Li
Manlap “Alex” Li comes to SEAS from the University of Illinois at Urbana-Champaign, where he received a Ph.D. in computer science. He is an assistant professor in the Department of Electrical and Computer Engineering, and his research interests are computer architecture and hardware-software interaction, with a focus on reliable and parallel architectures. He is particularly interested in exploiting the hardware-software interface to derive novel solutions for improving future systems. Li teaches courses in computer engineering and conducts research to support the school’s signature program in high-performance computing.

Dr. Tianshu Li
Tianshu Li has joined the Department of Civil and Environmental Engineering as an assistant professor. After obtaining his Ph.D. in materials science from the University of California, Berkeley, he continued his research as a postdoctoral associate in the Department of Chemistry at the University of California, Davis. Li is interested in exploring materials behavior through computational approaches. His current research includes the nucleation process in liquid-solid phase transition, the mechanical properties of advanced alloys, and the opto-electronic properties of semiconductor nanostructures.
Dr. Zhenyu Li
Zhenyu Li comes to SEAS from the California Institute of Technology, where he received his Ph.D. in electrical engineering and served recently as a postdoctoral scholar. He is an assistant professor in the Department of Electrical and Computer Engineering, and his primary research areas are micro- and nanotechnology for biology and medicine, particularly the integration of nanophotonics and microfluidics for single cell analysis, molecular diagnostics, stem cell research, systems biology, and developmental biology.

Dr. Chunlei “Charlie” Liang
Chunlei “Charlie” Liang comes to SEAS from Stanford University, where he was a postdoctoral scientist for three years. He obtained his Ph.D. from the University of London in 2005. Liang is an assistant professor in the Department of Mechanical and Aerospace Engineering, and his research interests are computational fluid dynamics and turbulence modeling for incompressible and compressible flows. He is particularly interested in developing efficient numerical schemes for accurate solutions of Navier-Stokes equations via high-performance computing.

Dr. Gabriel Parmer
Gabriel Parmer is an assistant professor in the Department of Computer Science. He completed his Ph.D. in computer science at Boston University, where he also received his B.S. degree. At Boston University, he received a best-paper award in 2006, his department's annual research excellence award in 2007-08, and best poster award at Boston University's annual Industry-Affiliates Day in 2008. His main research interests include operating systems with a focus on real-time and embedded systems, component-based design, and system dependability. Parmer is teaching courses in operating systems and related software and systems areas.

Dr. Joost Reyes Santos
Joost Reyes Santos earned his Ph.D. in systems engineering at the University of Virginia in 2003, with distinction (Louis T. Rader Outstanding Ph.D. Student). Following his Ph.D., Santos held a research assistant professor position at the University of Virginia's Center for Risk Management of Engineering Systems. He has been involved in research projects that directly applied systems engineering and risk analysis methods in modeling and managing infrastructure system interoperability such as transportation and oil/gas process control systems. Results of his research activities and accomplishments are documented in more than 20 archival journal articles. He has a current grant from the National Science Foundation to pursue research on developing inventory policy models to minimize disaster impacts on interdependent sectors (in collaboration with the University of Oklahoma). Santos has joined SEAS as an assistant professor in the Department of Engineering Management and Systems Engineering.

Dr. Guru Venkataramani
Guru Prasadh Venkataramani is an assistant professor in the Department of Electrical and Computer Engineering. Before joining SEAS, he received his Ph.D. in computer science from Georgia Institute of Technology. His research area is computer architecture with an emphasis on providing efficient and low-cost hardware support for software debugging, security, and programmability. He is also interested in hardware solutions for performance tuning, especially for multi-core and emerging many-core architectures. He teaches courses in computer engineering and conducts research in support of the school's program in high-performance computing.
Dr. Adam Wickenheiser
Adam Wickenheiser has joined SEAS as an assistant professor in the Department of Mechanical and Aerospace Engineering. He received a Ph.D. in aerospace engineering from Cornell University in 2008, and was subsequently appointed an intelligence community postdoctoral fellow at Cornell, before joining SEAS in January of this year. His research interests include morphing and bio-inspired aircraft, smart materials transduction, and vibration- and wind-based energy harvesting systems. He is currently teaching a graduate course in aero/hydrodynamics.

Simha Named DC Professor of the Year
Each year since 1981, the Council for Advancement and Support of Education (CASE) and the Carnegie Foundation for the Advancement of Teaching recognize four national winners and individual state winners as being Professors of the Year. The program is the only national program that recognizes excellence in undergraduate teaching and mentoring. This year, Professor Rahul Simha of the Department of Computer Science (CS) has been selected as the Professor of the Year for the District of Columbia.

“I was thrilled, but not surprised, when I learned that Professor Simha had won this major award,” said Dean David Dolling. “He brings energy, excitement, and enthusiasm to the classroom. He has been a leader for many years in developing new approaches to teaching and training other faculty to teach, and he is a wellspring of innovative ideas and approaches. The Carnegie award is well deserved recognition of his passion for seeing students learn and helping faculty teach.”

In addition to teaching several classes a semester, Simha has helped to revamp and diversify the computer science undergraduate curriculum. “I can state unequivocally that he has had a significant positive impact on how undergraduate computer science is taught at GW, and he continues to be forward-thinking in proposing ways to update and improve the overall engineering undergraduate curriculum,” said Dianne Martin, associate vice president for graduate studies and academic affairs, and a member of the CS faculty.

She described Simha as a “tough, fair and excellent teacher.” “Students regard his sophomore and junior level software engineering courses to be the toughest in the undergraduate curriculum, but when they finish it, they have a real sense of accomplishment. They leave with the confidence that they are ready to do professional level programming,” said Martin. “Students also know that he is always ready to provide help outside of class to enable them to master the material.”

Simha said he is thankful to have won the Professor of the Year award because it brings recognition to GW. “I feel very lucky to have the students and colleagues that I’ve shared experiences with these past 10 years. This award will help raise the profile of teaching
SEAS Teaching and Research Awards
On April 8, 2010, SEAS recognized three faculty members for excellence in teaching and research with an awards ceremony held in the Marvin Center and attended by faculty, students, staff, and several SEAS National Advisory Council members.

Professor Roger Kaufman of the Department of Mechanical and Aerospace Engineering received the 2010 SEAS Distinguished Teacher Award. Kaufman was selected for the award because of his long, successful career as a teacher, mentor, and motivator of students. Judging by the testimonies of his nominators, the hallmarks of his career are creativity, a sense of fun, service to students, and a passion for teaching, student advising, and mentoring. As one of his student nominators stated, “He wouldn’t challenge the students to complete a major design project without also assigning or competing in the project himself. It’s always a good motivator to try and beat Professor Kaufman at his own game.” In what is the highest praise a teacher can receive, another student nominator wrote, “My highest aspiration is to someday become as good a teacher as Professor Kaufman.”

As another tribute—one of many—to her remarkable research career, Professor Mona Zaghloul of the Department of Electrical and Computer Engineering was selected for the 2010 SEAS Distinguished Researcher Award. Zaghloul is an internationally recognized scholar, IEEE Fellow, president of the IEEE Sensors Council, and a recipient of the IEEE Circuits and Systems Jubilee Medal in 2000. Throughout her engineering career, which includes more than 20 years at GW, she has focused on research that spans several areas of VLSI (very-large-scale integration) and microelectronics systems, and has built an impressive publications record and impressive sponsored research programs.

Finally, Professor Nan Zhang of the Department of Computer Science received the 2010 SEAS Outstanding Young Researcher Award. In the relatively short time since starting his academic career, he has established an impressive sponsored research record, evidenced in part by the National Science Foundation CAREER Award Grant that he won in 2008. Zhang is very active in the Computer Society and has active research in computer privacy and security, with a strong publication record in quality journals and at conferences.

“These awards simply make public what we already recognize in these faculty members,” said Dean David Dolling. “These are dedicated, innovative teachers and researchers. Our students know this; our faculty know this; and we think it’s important for others to know this, too.”
Korman and Narahari Join the SEAS Administration

Two seasoned faculty members joined the SEAS administration in 2009 as part of Dean David Dolling’s efforts to strengthen support for research activities and for undergraduate and graduate education.

To improve the school’s graduate student recruitment and its research infrastructure, Dean Dolling created a new position, associate dean for research and graduate studies. Professor Can Korman, the former chairman of the Department of Electrical and Computer Engineering, initially accepted the position on an interim basis and later was named the associate dean. In this position, Korman is responsible for identifying research opportunities for individual faculty and collaborative groups and for helping them with proposals. He also is assisting in the planning of the new Science and Engineering Complex.

Professor Bhagirath Narahari of the Department of Computer Science also joined the SEAS administration in 2009. Like Korman, Narahari agreed to act as an interim associate dean, and he was later named associate dean for undergraduate affairs and programs. He is working to develop a number of resources to support undergraduates and undergraduate programs. Among other things, these include strengthening the undergraduate experience through internships, study abroad, and innovative new educational programs that leverage GW’s location and strengths.

“When I asked Professor Korman and Professor Narahari to take on these additional responsibilities for SEAS, both of them were willing to ‘step up to the plate’ and do so,” said Dean Dolling. “Our goal is to begin each academic year in a stronger position than the previous year, and to accomplish this, we rely on faculty who are ready to take on additional responsibilities and do their part to contribute to the SEAS transformation. Professors Korman and Narahari have done that for the school.”

Howard Eisner Marks 50 Years with SEAS

SEAS congratulates Professor Howard Eisner on 50 years of membership in the SEAS community. Eisner, a member of the Department of Engineering Management and Systems Engineering (EMSE) faculty, began at SEAS as a doctoral student. He earned his doctoral degree in 1966 and concurrently taught from 1960 to 1966 in the then-named Department of Electrical Engineering. Throughout that time, he also worked in industry, where he remained for 23 years, serving as a manager, executive, and president of two systems engineering companies. For the past 20 years, he has taught systems engineering and engineering management in the EMSE department, and has written five books on systems engineering, management, and related topics. In 1994 he received the Outstanding Achievement Award from the GW Engineer Alumni Association.

In Memoriam: Samuel Kotz

Professor Samuel Kotz, passed away on March 16, 2010, at the age of 79. Over the course of his career, Kotz taught at the University of Toronto; Temple University; the University of Maryland, College Park; and GW. He joined GW in 1997 after retiring from the University of Maryland, College Park, and was a member of the Department of Engineering Management and Systems Engineering (and its predecessor department, the Department of Operations Research). In addition, he held distinguished visiting positions at Bucknell University, Bowling Green State University, Tel Aviv University, University of Guelph (Canada), Harbin Institute of Technology (China), and Luleå University (Sweden).

Kotz authored or co-authored more than a dozen books and 150 articles in the field of statistics and quality control, as well as three Russian-English scientific dictionaries. He was the editor-in-chief and founder of the Encyclopedia of Statistical Sciences (1982-1999) and co-author of the four-volume Compendium on Statistical Distributions, and he was a world authority on this subject area of statistics. He was a Fellow of the Royal Statistical Society, the American Statistical Association, and the Institute of Mathematical Statistics, and an elected member of the International Statistical Institute.

Kotz played a mentorship role for many young researchers in the field of statistics or related fields over the course of his impressive career. To learn more about Kotz’s accomplishments, please visit: www.seas.gwu.edu/~kotz.
Faculty Accomplishments
SEAS faculty have achieved a number of notable accomplishments this year, as they do each year. A sampling of their successes is listed below. SEAS congratulates these faculty from across our five departments: Civil and Environmental Engineering (CEE), Computer Science (CS), Electrical and Computer Engineering (ECE), Engineering Management and Systems Engineering (EMSE), and Mechanical and Aerospace Engineering (MAE).

Patents & Licenses:
Azim Eskandarian (CEE): is working on an intelligent signal processing method to detect drivers’ drowsiness, which has been licensed by a commercial vehicle OEM (Original Equipment Manufacturer) through GW’s Office of Technology Transfer.


Awards & Honors:
Kennerly Digges (CEE): received the prestigious SAE Arnold W. Siegel International Transportation Safety Award during the SAE 2009 World Congress. The award recognizes a leader who has made an impact on improving transportation safety and whose accomplishments include outstanding international research innovation, and contributions to crash injury protection, crash injury biomechanics, and crash injury design.

Rumana Riffat (CEE): received the Water Environment Federation’s George Bradley Gascoigne Medal for a paper that she and two of her former graduate students, Marija Peric and Dilli Neupane, published in its journal, Water Environment Research.

Joost Santos (EMSE): received the 2009 Leontief Memorial Prize Best Paper Award. This award is given once every two years by the International Input-Output Association. Lijie “Grace” Zhang (MAE): won the Early Career Scientist Award from the International Journal of Nanomedicine and the American Society for Nanomedicine.

Media Mentions:
Joseph Barbera (EMSE): was interviewed by the Washington Post in response to the Haiti earthquake in January 2010. The article ran in the Post and in several other papers after being picked up by AP.

Samer Hamdar (CEE): was interviewed by FOX 5 News to answer questions about Metro safety following the Metro train derailment in Washington, D.C. in February 2010.

Stephen Hsu (MAE): was interviewed by WAMU radio on plug-in hybrid electric vehicles and the need for infrastructures for this new generation of vehicles. The interview aired in September 2010.


Pedro Silva and Azim Eskandarian (CEE): appeared in a November 2010 Washington Post article about earthquake engineering and driver simulation research at GW’s Virginia Science and Technology Campus. Eskandarian subsequently was quoted in a USA Today article on drowsy driver traffic deaths, and Silva was interviewed on National Public Radio about his research on building materials that might make structures more earthquake resistant.

Branimir Vojcic (ECE): was quoted in a July 2010 Wall Street Journal article, “Hidden Formulas Send Mixed Signals on Cellphones.”

Poorvi Vora (CS): received attention from both print media and radio when the Scantegrity voting system was used in the Takoma Park, MD, election in November 2009. Online articles appeared in Wired magazine and Computerworld, and NPR affiliate-WAMU radio covered the election. Scantegrity is a voting system that she and former GW doctoral student Stefan Popoveniuc helped develop in collaboration with several other universities.

Books:
Michael Stankosky (EMSE): is a joint editor, along with former EMSE doctoral students Annie Green and Linda Vandergriff, of In Search of Knowledge Management: Pursuing Primary Principles, published in December 2009 by Emerald Green publishers.


Other:
Pinhas Ben-Tzvi (MAE): was appointed to the editorial board of the Journal of Wireless Engineering and Technology.

Xiu zh en “Susan” Cheng (CS): was named an associate editor of the IEEE Transactions on Parallel and Distributed Systems.

Ken Chong (MAE): was appointed an editor of the new journal International Journal of Smart and Nano Materials.

Nicholas Kyriakopoulos (ECE): served as a member of the coordinating committee that organized the International Scientific Studies Conference on the capabilities and readiness of the verification regime of the Comprehensive Nuclear-Test-Ban Treaty, held in Vienna, Austria, in June 2009.

Chunlei “Charlie” Liang (MAE): was appointed to the editorial boards of both Computers & Fluids and CFD Letters.

Greg Shaw (EMSE): was appointed to the board of directors of the Emergency Management Higher Education Consortium.

Poorvi Vora (CS): began a three-year term as associate editor of the IEEE Transactions on Information Forensics and Security.
Achievement

EDITOR’S NOTE: The articles in this section are derived from articles written in spring 2010.

Learning through Research

Alta Berger knew that she was interested in both medicine and engineering when she came to GW as a freshman, so biomedical engineering was the obvious major for her. Four years later, Berger can look back with pride, realizing how much she has learned by taking advantage of an array of opportunities related to her major.

During the summer after her sophomore year, Berger had an internship at the University of Pennsylvania that piqued her interest in participating in research. In speaking with an upperclassman upon her return to SEAS, she subsequently learned about the research that Professor Matthew Kay of the Department of Electrical and Computer Engineering is doing, so she contacted Professor Kay to inquire about working with him. She is now in her fourth semester of research in the lab, having worked with Professor Kay’s team since the fall of her junior year.

The lab team works on understanding the electrical events associated with the heart and studies the formation of heart arrhythmias. Berger’s role is to help determine where in the heart a particular beat is originating. She explains, “The lab has a camera that images the florescence of a voltage-sensitive dye. This allows voltages across the surface of the heart to be recorded at very high speeds. I study the fluorescence images to determine the source of depolarization.” She continues, “Depolarization occurs with every beat, and the electrical events then initiate the mechanical contraction of the heart. We’re looking for abnormal electrical events such as arrhythmias, which are just abnormal rhythms of the heart. My part has been to collect the data and identify how depolarization events change over time. My results have been presented in a manuscript that the lab has submitted to a professional journal.”

More recently, Berger has been working on her senior design project, which is being created for the lab. Previously the team was using large electrodes that pick up the voltage from the surface of the heart, but Berger is building plunge needle electrodes as her project. She describes them as “tiny needles that have multiple electrodes inside them so they can be inserted into the heart to record the voltage within the wall of the ventricle, as opposed to just the surface.” The most difficult aspect of the project is reducing the needles to the appropriate size (approximately 380 microns in diameter) so that they do not cause damage to the wall tissue, which has a thickness of only four millimeters. Berger received a research fellowship from GW’s Institute for Biomedical Engineering to support her project.

Berger believes that she has “definitely learned a lot doing research.” She also credits engineering in general with teaching her good problem-solving skills, noting, “It’s more about critically analyzing a problem and coming up with a solution when you find an error: what is happening, why is this happening, and what can I do to fix it?”

Good Neighbors

Amid classes, labs, exams, internships, and other extra-curricular activities, a number of SEAS students have found time this year to tutor high school students at the neighboring School Without Walls. Since the start of the fall semester, the students have met weekly at the School Without Walls to provide free, after-school tutoring in math, physics, and some Advanced Placement and humanities courses.

A dedicated core of mostly undergraduate students provide the bulk of the tutoring, and many other SEAS students—both undergraduate and graduate students—participate as they are able. The program is open to other GW students, and a handful of them have tutored throughout the year, as well. On average, the SEAS and GW students assist 15-25 students from the School Without Walls each week.

The tutoring program is a community service effort that grew out of an earlier initiative begun by Professor Shahrokh Ahmadi of the Department of Electrical and Computer Engineering. “We started talking with the School Without Walls principal last spring about a community service program, but the nature of the program was different,” explains Ahmadi. “Last summer, we offered the Young Engineers Program (YEP) to School Without Walls students. The program was an all-day, one-week program run by our undergraduate SEAS students. They introduced the students to engineering using robotics as a hands-on project, and they talked about engineers and their roles. Then we thought that since we established the relationship, we should do some sort of continuous program throughout the year.”

Ahmadi is happy with the success of the program this year and with the benefits it
provides to all the students—both School Without Walls and SEAS students. Within one tutoring session, he has seen School Without Walls students, who were going to be tested the next day, move from struggling with concepts to being able to answer correctly most of the questions on a practice exam. Ahmadi says, “We usually tutor for one and a half to two hours, but we stay until all their questions are answered.”

As for the SEAS students, Ahmadi believes that they also learn from providing this service. “Community service is a way to help the nation on a small level. Any change comes on the community level, and it can make a difference to the people doing the service, too,” he explains.

A Committed Entrepreneur

Ian Balina is a young entrepreneur—and very passionate about it. As Balina sees it, passion is simply essential. “If you’re not passionate about what you’re doing, there’s no point in doing it, because you won’t remain committed to it. You run out of gas,” he states plainly.

Balina’s passion is for Leximo, a company that he and his friend and fellow SEAS student, Asad Mahmood, started during their sophomore years. “It started in [Tompkins Hall] room 309 my sophomore year with my friend Asad,” Balina recounts. “I felt strongly about business, and he was intrigued by it. I love technology and learning about different cultures and people. He was a spelling and geography champion. He had a cool idea, and we decided to start an interactive dictionary site where people can add words in every language. We launched Leximo in spring 2009.” As is often the case for entrepreneurs, they find the need to adapt their ideas as they learn more about the market and consumer needs. “We spread the word about Leximo,” says Balina, “and we began to get more followers. But then we noticed a bigger need not being met—the need for communication between people who speak different languages. So, Leximo is no longer a website; now it’s evolved into being a technology whose purpose is to break down language barriers.” To accomplish this, Balina and Mahmood are working on a concept to develop a technology that can translate any spoken language into any other language so that people can talk on the phone with anyone who speaks a different language.

Now a senior, Balina has learned a lot in the process about trying to start a business. He and Mahmood consulted the Colonial Entrepreneurs, an alumni entrepreneurship group, for advice in the early stages, and they entered the GW Pitch George business plan competition. “We didn’t make it all the way to the finals in the competition, but it allowed us to re-evaluate the idea and make it stronger than it was,” he says. They are now continuing work on their business plan, and preparing to talk to venture capitalists and apply for funding to prototype their technology.

And Balina has learned something else in the process, too. “It’s not as easy as I thought it would be,” he says of starting his business, “but it shows me how resilient I am and how committed to the idea I am.”

Protecting Drivers

While working on her master’s degree in her native Iran, Elham Sahraei discovered GW’s National Crash Analysis Center as she was looking on the internet one day for related research for a doctoral degree. Sahraei’s dissertation research at the time was a project to protect drivers involved in frontal crashes.

In 2008, after coming to the U.S. to study, Sahraei subsequently received a patent for her research. The patent applies to a structure she created, which can be mounted under the driver’s seat and will move the seat backwards, away from the windshield, to better protect the driver. Sahraei explains, “This structure kind of neutralizes the natural movement forward. I evaluated this on bus models, but it can be used even for trains.” Sahraei began studying for her doctoral degree in the Department of Civil and Environmental Engineering (CEE) in the summer of 2006, and while she is still interested in pursuing the project for which she earned her patent, she is content for the time being to work in the slightly different direction that her doctoral research has taken her under the guidance of her research advisors, Professors Kennerly Digges and Dhafer Marzougui. Sahraei’s dissertation research is protection of rear seat occupants. For some time, rear seat occupants have been considered better protected than front seat occupants; however, she did some data analysis and found that this is not the case in newer models. “I worked on a method to evaluate restraint systems for rear seat occupants and found that to get a proper estimate of protection we need to have a proper methodology,” asserts Sahraei. “One part of my research was to modify the current methodology to make it proper for our use; the other part was to identify the factors in the vehicle fleet changes that have compromised rear seat occupants.”

One of her other research areas has been a collaboration with MIT’s Impact and Crashworthiness Lab to determine the crashworthiness of advanced automotive batteries. “We expect to see a lot of electric vehicles in the future, and we have to know what the response of these batteries will be in the case of a crash. This is not yet well studied. I made a finite element model of a battery cell in conjunction with the MIT lab to estimate the battery’s material properties, and from that we could document damage to the cell in case of a crash,” states Sahraei.

A two-year recipient of the CEE Selective Excellence Fellowship, Sahraei expects to finish her degree by the end of the year.
The SEAS Transformation:  
A STATUS REPORT from SEAS DEAN DAVID S. DOLLING

In the last issue of Synergy, when I introduced myself and described my aspiration for our school, I talked about transformations: my personal transformation from a schoolboy growing up in an English seaside town to now dean of SEAS; the transformations that engineers have wrought across society; and our aspiration to transform SEAS into “a world-class center for engineering education and innovation” here in the heart of the nation’s capital.

Aspirations are catalysts. They precipitate change. They are, as the eighteenth century English author Samuel Johnson wrote, “our possibilities.”

When we begin to recognize aspirations as possibilities, a question almost invariably rises in our minds: Can we do this? Can we really do this? Some of you may recall “From the Earth to the Moon,” the HBO television series that dramatized the Apollo space program. The title of the very first episode was “Can We Do This?” We all know now that the answer was a resounding “yes,” but that question had to be asked. We have to ask the same question with respect to the transformation of SEAS—and, similarly, the answer to the question is a resounding “yes.”

However, as critical as that question is, the more interesting question is, “How?” How can we do this? That’s the question I address in this article.

A critical component in the success of our transformation will be the Science and Engineering Complex (SEC), which will encompass almost the entire block between 22nd and 23rd and H and I Streets. The complex will be home to faculty members, students, and professional researchers; instructional laboratories and studio-style classrooms; and it will provide space for student projects, clubs, and meetings, and research programs in engineering, computer science, medical science, biology, chemistry, physics, and biological anthropology.

On October 15th of this year, the university’s board of trustees voted unanimously to approve its construction. The board understands that a state-of-the-art science and engineering complex is absolutely essential for the types of learning and discovery that today’s most successful science and engineering schools offer. The building’s very design will accelerate the collaborative and interdisciplinary teaching and research programs that we are now developing. Traditional classrooms and laboratories will be combined, and new studio-style learning spaces created to encourage faculty-student interactions and small group “hands-on” learning. The many new research spaces and programs will also offer a myriad of opportunities for undergraduates to participate in research.

Now just three-to-four years away, the SEC will provide many exciting opportunities for a full spectrum of interactions with our government and private partners, from collaborative research projects to hosting seminars and workshops to creating intellectual property and developing start ups. Its multi-use auditorium will allow the university to host science and engineering symposia, conferences, and keynote addresses by distinguished visitors. The new facility truly puts SEAS on the path of transformation.

An expanded and strengthened faculty and undergraduate and graduate student bodies will also be critical to our success. We are making tremendous progress in these areas. In September 2009, we welcomed five new faculty to SEAS. In September of this year, we welcomed an additional eight. They are spread across the five departments and were recruited from some of the nation’s most highly ranked engineering schools, including Berkeley, Carnegie Mellon, Caltech, Princeton, and Georgia Tech. Almost all of them had one or more exciting postdoctoral experiences in academic and/or industrial settings. Their research and teaching expertise encompasses a broad array of key fields, from robotics and computer security, to nanotechnologies and environmental sustainability, to risk analysis. This year we will undergo another major faculty recruiting drive and are
Looking forward to welcoming another 10 new faces in September 2011.

Likewise, we had a very successful recruitment effort at the undergraduate level last spring, and we welcomed a strong freshman class of about 200 this fall, the largest class in at least five years. In addition, our freshman class has the highest average SAT scores and high school class ranking of any entering SEAS class in recent years.

Recruiting the very best and brightest students is especially competitive. Our ability to offer scholarships and fellowships to these students is critical, and we are raising funds for these purposes. Similarly, endowed professorships and fellowships are essential if we are to attract and retain the most creative and energetic faculty, and we are making progress on this front, as well. In addition to financial resources, relevant programs are also imperative. We have growing research programs in cyber security, nanotechnology, transportation safety, high performance computing, energy, and risk and crisis management. Our faculty regularly win new research grants and are in the news on account of their research contributions. We are building new undergraduate and graduate programs in robotics, energy, and sustainability. And, we are developing new initiatives outside the classroom to give SEAS students experiences that will increase their competitiveness in the professional world.

One of our new initiatives is detailed in the feature article, “Getting It Started: Promoting Entrepreneurship at SEAS” (article on page 8). Working closely with the SEAS National Advisory Council, we are promoting entrepreneurship education and opportunities for our undergraduate and graduate students, as well as our alumni. The SEAS Entrepreneurship Seminar Series, which is in its second year, is the cornerstone of this effort, but this year we have also added the SEAS Entrepreneurs Club, through which SEAS alumni and friends mentor students in entrepreneurship. In both of these efforts, and through the GW Business Plan Competition, we are working closely with GW’s newly established Office of Entrepreneurship, which is unifying entrepreneurial activities across campus.

Another important initiative we are developing for SEAS students is study abroad. In a world where technological challenges demand interdisciplinary approaches and teams that may be spread across the globe, cutting across cultures and time zones, I believe that our graduates can no longer be simply technical experts. They must be able to understand and embrace complexity, and lead the teams I have just described. Studying abroad helps lay the foundation for the development of these skills. In the past, engineering students have often found it difficult to study abroad because of the rigorous requirements and timelines...
of the various engineering curricula. Opportunities have been available, but they have been limited, and students have largely had to “go it on their own” to arrange for study abroad.

That is changing at SEAS, where we are developing cohort-programs in which groups of students take up to four courses during their semester abroad, all of which are pre-approved as meeting our curricular needs and, therefore, transfer back to SEAS for credit. Thus, our students do not miss a beat on their path to graduation. In spring 2010, 15 of our students spent a semester at University College Dublin, in Ireland. Our undergraduates soon will also have the opportunity to study alongside Korean students and professors and extend their learning across the world, thanks to the generosity of Simon S. Lee (M.S. ’05) and Anna H. Lee. The Lees have given SEAS a gift of $1 million to endow a student exchange program between SEAS and Korea University in Seoul. This new endowment will provide assistance for our students who wish to study abroad at Korea University. We have begun recruiting students this fall, with the first exchange of about 10 students expected to occur in spring 2011. In all of these efforts—recruitment, new programs and initiatives, and the new SEC—we have been working tirelessly with SEAS stakeholders to build and transform SEAS: step-by-step, and with the creativity and confidence that is a necessary part of any successful transformation. That’s the way it’s done.

Just as with the Apollo program, our vision will not be easy to achieve. Our goal is ambitious and, like the Apollo mission, it will take a team, working toward the common goal, taking risks, inventing processes along the way, discarding those that fail, strengthening those that work.

A key ingredient to our success is you: alumni, friends, and supporters of the school. We’ve been joined by many of you already, and on behalf of the students, faculty, and staff of SEAS, I thank you for your time, your talent, your spirit, and your generosity. As SEAS grows stronger, more and more of you are becoming engaged in the life of the school, and this growing desire to “Be a Part of It”—as we like to say—is palpable. For those of you who are not yet involved in the transformation underway, please join us in whatever way you can: by volunteering your time, by providing financial support, by sharing your expertise. There is a role for everyone in this transformation. Please consider yours.
THANK YOU

Support from you—our alumni, parents, corporate partners, foundations, students, faculty, staff, and friends—is vitally important to the SEAS transformation. The support that you provide to the school helps make a difference in how far and how fast that transformation advances. It can help us enhance scholarships and fellowships for students, sustain important faculty research, and build new learning initiatives. In short, your generosity strengthens the building blocks of the SEAS transformation: our students and faculty.

Sincerely,

David S. Dolling
Dean

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The L’Enfant Society is named for the architect of the city of Washington, Pierre-Charles L’Enfant, whose vision guided its growth. The most prestigious of GW’s gift societies, the L’Enfant Society recognizes donors whose generosity and foresight have had a transformational and enduring impact on GW. Membership is extended to individuals, corporations, and foundations whose annual or cumulative giving totals are $5 million or more. L’Enfant Society members who have made contributions to the School of Engineering and Applied Science:

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To everyone listed on the SEAS Donor Report in the preceding pages whose gifts strengthen this great school, thank you. Your generosity makes an important and meaningful difference to students, faculty and programs, and through your support, you have partnered in a growing effort to move the School of Engineering and Applied Science forward.

This is a particularly exciting time in the history of SEAS, and we are thrilled to see a growing number of alumni and friends finding ways to be involved. Financial support is one of many ways you can contribute to SEAS, and it is a vital one. Just as households, businesses, and nations depend on income to prosper, grow, and achieve success, the extent to which GW and SEAS prosper in the years ahead is closely linked to private philanthropic support.

You Can Make a Difference

An annual gift to SEAS is one way that everyone can participate. Much is said about the very large and often transformative gifts, but what is not as well known is that those gifts are almost always given to institutions with an established and loyal base of annual donors. When was the last time you saw a $50 million gift to an existing non-profit that was its only gift? I do not know of any. Your annual gift helps to encourage the larger gifts. So, if your name does not appear on the SEAS Donor Report, we hope we can list it in the next issue of Synergy. And whether you give $25, $100, $1,000 or some other amount, when you give annually, your gift becomes part of the Dean’s Fund for Excellence and you become part of the team.

In addition to annual support, the less frequent but important special gifts are those that are typically directed to a specific area of support. For example, an endowment fund can be established to provide perpetual income for student financial aid, for a graduate student fellowship, or for faculty or departmental support. These funds strengthen SEAS and help us to recruit and reward exceptional students and faculty. Endowment funds can be established through outright gifts or multi-year pledges of $100,000 or more or can be set up through your estate.

With the recent unanimous approval for the new Science and Engineering Complex by the university’s board of trustees, we are now fully engaged in raising funds for that facility. It is encouraging to see and hear the excitement that this building is generating among our current and prospective students, as well as among our faculty. Everyone we talk with recognizes the importance of the new building in propelling SEAS into a whole new league of opportunities for teaching, discovery, and innovation. We are currently working on a document that will visually convey the capabilities and versatility of the building, and we look forward to sharing that with you. In the meantime, if you are interested in learning more, please let us know.

For those of you who would like to discuss ways to help and be involved, I hope you will be in touch. We welcome your thoughts and the opportunity to explore ways you can become part of the school’s transformation. Until then, please know that your school, your alma mater, is moving ahead . . . and gaining momentum!

Thank you for your support.

Jim Howard
Assistant Vice President
Development and Alumni Relations
jphoward@gwu.edu
Tel: 202-994-4121
**News**

**SEAS Inducts Six Hall of Fame Members**

SEAS welcomed six new members into the GW Engineering Hall of Fame at the 2009 induction ceremony, held during the SEAS 125th Anniversary Gala last October. The six inductees are: W. Scott Amey (M.S. ’75), chairman, CEO, and president of Amyx Inc.; Sidney O. Dewberry (B.S. ’51), chairman and founder of Dewberry LLC; Mr. Dewberry’s former business partner, the late Richard N. Davis (B.S. ’50) (inducted posthumously); Michael D. Griffin (M.S. ’98), eminent scholar at the University of Alabama, Huntsville, and former administrator of NASA; David C. Karlgaard (D.Sc. ’74), co-founder of PEC Solutions; and Allyn E. Kilsheimer (B.S. ’63), founder, president, and CEO of KCE Structural Engineers, PC.

The Hall of Fame recognizes and honors individuals who have contributed to engineering, technology, or management in a sustained and significant way during their careers, and who bring distinction to GW through their achievements and their contributions to their professions, the University, and society-at-large. “By honoring the achievements of these six individuals,” said Dean David Dolling, “we help build the SEAS history that future classes of SEAS students inherit, and will be challenged by, and will use as a measure of their own success.”

As Dean Dolling introduced each new member of the Hall of Fame during the induction ceremony, he highlighted not only their obvious professional successes but also something of their character or history to provide some insight into who they are and what they value. The qualities are impressive. One member has a legendary work ethic and is said to begin many of his workdays during the middle of the night, when the rest of us are sound asleep. One member’s code of integrity has prompted his company to undertake only those projects “which we are certain we can perform with distinction.” One has a lifelong love of learning that prompted him to obtain seven university degrees, and another has achieved tremendous success by combining his knowledge of engineering principles with a great deal of business acumen.

Lastly, adding some levity to the ceremony, Dean Dolling recounted the story of how two of the members, who served in World War II and subsequently earned engineering degrees at GW, reconnected nine years later when one hired the other. “While a student in 1948, Mr. Richard Davis was going fishing when he stopped to pick up a hitchhiker he recognized as a fellow student,” explained Dean Dolling. “Nine years later, in 1957, Mr. Sidney Dewberry, the hitchhiker he had picked up, invited him to join the firm of Greenhorn, O’Mara, Dewberry & Nealon. As life would have it, Mr. Dewberry found Mr. Davis those nine years later, not by making contact with him, but by paying a $600 headhunter’s fee. Mr. Davis began as chief engineer for the firm, and by 1968, was elevated from senior associate to full partner. And as Mr. Davis liked to remind Mr. Dewberry, the $600 headhunter’s fee that Mr. Dewberry had to pay was ‘the best investment you ever made.’”

With the induction of these six gentlemen, the GW Engineering Hall of Fame, established in 2006, now has 21 members.

**EDITOR’S NOTE:** As Synergy magazine went to press, SEAS hosted the 2010 GW Engineering Hall of Fame, at which the school inducted seven new members.

**Howard Tischler Elected NAC Chair**

By unanimous consent of the National Advisory Council (NAC) membership, Mr. Howard Tischler, has been elected the Council’s next chairman. Tischler’s term began following the April 2010 NAC meeting and will run through April 2012. He has been a member of the NAC since 2003. Tischler follows in the footsteps of Dr. David Karlgaard (D.Sc. ’74), who just completed his two-year term as NAC chairman at the April meeting. Karlgaard has been a member of the NAC since 2003 and, as immediate past chair, will remain a member of the NAC Executive Committee.

“We are most appreciative to Dave for his devoted service to the NAC and SEAS. He provided valuable NAC leadership during the transition to Dean Dolling’s administration,” says Jim Howard, assistant vice president for development and alumni relations at SEAS. “We are very glad to be working with Howard Tischler, as well, and we know..."
that he will continue to strengthen the role of the NAC here at SEAS."

Tischler, an entrepreneur, is CEO and founder of Enfocel, an internet-based lead generation business, and the lead director of DealerTrack, a public company provider of on-demand software and data solutions for the automotive retail industry. Tischler received a B.S. in mathematics from the University of Maryland in 1975 and an M.S. in operations research from GW in 1980.

David Karlgaard and Asghar Mostafa Receive GW Awards
SEAS congratulates Dr. David Karlgaard (D.Sc. ’74) and Mr. Asghar Mostafa (B.S. ’82) on receiving two prestigious GW awards.

David Karlgaard was one of seven GW alumni honored by the GW Alumni Association (GWAA) on April 29th, at the 2010 Alumni Outstanding Service Award ceremony. These awards are conferred each year by the GWAA on a handful of GW graduates who have generously volunteered their time and service for the benefit of the university or their communities.

A very deserving recipient, Karlgaard has shown an outstanding commitment to GW in a number of capacities. He has been an active member of the SEAS National Advisory Council since joining it in 2003, including serving as its chairman from 2008-10. Karlgaard served on the SEAS Dean’s Search Committee in 2007-08, participated in GW Leadership Retreats and the GW Commission for SEAS 2020, served on the Advisory Board of the Department of Computer Science in 2008, and delivered the SEAS Commencement keynote speech in 2006.

Karlgaard is also engaged in a number of charitable organizations, including the foundation of his undergraduate alma mater, the University of Wisconsin-Eau Claire. He serves on the board of trustees of INOVA Health System Foundation and has been active with Northern Virginia Family Service, an organization operating on the principle that families are the foundation of a strong society.

Throughout his career, Karlgaard has served in volunteer leadership capacities in a number of professional and charitable organizations, as well, including Northern Virginia Technology Council, Professional Services Council, the American Electronics Association, and others.

On September 30th, Asghar Mostafa was also honored by the GWAA, with the 2010 Distinguished Alumni Achievement Award. The Distinguished Alumni Achievement Award is the highest form of recognition that the university and the GWAA give on an annual basis to GW graduates. Mostafa was one of five GW alumni to receive the award this year.

Since graduating from GW, Mostafa has embarked on a highly successful and groundbreaking career in the technology and electronics fields. Over the past 25 years, he has created and built several very successful technology companies, including enTourage Systems, Inc.; Vinci Systems; Advanced Switching Communications, Inc.; and ISDN Systems Corporation.

In his most recent venture, enTourage Systems, Inc., Mostafa created an electronic textbook—enTourage eDGe—that has the potential to revolutionize the education textbook industry by reducing the cost of textbooks by approximately 50 percent and by providing affordable, wireless, web-based access to information and upgrades. Through enTourage eDGe, Mostafa hopes to break the cost and technology barriers faced by education and professional mobile users.

Noblis Endows Lydia W. Thomas Scholarship
Dr. Lydia Thomas—a successful corporate executive, dedicated volunteer, and long-time friend of SEAS and GW—received an unusual gift when she retired as CEO and president of Noblis, Inc. The corporation (formerly Mitretek Systems) recognized her accomplishments as an engineer and as a role model for young women by establishing the Lydia W. Thomas Scholarship Endowment at GW. The endowment provides, in perpetuity, annual scholarship support for undergraduate women studying science or engineering.

“It is an amazing privilege to be honored in such a way,” Thomas said. “There is a dearth of females in science and engineering, and it is my hope that this scholarship will encourage young women to pursue these disciplines and foster a new generation of leaders in the fields.”

The Black Engineer Conference named Thomas the Engineer of the Year in 2003; Science Spectrum recognized her as one of “50 Most Important Blacks” in research science in 2004; and Ebony honored her with the Ebony Image Award for Public Service in 1990.

Thomas was a member of the university’s board of trustees from 2000 to 2010, and served part of that time as a vice chair. In addition to her leadership service as a trustee, Thomas is a dedicated philanthropist who has supported the Africana Research Center Fund at Gelman Library, the President’s Fund for Excellence, the Cancer Institute Gala, the Annual Fund, and athletics.
Faculty Create Award and Scholarship Funds

SEAS is very pleased to announce that two recently retired SEAS faculty members, Professors Joseph Pelton and Richard Soland, have generously provided funding to create two new funds that will benefit SEAS students.

Joseph Pelton, a former professor in the Department of Electrical and Computer Engineering, has established the Pelton Senior Design Competition, which awards and gives an incentive for projects that are environmentally beneficial and for those that are patentable, as determined by a panel of judges. In May, SEAS hosted the first Pelton Senior Design Competition, at which seniors Kimberly Turley of the Department of Electrical and Computer Engineering and Alex Florescu of the Department of Computer Science took first and second places, respectively, for their designs.

Richard Soland, professor emeritus of operations research, has established the Soland-Goikoetxea Doctoral Scholarship for Engineering Management and Systems Engineering (EMSE). This fund will provide scholarships to full-time doctoral students in the EMSE department who are conducting, or who intend to conduct, research in multiple criteria decision making and/or optimization.

SEAS is grateful to Professors Pelton and Soland for their generous gifts in support of SEAS students.

Puzzled by Gift Annuities?

Discover the Benefits:

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It’s easy to find a way to support GW and increase your income. A GW charitable gift annuity (CGA)* solves both puzzles. These win-win gifts provide lifetime income for you and your loved ones, while creating significant tax benefits.

The advantages of CGAs are so attractive that GW wants to make this giving arrangement affordable for many more alumni and friends. That’s why the University has just reduced the minimum gift for an annuity from $25,000 to $10,000.

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The George Washington University
Office of Planned Giving
2100 M Street, NW, Suite 310
Washington, DC 20037

For more information, including a personalized illustration, please contact:
SEAS Office of Development
202-994-8474
seas@gwu.edu
Happenings

Edward Cannon, MEA ’86, resides in Hyattsville, MD, and is currently a Fellow Engineer at Northrop-Grumman Electronics Systems in Baltimore, MD. He has been there for 13 years; prior to that he was with Tektron Microelectronics, in Hanover, MD, for nine years and at Ericsson/GE (Sony-Ericsson), in Lynchburg, VA, for seven years. He is a past president of the Baltimore Chapter of the Virginia Tech Alumni Association.

Christopher Capelli, BS (electrical engineering) ’90, joined Leason Ellis LLP, an intellectual property law firm based in White Plains, NY, in November 2009. He was the former chief IP counsel for MeadWestvaco Corporation, where he had management responsibilities for a global IP portfolio of more than 6,000 patents and trademarks.

After marrying in April 2007, Michael Deneff, MS (systems engineering) ’09, and his wife, Luanne, MS (systems engineering) ’09, had to begin working in separate cities in June 2009. They lived apart for 10 months, after which Luanne received a promotion and a new position that allowed her to return to Colorado Springs, where she and Michael are living in the same city again and even working in the same building. Michael congratulates Luanne on her new position.

Alex Dietrich, BS (civil engineering) ’01, became engaged last New Year’s to Michael Greene, who received a master’s degree in systems engineering last May.

A passionate supporter of recycling nuclear waste, Jan Forsythe, D.Sc. (engineering management) ’03, wrote 3R’s of Nuclear Power: Reading, Recycling, and Reprocessing...Making a Better Tomorrow for Little Joe (2009) to allay the public’s fear of everything nuclear and present the realities of the benefits to the U.S. of embracing nuclear as the best source of energy to power its electricity generating plants.

Jonathan Gordon, BA (applied science and technology) ’05, is the founder, owner, and lead designer of GordonRides, LLC, an amusement ride development firm established in 2008. GordonRides was established to design and develop innovative amusement rides, which are exclusively derived from Mr. Gordon’s patents and intellectual property.

After completing his BS, Christopher Harvell, BS (electrical engineering) ’98, worked for the management consulting firm, Booz Allen in the Health Care, Communications, Media & Telecom and Financial Services Groups. At Booz Allen, he focused on corporate and business strategy formulation, organizational development, business performance, process improvement, and technology strategy development. He also founded a recruitment program focused on identify-

ing minority talent. He also worked on a pro-bono basis with Bill Clinton’s Harlem Small Business Initiative, where he was responsible for identifying and implementing areas for operational improvements and increasing the financial viability of selected Harlem small businesses. Chris then attended Columbia University’s Graduate School of Business and received his MBA with a concentration in finance and real estate. Chris was an investment banker in the Real Estate Finance Group at Credit Suisse based in NY. In 2008, he transitioned from banking to entrepreneurship and co-founded Dental Kidz in downtown Newark, with his wife, Lezli, a pediatric dentist.

Jose Hernandez-Rebolllar, D.Sc. (electrical engineering) ’03, inventor of the Acceleglove at GW, is glad to announce that AnthroTronix is offering the Acceleglove as a commercial product. Lockheed Martin, as one of the partners in the efforts, paid for the product development process, securing suppliers, manufacturers, and building beta products. For more information, see www.acceleglove.com.

Reginald Herndon, BS (civil engineering) ’96, co-founded CAPITAL Construction Group, LLC (CCG) in 2005 and works as the general manager. CCG (www.ccg-wdc.com) is a commercial general contracting firm based in Washington, DC, and it is celebrating five years in business serving small-to-medium-size businesses.

Henry Herz, MS (operations research) ’84, recently joined L-3 Communications (www.L3com.com) as the senior program manager of its InControl product line. InControl software is used for communication satellite commanding and telemetry by a range of government and domestic and international commercial customers. L-3 Communications is a Fortune 500 prime contractor in command, control and communications, intelligence, surveillance and reconnaissance (C3ISR); government services, and aircraft modernization and maintenance. While not
(yet) Fortune 500 entrepreneurs, his sons Joshua (10) and Harrison (8) have started their own web-based small businesses, J&H LEGO Gifts, JH Bases & Terrain, and YardCritters.

Charles Hickey, BS (electrical engineering) ’84, was awarded U.S. Patent #7,641,594 B2 on January 5, 2010, for his product invention entitled “Apparatus for Cooling Trampolines.” Charles (Chuck) is in the early stages of licensing his product invention under the trade mark “RingMister™.” Chuck credits the initial concept of the design to an afternoon of play with his two young daughters, their trampoline, and an extreme need to cool down one very hot afternoon in St. Louis. Chuck would love to hear from his fellow alumni and current GW students, faculty, and staff. He can be reached at charles.hickey@wisperhome.com.

Kathy Helen Pappas Jatras, MS (operations research) ’83, started her own fee-only financial advisor/tax prep firm in 1989 and has been doing that ever since. She and her husband have two daughters (ages 25 and 23), 21 Godchildren, and are new grandparents.

Elliott Kugel, CFP, MS (computer science) ’83, was named in the February 22, 2010 issue of Barron’s magazine as one of the “Top 1,000 Advisers in America” and was recognized as one of the top 25 advisers in New Jersey. Elliott works at Merrill Lynch in Bridgewater, NJ.

Larry Laubscher, BS (electrical engineering) ’52, continues the practice of intellectual property law, on a reduced schedule with golf interruptions, at his satellite home office in St. George, UT. The main office of his firm, Laubscher & Laubscher, P.C., in Annapolis, MD, is run by his son, Larry, Jr. Larry writes, “I look back fondly on my days at GWU, and appreciate every day the invaluable education-both engineering and legal-that I received there. My very best regards to all of my old engineering school buddies who are still around.”

Chung-Shing Lee, D.Sc. (engineering management) ’97, and his co-author Dr. Jonathan C. Ho won an Emerald Management Reviews Citation of Excellence for their research paper “The DNA of Industrial Competitors,” published in Research Technology Management, 51(4). Their article was selected as one of the top 50 from the 15,000 articles reviewed throughout 2008 by the Emerald Management Reviews, which covers every article in the top 400 business and management journals world-wide, including titles such as Harvard Business Review, Journal of Finance, MIT Sloan Management Review, and others. Chung-Shing is an associate professor in the School of Business at Pacific Lutheran University in Tacoma, WA.

Rob Maier, BS (computer engineering) ’98, currently works as a patent attorney in New York at a large international law firm, Baker Botts LLP, where he focuses primarily on patent litigation and counseling. His full web bio is available at: www.bakerbotts.com/lawyers/detail.asp?id=22a24162-c2fc-436b-b304-3468f7b3609e. He recently got engaged to his fiancee, Shanna, who teaches at an inner city high school in Brooklyn, and they married on 10/01/10, “a binary wedding date, all too fitting for a computer engineering major;” Rob writes.

Richard C. Millar, D.Sc. (systems engineering) ’88, has been an associate professor in the Department of Systems Engineering at the Naval Postgraduate School (NAS Patuxent River, MD), detached from the Monterey facility, for 18 months. He is a tenure track faculty member performing NAVAR & ONR funded research in systems engineering.

Lawrence Oakley, BS (mechanical engineering) ’48, is still going strong at age 85. He writes, “I retired three times and decided two decades ago that I’ll never do that again. I’m the editor and publisher of www.WallStreetCorner.com and have regular readers in 96 countries.” More information about Lawrence is available on the homepage. Lawrence is also the corporate secretary of Pinnacle Aeronautics, Inc., a private corporation engaged in the design, development, and future manufacture of business jet aircraft.

Manny Rivera, MS (computer science) ’05, is president and CEO of RIVidium Inc. Last year Manny was invited to discuss future directions in networked sensing systems for the Fifth International Conference on Mobile Ad-hoc and Sensor Networks (MSN 2009) sponsored by IEEE. This conference brought experts from all corners of the globe to China’s Wu Yi Mountains to collaborate and contribute to research and innovation in these related fields.

Lawrence is available on the homepage. Lawrence is also the corporate secretary of Pinnacle Aeronautics, Inc., a private corporation engaged in the design, development, and future manufacture of business jet aircraft.

Jesús M. Rohena y Correa, P.E., MS (civil engineering) ’95, is the senior tunnel engineer for the Federal Highway Administration in Washington, DC. In addition to being an engineer, he also enjoys painting and photography. Last year, he participated in an art exhibition at the US DOT. To see more of his art work, please visit http://fineartamerica.com/featured/flordemaga-jesus-rohena.html.

Pragnesh "Praq" Shah, BS ’90, MS ’93 (mechanical engineering), is vice president and general manager of Web
Storefront and User Experience at NetworkSolutions, where he leads web channels, user experience, e-commerce, and content strategy for the company’s core online channels and products.

Tim Sheckler, BS (civil engineering) ’91, MBA ’03, was recently selected for the position of director of the Real Property Utilization and Disposal Division for the General Services Administration (GSA) National Capital Region. In this position, he is responsible for the re-utilization and/or disposal of excess and surplus real property for GSA and other federal agencies.

Richard Spires, MS (telecommunications) ’87, was appointed CIO of the Department of Homeland Security in July 2009. As CIO, Richard is responsible for managing and directing information management support processes, combining the functions of information technology and telecommunications to provide coordinated support strategies for meeting DHS-mission related information needs.

Javid Sonde, MS (information systems management) ’91, is CEO of Global Techpro. Javid was named for the second year in a row to SMARTCEO magazine’s 2010 Smart100 list. The Smart100 is made up of thought leaders across all industries in Greater Washington. The CEOs were selected based on their leadership, strategic vision, and character.

Jeffrey Sonnabend, BS (electrical engineering) ’89, is the founder of SonnabendLaw, a law firm specializing in intellectual property and technology law for individuals, startups, and smaller businesses. Jeff has been practicing intellectual and technology law (except for a brief detour into the world of culinary arts) since graduating from Cardozo School of Law in 1992. He began his career servicing Fortune 500 corporations while associated with firms such as Rogers & Wells (now Clifford Chance) in New York City.

L. William Varner, BS (electrical engineering) ’73, was named president of the ManTech Mission, Cyber & Technology Solutions Group in September 2009. Before joining ManTech, Bill was a vice president, corporate officer, and executive director of the Intelligence Operations Operating Unit for Northrop Grumman/TASC, which specializes in highly technical engineering and operations support to the intelligence community. While at TASC, his business grew substantially and his team earned Capability Maturity Model Integration Level 5 certification in software development. He joined TASC in 1978 and held positions of increasing responsibility in project, program, and line management before becoming a senior executive.

Patrick J. Wells, MEM ’93, works for the Federal Aviation Administration and was awarded the Lawrence R. Schneider Award last year. The award is presented annually to an especially competent and productive practicing Department of Transportation attorney who has been admitted to the bar within the last ten years. Patrick was selected “For outstanding dedication and exemplary service to improve aviation and efficiency including exceptional performance on the O’Hare Modernization Program.”

In Memoriam:

Norris Hekimian, BS (electrical engineering) ’49, passed away on June 10, 2010. Dr. Hekimian was a member of the GW Engineer Alumni Association and a former alumni trustee on the GW Board of Trustees.

Peter McGee Hoffman, BS (mechanical engineering) ’07, passed away on March 28, 2009, at his parents’ home in London after a seven-month struggle with cancer. After graduating from GW, Peter left for Australia where he lived, worked, and indulged his passion for sports before returning to London in August 2008, where his cancer was diagnosed. Peter’s passing has left a huge void in the lives of all who knew and loved him.

It is with great sadness that Synergy reports the tragic death on May 16, 2010, of Taylor Hubbard, a sophomore majoring in biomedical engineering. Taylor died from injuries he sustained after falling from the window of a GW residence hall. He had moved home at the end of the semester, but had returned to campus to help a friend move into summer housing. Taylor was from Lexington Park, MD, and graduated from Great Mills High School in 2008. He enjoyed playing ultimate frisbee and soccer, and was described by friends as “incredibly athletic.” He was also a member of Alpha Chi Sigma, a co-ed professional fraternity in chemistry. As most of his classmates had already left campus at the time of his death last spring, his friends and members of the university community gathered on Kogan Plaza on September 1st to remember him.
Upcoming Alumni Events

Volunteer Opportunities
There are many ways alumni can be involved at SEAS and at GW. Visit www.alumni.gwu.edu/volunteer or contact Erin Pitts at espitts@gwu.edu for a complete list of volunteer opportunities.

Engineer Alumni Association, Call for Volunteers
We are building new and dynamic alumni programming at SEAS, and we need alumni volunteers to help build alumni engagement. We ask volunteers to commit to a year of service, during which you will assist in planning SEAS alumni programming, attend three meetings annually, and attend at least two SEAS alumni events. If you are interested in participating, please contact:

Erin Pitts
Associate Director
School Alumni Programs
Alumni House @ 1918 F Street NW
Washington, D.C.
Phone: (202) 994-2355
Email: espitts@gwu.edu

Career Advisor Network
Share insights with other graduates and current students seeking career assistance. Register to be a career advisor at www.alumni.gwu.edu/networking.

Connect with Students
From hosting a dinner with students to delivering a guest lecture, you have a lot to offer. Participate in a student-alumni program to build connections with current students.

GW Alumni Association Board
The GW Alumni Association works collaboratively with the university to implement programs and services that benefit GW alumni. Board elections take place in the spring of each year.

Young Alumni Network
The Young Alumni Network (YAN) sponsors programming and provides benefits designed to meet the social, networking, and educational needs and interests of graduates from the past 10 years. Join the dedicated recent graduates who provide the inspiration for YAN activities!

Upcoming Alumni Events
Stay connected with SEAS alumni, faculty, and current students by attending our SEAS alumni events listed below. Events are updated and added often, so be sure to visit the online alumni events calendar at www.alumni.gwu.edu/calendar for more detailed information.

Spring 2011

EAA Volunteer Council: Spring Meeting
Wednesday, January 12, 2011

SEAS Entrepreneurship Seminar: Building Your Early Stage Startup Team*
Wednesday, January 26, 2011

SEAS Entrepreneurship Seminar: Managing Growth*
Tuesday, February 22, 2011

SEAS Student R&D Showcase
Wednesday, February 23, 2011

SEAS Career Expo
Thursday, February 24, 2011

SEAS Entrepreneurship Seminar: Marketing: How to Find Your Customers*
Wednesday, March 23, 2011

GW Summit on Entrepreneurship*
Thursday & Friday, April 14 & 15, 2011

Pelton Design Competition and Senior/Alumni BBQ
Wednesday, May 11, 2011

* To register for the SEAS Entrepreneurship Seminars, please visit alumni.gwu.edu/calendar.
Contact Us

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Can E. Korman, Associate Dean for Research and Graduate Studies
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202-994-2050

Emmy Rashid, Director of SEAS Student Career Services Office
202-994-7892

Howard Davis, Director of Undergraduate Advising and Student Services
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Adina Lav, Director of Graduate Admissions
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