

Professional Education News

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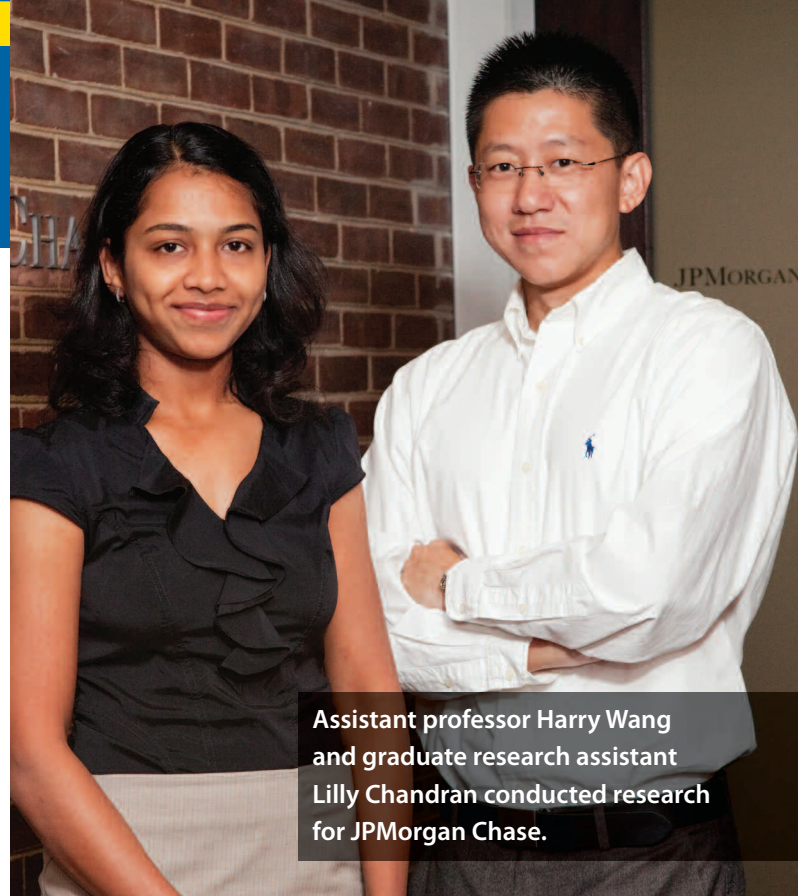
Preparing students for professional leadership in business, industry, the arts, government, or educational, human services and nonprofit organizations

UD partners with JPMorgan Chase to share research expertise

In 2010, UD became the second academic institution in the country to join forces with global financial services firm JPMorgan Chase. The partnership, modeled after the one JPMorgan Chase began with Syracuse University a few years ago, consists of a number of components, including internships, curriculum development, joint research and a speaker series.

“It’s simple, really,” observed UD President Pat Harker during his introduction of the new partnership. “We can’t prepare students for 21st-century jobs if we don’t partner with the companies creating them. And companies can’t continue to compete globally without a workforce that’s ready to roll from day one.”

Even before the partnership’s official kick-off announcement in March, about 30 UD faculty had already visited JPMorgan Chase offices and shadowed employees for a day. Looking closely at the company’s IT functions, processes and technology, faculty were challenged to suggest techniques or methodologies to study and resolve business problems that were identified through the site visits.



Assistant professor Harry Wang and graduate research assistant Lilly Chandran conducted research for JPMorgan Chase.

Photo by Ambre Alexander

A win-win proposal

Harry Wang is an assistant professor of management information systems in UD’s Lerner College of Business and Economics who participated in the job-shadowing, and submitted several research ideas through a matching process coordinated by the Lerner College and JPMorgan.

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What's in it for me?

How industry partnerships strengthen scholarship

When I first took on the role of associate provost in the Office of Graduate and Professional Education I asked Provost Tom Apple what he thought was the biggest benefit of having strong graduate professional education programs. Prior to coming to the University of Delaware Tom had held a similar role at Rensselaer Polytechnic Institute (RPI). Tom told me that at RPI, because of their strong professional programs, they had alumni employed at many of the most significant technical industries in the country. Because these alumni enjoyed the excellent technical education at RPI, and they maintained their ties, faculty at RPI had access to those industries and their leaders. These networks strengthened faculty research programs, brought resources to their laboratories, provided real world problems for the classrooms and student projects, and in many other ways strengthened the faculty, research and programs at RPI.

Benefits of partnership

As I have had the pleasure over the past three years to work to understand and support the many professional graduate programs at UD, I've seen the power of the same types of partnerships, both formal and informal, that have strength-

“There is nothing so practical as a good theory.” —Kurt Lewin

ened and enriched the research and educational programs here.

Professional partnerships are indeed not new at UD. Some go back many years. One example you will read about in this newsletter is the Center for Composite Materials, established in 1974 to connect the academic researcher to real world problems. For nearly four decades those relationships have provided research direction, shared instrumentation, internships for students, industry advisers, consulting opportunities for faculty and enhancements in technology transfer.

Another long-standing example is the internship program in statistics within the College of Agriculture and Natural Resources, which places graduate students in companies such as DuPont, Condé Nast, Chase, ING Direct and others. Those internship placements pay dividends back to the department in the form of linkages with industry, advisory members and engagement in professional development.

More recent partnerships reported in this newsletter include Chemical Engineering's Air Products graduate fellowship/internship, the Gamesa Technology Corporation wind turbine project with the College of Earth, Ocean and the Environment, and the JPMorgan Chase partnership with the Lerner College of Business and Economics.

JPMorgan Chase (from page 1)

“I think partnering with companies on research projects is a win-win situation,” Wang says. “Companies can reduce risk in exploration of new technology, gain innovative solutions to their IT challenges, and enhance their visibility on campus.”

One of Wang's accepted proposals involved using process mining techniques to analyze the performance of a complex software application used by the bank. Process mining involves analyzing data found in event logs of an information system, and can be useful in discovering how a system is functioning, showing process flow, average

process time and possible bottlenecks in processing.

Conducting research in real-world business situations creates additional benefits for both faculty and students, said Wang.

“Faculty can obtain valuable enterprise data in a secure manner for research, and have opportunities to validate their research results with real business problems. Students can also gain hands-on experience in a real world environment and improve their research skills.”

Adds Wang, “Since our collaboration, I've been able to invite several JPMorgan Chase professionals to serve as guest lecturers in my classes, giving students the opportunity

to hear from working professionals in fields relevant to their area of study, who can provide concrete validation and illustrations for the theoretical concepts they're learning in class.”

Completing the circle, said Wang, was that as a result of firsthand knowledge gained from working with researchers and professionals at JPMorgan Chase through real business issues, ideas for potential future research and investigation presented themselves almost automatically.

The best experience

Lilly Chandran is a second-year MBA student who served as one of the graduate research assistants for the process mining

Like the long-standing partnerships, these new partnerships range from graduate student internships to cutting edge research. Each pays off in opportunities for students to develop new skills, but each also returns to the faculty opportunities for shared equipment, access to the most pressing research questions of our time, and access to data to test our theories and to explore new scientific horizons. The partnerships reported in this newsletter are just a few of the many that exist across the UD campus.

Theoretical research and practical application

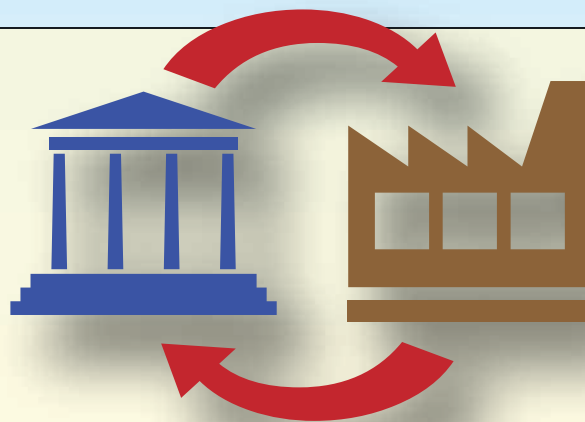
In the last *Professional Education News*, I made the point that the leading-edge scholarship of a research-intensive university is critical to assuring that professionals are prepared to lead in the industries, government and nonprofit agencies of the future. In most professions, the best professional schools are those embedded within world class research institutions.

The goals of theoretical research and the goals of business and industry are sometimes depicted as diametrically opposed. Business and industry are stereotyped as primarily profit-driven enterprises devoid of social value; academia as ivory tower divorced from reality.

In reality, linkages between the two serve to highlight their many shared goals, and provide opportunities for the practical application of research knowledge, as well as a steady stream of new data and ideas for research and investigation.

“There is nothing so practical as a good theory.”

The famously quoted dictum of pioneering social psychologist Kurt Lewin points us to the fundamental connection



between the theoretical and the practical. Universities must continue to engage in the leading-edge theoretical research that will be tested and applied in the real world, as well as train the future leaders and scientists who will be addressing the world's social and technical challenges. Industry scientists and business professionals can provide us academicians and theorists with the real-world facts, problems, and data relevant to conducting vital research, and provide critical input into how we prepare those future leaders.

The stories in this newsletter demonstrate that the engagement of external partners is critical to the development of our students, and pays back dividends to the faculty, research and curriculum.



John E. Sawyer, Ph.D. is Associate Provost for Professional Education in the Office of Graduate and Professional Education at the University of Delaware

study. “The opportunity to participate in such an important research project has been by far the best experience I have gained as a graduate student. It allowed me to apply both my past experience and skills as well as align with what I was learning in the MBA program here at UD. It was not just a technical project, but it also gave me great insight into corporate work culture, from the beginning until the very end, when we presented JPMorgan with the results and a complete set of project deliverables.”

“Participating in this research project has had a tremendous impact on my resume and career growth,” says Chandran, adding that in a recent interview, prospective

employers were primarily interested in discussing one specific item listed on her resume, and that was her experience working with JPMorgan Chase.

Also working on the project was UD graduate student in electrical and computer engineering Bonan Huang, who has since graduated and is now a senior data analyst in the financial services industry.

Future research ideas emerge

With an eye toward developing similar joint projects, other UD faculty members eager to match their skills to JPMorgan Chase's technology needs turned out for an April 2011 research expo at the company's Morgan Christiana Center in Newark.

More than 100 JPMorgan Chase professionals from various technology units also attended. “The expo is by far the largest research exchange between UD and JPMorgan Chase to date,” noted Bintong Chen, UD professor of business administration and associate dean for research in UD's Lerner College of Business and Economics, who helped facilitate the event from the University side. “I expect a boom of joint research proposals in the coming months.”

By Nora Riehl Zelluk with Karen Roberts

UD's Center for Composite Materials: making partnerships work

When Jack Gillespie first heard University of Delaware President Patrick Harker talk about knowledge-based partnerships as an essential part of the Path to Prominence™, he felt right at home.

Gillespie is director of UD's Center for Composite Materials (CCM), where researchers have been partnering with industry for more than three decades. In this position, he has had a front row seat to the benefits that are reaped when universities leverage their knowledge-based assets in partnership with industry, government and other academic institutions through innovation and entrepreneurship.

CCM was founded at UD in 1974, and just four years later the center's consortium, "Application of Composite Materials to Industrial Products," was established. Gillespie notes that this was an innovative approach at a time when most universities were conducting only government-funded research.

"Interest in composites was heating up at the time," Gillespie says, "but companies were frustrated with academic researchers' lack of understanding about what was important in the 'real' world."

The Center's current leadership—which includes associate director Suresh Advani and three assistant directors—has ensured the sustainability of this pioneering idea by continuously identifying new markets and mechanisms for collaboration. In the 33 years since the consortium was started, more than 200 companies have provided over \$20 million in gift support to the center.

"We have used these funds to establish state-of-the-art facilities as well as to support the work of our talented faculty, staff and students," says Gillespie, who is also Donald C. Phillips Professor.

"However, industry has always been far more to us than just a source of funding to augment government grants."

Diverse partnerships, productive outcomes

He points out that CCM's partnerships have followed a number of paths, including input to research direction, shared instrumentation, student internships, visiting industrial researchers, software development and use, industrial advisory board involvement, consulting, co-authorship of journal papers, technology transfer, and attendance at workshops, symposia and research reviews.

"Our sponsors have benefited from our decades of composites research and 100-plus ongoing projects," Gillespie says. "When we launched the consortium in 1978, many companies were looking to invest in the next generation of scientists and engineers, and gifts were used to fund undergraduate and graduate student research to meet this need. Industry also saw our alumni as highly qualified future employees, and our students benefited from the input and guidance of industrial leaders and researchers."

"Since then," he adds, "that relationship has been enhanced via our strong commitment to technology transfer with member companies of all sizes. Along the way, we have incubated new businesses by providing our students with an entrepreneurial environment and our industrial partners with a broad array of research expertise and facilities."

Opportunities for innovation

Although the center's industrial and government programs initially ran in parallel, over the years they have come to complement each other. CCM has been a Center of Excellence funded by the National Science Foundation and the Department of Defense for the past 25 years, a status that has spillover benefits for industrial partners.

"We have routinely forged university-industry-government partnerships for the benefit of our consortium members,"

Gillespie says. "As we carry out fundamental research for our public-sector sponsors, we become involved with their private-sector contractors, enabling us to work together to transition technology into valuable applications."

One particularly successful strategy CCM has adopted is teaming with companies—many led by alumni—to win grants through the federal government's Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs. These grants support efforts to transfer technology, accelerate commercialization and create new jobs. At any point in time, CCM has close to a dozen ongoing projects with small businesses, and Gillespie feels strongly that this is one of the most effective means to transition and commercialize technology.

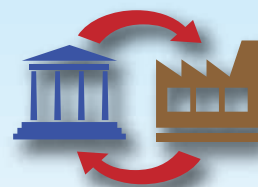
"We see industry's problems as our research opportunities," he says, "and we view an investment in the Center as an investment not only in research but also in the next generation of scientists and engineers who will contribute to the continued development of this increasingly robust, diverse and valuable technology."

"CCM started out addressing problems for the aerospace and automotive industries almost 35 years ago. Today, those applications are still important, but we've added new markets to the list—for example, national security, health care and energy, where lightweight materials are essential for success in the world market."

For more information about CCM, visit www.ccm.udel.edu or contact Gillespie at 302-831-8702 or gillespi@udel.edu.

Article by Diane Kukich

Editor's note: Officials from President Obama's Office of Science and Technology Policy are currently consulting with CCM on development of the Materials Genome Initiative for Global Competitiveness, which is aimed at providing the infrastructure and training that American innovators need to discover, develop, manufacture and deploy advanced materials in a more expeditious and economical way.



Statistics internships form win-win partnerships

The graduate internship program in the Master of Science in Statistics in the College of Agriculture and Natural Resources sends students every year into leading companies to work, learn and grow in their field. Although the internship is optional, almost all the program's students take advantage of the opportunity.

The DuPont Company is the longest-standing corporate participant in the statistics internship program and sponsors the most interns. DuPont has been with the program since 2001 and currently hosts seven interns at two locations. Other participants are Chase, ING, Barclays, Bank of America, Astra-Zeneca and Condé Nast, which has a more than eight year relationship with the program.

A year-long opportunity brings meaningful benefits

Statistics students spend a year in their internship positions. Longer than the more typical summer internship, the year-long arrangement gives students more opportunity to utilize what they are learning and more time to develop and grow in the job. Companies love it because they make the most of the resources they spend on training and get longer access to their already-trained interns.

The host companies have real work to do and real needs to fill when they hire a UD statistics intern. They often comment on how well prepared the interns are, and, in fact, they have had one year of core graduate study that prepares them for the often complex work they will face as interns.

Tom Ilvento, professor and graduate director and coordinator of the program, stresses that the program works hard to ensure that the interns' experience is meaningful. "We want to place students in a work environment where they have the ability to apply the skills they learn in their courses. The goal is for the students to provide leadership in at least one project during the internship." In turn, the students

are required to report on their activities via presentations and papers.

An opportunity for teamwork

Qian Li, currently an intern at the DuPont Experimental Station, is excited about the real experience she is gaining in industry. "I like the chance to work with and talk to professional people—both statisticians and biologists. They are very knowledgeable and very anxious to teach us interns the things we will need in our professional lives," she says.

Lu Su, interning at DuPont's Stein-Haskell Lab in Newark, echoes her fellow student's thoughts. When asked about the best aspects of the internship, she quickly replies, "Teamwork." She says she appreciates the opportunity to work with a multifaceted team of statisticians, biologists and fellow interns, each of whom brings his or her own special strengths and skills to the project. She adds, "We have the opportunity to put

our skills to use on real data and see how it all works in reality."

Credibility in the workplace

The market for individuals with graduate degrees in statistics is excellent, points out Ilvento, and all of the program's graduates find work in the field. He credits the fact that they each already have a year's work experience on their resumes with part of the success. "Work experience is crucial in the job search today," he notes, "and these students have worked with real companies on real problems."

Joe Scocas interned at DuPont Crop Protection Products as a master's student in statistics and was later hired as a statistician by the company. Thinking back on his internship experience, he comments, "Even though I had previous work experience the internship was beneficial for me since it gave me the opportunity to participate in the

Continued on next page



Photo by Kathy Atkinson

▲ Graduate statistics interns (from left) Chenyi Yang, Professor Tom Ilvento, Lu Shu, Lingqiong Guo, Yangyang Zhang, Qian Li.

Wind turbine venture provides hands-on opportunity

Graduate students DeAnna Sewell and Blaise Sheridan took the idea of “hands-on learning” to a whole new level when they earned certification to climb the University of Delaware’s wind turbine located in Lewes, and in May completed their first ascent to the top of the 256-foot-tall machine.

The trip to the top is to be the first of many for the students who are to facilitate turbine research by placing instrumentation used to gather data. During their recent ascent they took measurements for steel samples to be mounted for corrosion research and diagnosed a malfunction with a microphone being used in a bird and bat study.

The graduate students, who both have undergraduate engineering degrees, said being able to climb the turbine will benefit their future careers. Sewell, of Hobe Sound, Fla., is a master’s student in the Physical Ocean Science and Engineering Program who is developing computer models of underwater forces on offshore turbine foundations. Sheridan, a native of Tucson, Ariz., is earning his master’s degree in the Marine Policy Program and studying the environmental and social costs and benefits of wind energy. Sheridan is a College of Earth, Ocean, and Environment Magers Fellow this semester.

“This will make them extremely well qualified to work in the wind power field, as people regulating the wind industry, or as engineers in the wind industry,” said Willett Kempton, professor of marine policy, who advises both students. “Not only are they learning the theory and basic principles, but also the very practical

experience.” Kempton reviews research on the turbine as research director of the UD Center for Carbon-free Power Integration.

“I don’t think you would get this anywhere else as part of a master’s degree, and let alone have a turbine on your campus,” Sheridan reflected. “This is quite incredible.”

The University of Delaware and Gamesa Technology Corporation joined forces to install the utility-scale 2-megawatt wind turbine at UD’s Hugh R. Sharp Campus in Lewes, which became operational in June 2010. The joint venture, First State Marine Wind, is a partnership between UD-owned Blue Hen Wind and Gamesa USA.

This partnership came about because of synergies that emerged from wind research being conducted at UD’s College of Earth, Ocean, and Environment and College of Engineering, the State of Delaware’s interest in offshore wind, the City of Lewes’ interest in innovative energy opportunities, and Gamesa’s interest in improving its understanding of the effects of marine conditions such as salt spray on turbine coatings, corrosion and avian impacts.

Gamesa is the market leader in Spain and is positioned among the most important wind generator manufacturers in the world.

In addition to providing carbon-free electricity, the project enhances research in areas such as turbine corrosion, avian impacts and policy issues related to renewable energy. Information gained from the project is helping the University and Gamesa work toward establishing the first offshore wind turbine in the Americas.

By Elizabeth Boyle

Photo by Blaise Sheridan

Graduate student DeAnna Sewell atop UD’s wind turbine in Lewes.

Statistics (from page 5)

working environment of my chosen profession. Scocas continues, “My internship gave me a meaningful frame of reference to better understand the new statistical concepts I studied in class. Working in an environment like DuPont Crop Protection enables you to see how ideas work together and help us understand a more complex situation.”

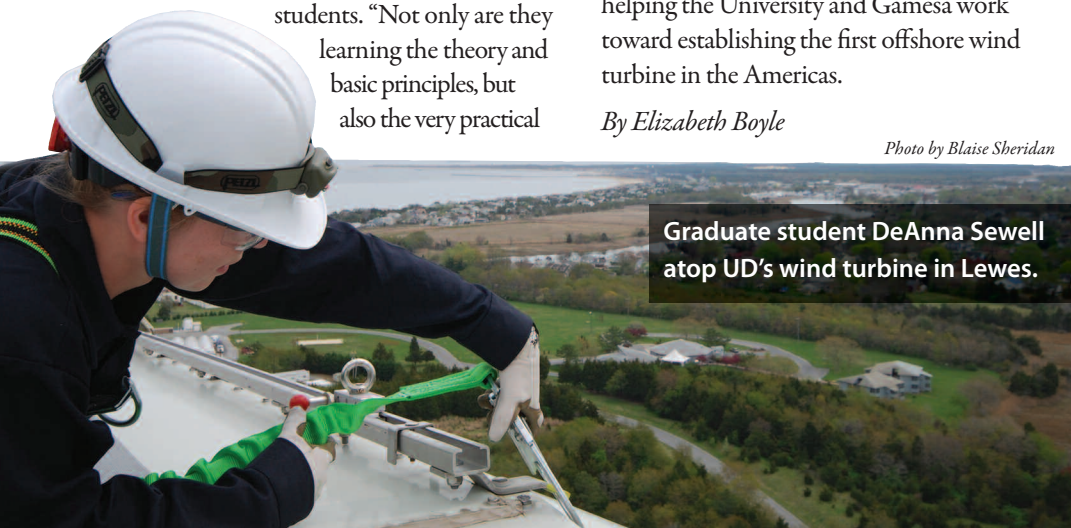
Scocas has found the work at DuPont Crop Protection Products personally rewarding. “We are dedicated to discovering products that can directly impact the world’s food supply, both in terms of availability and affordability,” he says. “DuPont statisticians and, in turn, the interns from the University of Delaware work on projects and with scientists from all over the world, providing them with a memorable experience that ultimately can help define their professional goals and further their career.”

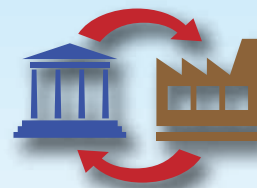
Scocas now supervises UD interns at DuPont. “I believe that my experience as a former intern allows me to understand the needs and strengths of current students. I can help them advance their learning and understanding of the contribution statistics provides to research and development, as well as increase the benefit that DuPont receives from this relationship.”

UD’s Statistics Department benefits from the internships as well. The internships help them build linkages with industry. Some of the individuals who began as internship program contacts at partner companies have become adjunct instructors in the UD statistics program, bringing their current, real-world knowledge into the classroom. Plus, the contacts help the department get a better understanding of what companies need employees to know and what the problems in today’s work world are.

“The internship program gives us a finger on the pulse of what working statisticians are currently doing in very applied settings,” says Ilvento. “It is very easy to be theoretical at the University,” he continues, “but the world is practical.”

By Tara White Kee





Chemical engineering students gain industry experience

Since 2008, the Air Products and Chemicals company has funded a graduate fellowship and internship through UD's Department of Chemical Engineering.

The company has a history of funding chemical engineering graduate students at UD through departmental grants, however the recent addition of the named Air Products Fellowship with an on-site company internship has proved a valuable and even pivotal experience for those awarded the opportunity.

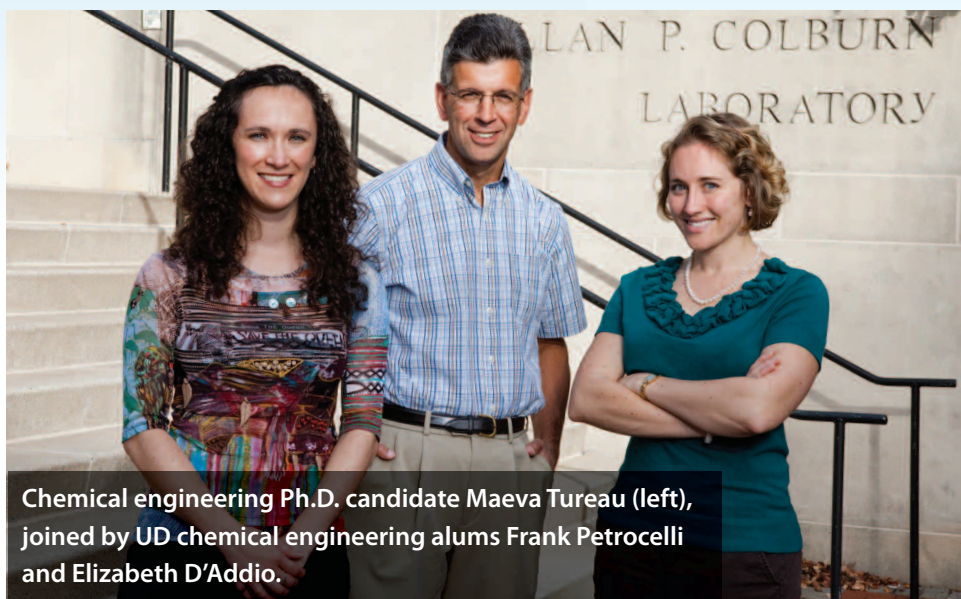
"Air Products is helping to educate the next generation of engineers who will help solve the world's demand for clean, affordable energy by providing this unique graduate fellowship coupled with an industrial research internship," says Norman Wagner, the Alvin B. and Julia O. Stiles Professor of Chemical Engineering and chairperson of the department. "We appreciate the dedicated and loyal alumni there who helped create this new graduate fellowship and continue to support it."

Frank Petrocelli is a senior research associate at Air Products involved in the company's recruitment and outreach efforts at the University of Delaware. A UD chemical engineering alumnus who earned his Ph.D. in 1985, he is uniquely situated to appreciate the confluence of the department's and his industry's aims.

Addressing technical and environmental challenges

"The research and teaching in UD's engineering departments is directed at working on solutions to the scientific and technical challenges in our environment and our society today," Petrocelli said. "At its core, those are the challenges we are ultimately working on at Air Products as well, and the internship is a great way for us to provide opportunities for graduate students who want to gain experience in an industrial research setting."

Headquartered in Allentown, Pa., Air Products and Chemicals, Inc. is the second-



Chemical engineering Ph.D. candidate Maeva Tureau (left), joined by UD chemical engineering alums Frank Petrocelli and Elizabeth D'Addio.

Photo by Ambre Alexander

largest industrial gas producer in the U.S., providing gases and chemicals for industries and applications ranging from bioenergy to photovoltaics to aerospace to health care.

Chemical engineering Ph.D. graduate Elizabeth D'Addio was the first UD fellowship recipient, with her research focusing on ammonia decomposition catalysts to generate hydrogen for fuel cells. "Completing my internship in the midst of my graduate studies gave me a greater sense for the economic, social and political impact of my own dissertation research project, and helped me understand how research objectives are formulated in a business framework."

"Because of UD's partnerships with industry," D'Addio continued, "students gain a level of appreciation for their project's multi-dimensionality that would be difficult to obtain if they were exposed only to an academic setting." After her recent UD graduation, D'Addio joined Air Products as a research scientist.

Maeva Tureau is a current Ph.D. candidate in chemical engineering and fellowship recipient whose research involves nanostructured polymeric materials with applications in sustainable energy processes, and other applications. "This internship was my first exposure to the industrial world and

I was really excited to have the opportunity to see how research was conducted elsewhere than in an academic lab setting. It was a very enriching experience that allowed me to realize the importance of research and development, and how materials can be readily processed into commercializable devices."

Gaining experience in academic and industrial settings

"For myself," added Tureau, "the internship experience definitely helped me realize what my place could potentially be in an industry environment and most importantly, shed some light on the differences between an academic vs. an industrial career." In 2012, Tureau will also begin a position with Air Products.

Thomas Kelly, also a doctoral candidate in chemical engineering, was the 2010-11 fellowship recipient. "I've completed internships before, but this was the first research experience. I enjoyed working with people from different backgrounds and abilities, and it was valuable to see how industrial research differs from academic research." Kelly is studying alternative energy sources with the goal of advancing the movement from fuels based on oil and gas toward biorenewable energy sources.

By Nora Riehl Zelluk

UD introduces new graduate program in music education

This summer, UD's Department of Music introduced a new graduate program in music education that students can complete in four summers. The first Summer Institute for Music Education ran from June 20 through July 29 this year, offering three graduate music education courses and three professional education workshops.

"The purpose of the Summer Institute is for music educators to earn a master of music, or to attend professional development workshops taught by well-known clinicians to further their pedagogical competence, supplement their careers and ultimately enhance music education for their students as a whole," according to Suzanne Burton, associate professor for music education and director of graduate studies in UD's Department of Music.

The institute is open to all music education professionals throughout the United States. Graduate fellowships are available, which cover partial tuition. In addition, Delaware Educator Scholarships are available to teachers in Delaware public elementary and secondary schools.

Summer format provides accessibility for teachers

"The Summer Institute allows teachers to maintain their jobs and earn a degree over four summers," adds Burton. "Moreover, they may take specialized workshops and seminars during the summer when there is less likelihood for conflict with their busy teaching and performance schedules."

Patrick FitzGerald is a band and orchestra teacher at two elementary schools in Prince George's County, Md. "The main reason I chose this program is that it is one of the few schools in the area to offer a summer-only music education master's degree program. Being able to take classes over summer break is very helpful, in that I can focus more on both grad school classes during the summer term and then focus back on my teaching job during the school year."

"I'm involved in music education because of the opportunity to pass down and share musical traditions, knowledge and experiences with young children, and I enrolled in classes this summer with the intention of finishing up my master's degree," commented music teacher Sarah Aherne. "For me as a Delaware teacher, the course pricing, summer schedule and high quality faculty were the deciding factors in choosing this program."

Music faculty share their expertise

The Summer Institute for Music Education includes degree specializations in choral, general or instrumental music. Courses, seminars and workshops—ranging from beginning guitar and song writing to music technology, conducting and brushing up on practical skills—are taught by highly experienced UD faculty and visiting professionals in music education.



Photo by Kathy Atkinson

▲ Associate professor Suzanne Burton with graduate students in her Materials and Methods of Research class.

Professor of music history and literature Russell Murray taught one of the graduate courses this summer. "Making music history relevant to the in-service music teacher is a challenge. But since part of my research deals with how music was taught and learned in the Renaissance, it gave me a chance to teach this material to students who, as teachers, had an immediate connection to it. It was fun to see their reaction to issues from the past that aren't that far removed from those they deal with on a daily basis."

"I had a wonderful experience with my summer classes," commented music teacher and performer Jane Cannon, who teaches elementary orchestra in the Brandywine School District. "The songwriting class was outstanding, and the guitar class was excellent as well. Since I already have a master's degree in music, I enrolled for the professional development classes, and will take more."

Adds Burton, "I love to teach teachers because they have classroom experience. Their experience in the classroom makes course material more relevant as they make connections between what they learn with what they teach. It enriches the learning experience for everyone."

"I became a teacher because I love music and wanted to share what I know with young musicians," adds FitzGerald. "I feel that I will be a better teacher for having been involved with this program and I look forward to next summer for my upcoming classes."

"The development of this program," comments music department chair Paul Head, "is an important step forward in bringing our nationally and internationally recognized faculty before a new audience that will undoubtedly raise our institutional profile throughout the entire northeast region. Our goal is to connect with outstanding teachers from Virginia to Vermont!"

By Kayla Codina and Nora Riehl Zelluk

New online course addresses human trafficking

The average consumer may think that 'slavery' does not exist in today's world. Yet according to the United Nations Office on Drugs and Crime, human trafficking is estimated to be the third largest international crime industry, generating estimated profits of \$15.5 billion in industrialized countries and at least double that worldwide.

In 2010, the California legislature passed the California Transparency in Supply Chain Act, which will require retailers and manufacturers doing business in California to publicly disclose their efforts to train employees and managers on issues of human trafficking and slavery in their companies' supply chains. As the eighth largest economy in the world, the California law will affect over 3,000 brands, retailers, vendors and suppliers with headquarters both inside and outside the U.S.

In September, the University of Delaware launched a new online course aimed at assisting companies with their training efforts in this area: Risks of Human

Trafficking and Slavery, A Short Course for Supply Chain Professionals. The course was co-developed by UD fashion and apparel studies professor and department chairperson Marsha Dickson; and Doug Cahn, a corporate responsibility and public policy executive with nearly 30 years' experience in industry and human rights organizations.

"UD has been offering its innovative graduate certificate in socially responsible and sustainable apparel business for four years, addressing prevention of forced labor, exploitation and other issues relevant to human trafficking and slavery in global supply chains," says Dickson, who is an



▲ Course creators Marsha Dickson and Doug Cahn at the September meeting of the Social Responsibility Committee of the American Apparel and Footwear Association in Washington, DC.

international authority on corporate responsibility in supply chains. "Creating this focused course for supply chain professionals was a natural extension of that work."

Continued on next page

Public horticulture program celebrates 45 years of partnership with Longwood Gardens

Nearly 150 alumni of UD's internationally known Longwood Graduate Program in Public Horticulture met at Longwood Gardens in Kennett Square, Pa. to celebrate the 45th anniversary of the program this year. At the event, the



Photo by Jaime Perez

▲ Alumni gathered on June 26 at Longwood Gardens for a reunion cosponsored by Longwood Gardens and the UD Alumni Association.

formation of the Longwood Graduate Program Alumni Association was announced.

Founded in 1967, the program represents a unique educational partnership between UD and Longwood Gardens. A hallmark of the program is its interdisciplinary nature, with students customizing their curriculum to enhance their professional and personal goals. The program also requires and encourages the integration of Fellows into Longwood staff, as well as volunteering at other gardens in the region, and participation on boards of other organizations.

"The success of the Longwood Graduate Program is anchored in the incredible partnership between UD and Longwood Gardens," comments Bob Lyons, director of UD's Longwood Graduate Program in Public Horticulture. "The synergy resulting from both institutions provides an unmatched experience for our current students, and the networking amongst the alumni has developed a strong bond among all the Longwood Graduate Program Fellows, who never hesitate to help one another."

Water science, policy program launched

New interdisciplinary graduate program addresses the future of water

Water is a valuable resource that is critical for the health, vitality and long-term sustainability of all natural ecosystems. Worldwide, however, water resources are at a risk. Unsustainable population growth, land-use changes, pollution and global climate change all threaten the distribution, quantity and quality of the water on which all life depends.

Developing solutions to meet the growing need for clean water that are socially acceptable, economically viable and environmentally sustainable is the focus of the new interdisciplinary graduate program in water science and policy at the University of Delaware, which welcomed its first students this fall.

The new program offers master of science and doctoral degrees with either a water science or a water policy concentration. The curriculum draws on courses from four UD colleges: the College of Agriculture

and Natural Resources, the College of Earth, Ocean, and Environment, the College of Engineering, and the College of Arts and Sciences.

The program is housed in the College of Agriculture and Natural Resources and is directed by Shreeram Inamdar, associate professor of watershed hydrology. It was initiated under the auspices of the Delaware Environmental Institute (DENIN).

“We have a really top-notch cadre of faculty representing many disciplines,” Inamdar said. “We may approach the problem of water from different perspectives, but we share a common goal of better understanding, protecting and managing our precious water resources. The beauty of this program is it provides students greater flexibility in shaping their curriculum and greater opportunities to collaborate with faculty from diverse disciplines and departments.”

“Graduates of this program will be able to pursue exciting career opportunities close to home or around the world,” said Inamdar. “The demand for clean, healthy water is going to be very high in the coming century, and so will the demand for our graduates’ expertise.”

By Beth Chajes



Photo by Jerry Kaufman

▲ Students in the water science and policy program will have ample opportunities to conduct field research. Here graduate and undergraduate students test water clarity in a tributary of White Clay Creek.

Human Trafficking (from page 9)

Defining and identifying ‘human trafficking’ or ‘slavery’ can be complicated. Workers are often forced by their economic circumstances to accept employment terms that are less than ideal, but when does that become ‘slavery’? That’s why recognizing the risks of human trafficking and slavery is a key objective of the course, with a focus on presenting real-world scenarios to help participants identify both the obvious and more subtle indicators of trafficking or forced labor.

“The course reflects a unique combination of academic rigor and practical business experience, and puts an end to many preconceived notions about the nature of human trafficking and slavery,” Cahn emphasizes. “Company representatives taking the online course will become aware of human trafficking and slavery and be able to identify the risks that may be present in their supply chain. The course also provides guidance to supply chain managers on how to support mitigation and prevention efforts when human trafficking and slavery is found.”

The Rev. David M. Schilling, Director of Human Rights for the Interfaith Center on Corporate Responsibility welcomes the effects of the California legislation. “The California law provides an impetus for companies to proactively learn about and address human trafficking and modern day slavery. I believe the act will speed up the process of companies going deeper down their supply chains to identify and eliminate any form of forced labor that exists,” says Schilling, who was recently featured as a contributor on the CNN Freedom Project.

The new program has been well-received in the human rights community as well as among companies whose goal is compliance with the California law and beyond. “Training of company personnel is critical to implementing effective remediation and reporting,” says Schilling. “This new program provides an important tool for corporate supply chain professionals.”

Article by Nora Riehl Zelluk

AAA Mid-Atlantic partners with UD to offer business analyst training

Business research studies all underline the importance of the business analyst in helping companies achieve increased project success, better products and improved customer satisfaction. The business analyst plays an essential role in bridging the gap between an organization's business needs and the IT requirements and solutions to address those needs.

A recent CIO.com article encourages organizations to look in their own backyards to cultivate and develop that business analyst expertise, seeking out IT and subject matter experts already in business analyst roles and other typically untapped areas of the business.

AAA Mid-Atlantic, the travel, insurance and roadside assistance giant with regional headquarters in Wilmington, did just that when it partnered with the University of Delaware's Division of Professional and Continuing Studies to offer in-house business analyst training to IT and management professionals within the organization.

Business analyst role is vital to IT processes

"Our business analysts play a crucial role in AAA's business and IT processes," says Vicki Lanzidelle-Kenney, a AAA-Mid-Atlantic IT director who helped

coordinate the organization's first business analyst training program in 2009. "Some are placed within the business lines, but the IT business analysts are assigned to every IT project executed; this is an extremely strong focus for our project methodology and execution."

"Business analysis is definitely a growing position and a growing field," says UD's Business Analyst Certificate program director Scott Fabel, a corporate training consultant with Computer Aid, Inc. (CAI) with over 16 years' training experience working with Fortune 1000 companies. "Organizations are looking to their business analysts to find creative ways to address a variety of issues: much is riding on the business analyst's skills and knowledge." Fabel led the 2010 business analyst training at AAA Mid-Atlantic, and teaches UD's open enrollment program as well.

Developing talent within the organization

"Another factor driving the effort to develop business analysts at AAA is definitely the career path advancement," says Lanzidelle-Kenney. "This certification allows professionals to develop in their career path, so we saw that the next step for them would be to be formally educated in the business analyst process."

AAA Mid-Atlantic business services manager Joe DeFrancesco and his e-business team took part in the 2010 offering of UD's business analyst programs. His group included IT professionals who were already functioning as business analysts, but he saw the training as means of standardizing the group's processes.

"AAA has a strong philosophy of promoting from within," adds DeFrancesco. "We had some talented, skilled people working in business analyst roles, who may not have had formal training in that area."

"For my team, as a growing group, initially our processes were more informal and we completed a lot of projects on the fly," comments DeFrancesco. "But as our projects grew in size and complexity, we realized there was the potential to miss critical business needs, causing issues later on."

"Back in the very first days of our department, a project for us might have been building an online form," says DeFrancesco. "But it's different when you're looking at a large scale project. For example, last year we replaced our entire membership system housing nearly 4 million members' data plus five years of legacy data. If things fall through the cracks in a project of that size, it's much more troublesome to recover."

Project success

DeFrancesco cites the redevelopment of a complex customer lead management system as an example of a start-to-finish project implemented by his group since participating in the business analyst training. The project cycle coincided approximately with the course duration, giving the team an opportunity to work through business analyst methodologies using their own real-time IT project. "When we arrived at the project testing phase we encountered minimal issues and bugs, and no major business needs or requirements uncovered beyond the requirements stage," DeFrancesco says.

The project was deemed a success, with the AAA insurance group ending up very pleased with the application, says DeFrancesco.

AAA Mid-Atlantic has a well-established track record as one of Delaware's top-rated employers, for its benefits offerings and workplace climate. For the sixth consecutive year, they've been listed in the top ten of the *News Journal's* "Top Places to Work" annual list.

UD began offering the Business Analyst Certificate in 2007, and partners with numerous other Delaware businesses and organizations to offer customized training programs.

By Nora Riehl Zelluk



*Photo courtesy of
AAA Mid-Atlantic*



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Academic guidance from ACCESS

Prospective graduate students are not always sure which academic avenue they should pursue.

The ACCESS Center (Adult Center for Continuing Education Student Services) is a perfect first stop for those who are uncertain of where to find their academic home. Professional counselors, well versed in the span of UD's graduate programs, and accustomed to serving the needs of returning adult students, can provide a sounding board for prospective students' career aspirations and help guide them in the most suitable direction.

In addition, ACCESS, which is housed at the Professional and Continuing Studies Resource Center, 850 Library Avenue, Newark, can help with career exploration through computerized career assessment tools and provide logistical support for those unfamiliar with University systems and policies.

ACCESS services are available to the public and are free (materials fees charged for some assessments).

For more information and the full range of services offered, please visit www.pcs.udel.edu/access or call 302-831-2741.



Please help us prepare for future issues

The theme of the next issue of *Professional Education News* will be interdisciplinary efforts in graduate professional education. Do you know of a graduate project or program at UD that gets extraordinary results by crossing disciplinary lines? Do you know of an outstanding interdisciplinary effort to serve our professional graduate students? Please send your ideas for feature articles, or other comments on the newsletter to John Sawyer, Associate Provost, Office of Graduate and Professional Education at sawyerj@UDel.Edu.