Spirit of the Blue Hen

Learn more about the tradition-rich spirit of the Delaware Blue Hen.

Sea Grant helps Delaware cope with coastal hazards
Algae species explored for both biofuel source and pollution control
Delaware 4-H’er receives recognition for volunteerism

PHOTOGRAPH BY JON COX

www.udel.edu/southerndelaware
For over 100 years, we’ve greeted every customer as a neighbor.

Thank you, Sussex County!

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MyDiscoverBank.com
The Blue Hen is a proud symbol of the spirit of Delaware—a symbol with a rich tradition that dates from the Revolutionary War and continues to this day. The Blue Hen is both the mascot of the University of Delaware and the state bird. See page 42.
Introducing Westminster Village
Continuing Care Retirement Community
Designed to Help Adults 55 and Over Move Ahead,
Grow and Explore New Possibilities

Nestled on 27 green and flowering acres in the heart of historic Dover, Westminster Village offers endless opportunities for purposeful senior living – in a wonderful location – at a great value. All the while offering a neighborhood feel that resonates a sense of belonging and friendship. We’re well-managed, financially stable, and fairly priced...

Being the only Continuing Care Retirement Community in beautiful Kent County, Westminster Village is within close proximity to the Dover Air Force Base, Dover Downs Hotel, Casino and Speedway, four colleges, the Schwartz Center for the Performing Arts, several museums as well as the beautiful Delaware beaches. Located in close proximity to such venues affords people who live at Westminster Village the opportunity to pursue personally fulfilling lives. We are also pleased to offer Masterpiece Living, a new approach that empowers older adults to focus on their own social, physical, intellectual and spiritual growth.

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It is our policy to admit residents without regard to race, color, national origin, age, ancestry, sex, religious creed, handicap, or disability.
To our friends in Southern Delaware:

As you can see from this issue of Southern Delaware, the Blue Hen is ready for its close-up. It’s a good thing, too, because Delaware’s beautiful bird is a better cover model than a serious contributor to the state’s poultry industry.

It’s the Blue Hen’s brothers and sisters that fuel Delaware’s agricultural economy. Poultry is, by far, the largest agricultural industry in Delaware, comprising 77 percent of market sales. Poultry production and processing activities account for more than $3.2 billion in industry output and sustain nearly 13,500 jobs. That output means a total effect of $646 million in labor income.

In a newspaper article this spring, Sen. Tom Carper, Sen. Chris Coons and Rep. John Carney wrote that the poultry industry is a pillar of Delaware’s past, present and future, and a way of life that we Delawareans must preserve. I’m proud that, every day, the University of Delaware does just that.

With our state, federal, industry and university partners, we protect poultry health and farm profitability by developing strategies for disease surveillance, diagnosis and control. (UD’s Lasher Laboratory in Georgetown is the state’s primary poultry diagnostic laboratory, providing comprehensive services not only to commercial producers but to any Delaworean with a backyard flock.) Our research improves industry efficiency and productivity. (See page 34 for a story on UD Prof. Carl Schmidt, who’s researching gene variances that might have been bred out of chickens, making them less resistant to heat stress—a significant concern given the anticipation of climate-change-induced heat waves that are hotter and longer.)

The University ensures that the poultry products we consume are safe, and develops technologies and practices that make poultry production compatible with environmental health. Partnering with interests across Delmarva—which produced more than 3.4 billion pounds of broilers in 2010—we’re on the vanguard of meeting the growing worldwide demand for safe, sustainable and affordable poultry products.

Centuries ago, the Delaware Blue Hen earned its reputation as a courageous, tenacious fighter. It’s no coincidence that, today, UD’s faculty, scientists and staff—all of us Fightin’ Blue Hens—work so hard to protect the state’s vital poultry future.

Sincerely,

Patrick T. Harker
President
At Perdue Farms, where it’s “HIP to be Fit,” University of Delaware graduate Jennifer Lee Rigby is helping employees stay healthy.

Perdue’s Health Improvement Program (HIP) is a voluntary workplace health promotion program. HIP is a free benefit to all employees and encourages them to take an active role in managing their risk factors.

Rigby, who earned a bachelor’s degree in health behavior science at UD in 2009 and a master’s degree in health promotion in 2011, is a perfect fit for the job as a Perdue HIP specialist.

“Health behavior science and health promotion will become key as our nation shifts its focus from disease treatment to disease prevention,” said Michael Peterson, chair of UD’s Department of Behavioral Health and Nutrition (BHAN). “We’re finding that our graduates are in demand and they’re successful in the workplace.”

Rigby has been with Perdue only since November 2011, but already she feels she has had an impact. In one case, she set up a “biggest loser” type competition for a married couple. Within six weeks, the husband had lost 30 pounds and the wife 20. “It was really fulfilling to see the effect that losing weight had on this couple,” Rigby said. “I enjoy making a difference in people’s lives.”

HIP is part of an overall effort at Perdue to build a healthier workforce. On-site primary clinics called wellness centers serve as a “medical home” for employees, operating during all production shifts.

“If primary care is good, primary prevention is even better,” said Roger Merrill, M.D., chief medical officer for Perdue Farms. “That’s why we created HIP, which is helping our associates improve their overall health by eliminating lifestyle risk factors and managing controllable diseases, and by creating an environment of health in the workplace.”

Every Perdue associate participating in HIP fills out a brief health risk appraisal. In addition, height, weight, blood pressure, lipids, body-fat, and hemoglobin A1c (for diabetes) are measured. All of the information is entered into a database that generates a health score and a personal health plan for each associate. Health coaches like Rigby then work with individuals to improve targeted health risks, such as smoking, obesity, high cholesterol, and diabetes.

Working in the Wellness Center at Perdue’s Georgetown, Del., site, Rigby serves some 1,300 people at a half dozen locations, including a processing plant and distribution center.

As a grad student at UD, she worked in the Employee Wellness Center, gaining valuable experience for her current job. But she admits that her new position also offers challenges she didn’t encounter working with UD employees. “It’s a completely different clientele and demographic,” she said, “with language and cultural barriers.”

Rigby loves the one-on-one contact and the health education aspects of her job, and she welcomes the opportunity to help Perdue associates, many of whom are natives of Haiti and Central America, face the challenges of working and living in the U.S.

She is also grateful to Peterson for his support throughout her education at UD. “He, as well other faculty members and staff, were great assets in helping me get a job,” she said. “He was a valuable resource every step of the way, from finding opportunities to going on interviews.”

A native Delawarean who graduated from Caesar Rodney High School in Camden-Wyoming, Rigby now lives in Lewes with her husband.

UD alumna Jennifer Lee Rigby promotes workplace wellness through Perdue’s Health Improvement Program.
Diamond state of mind

Southern Delaware scholar-athletes boost Blue Hen ball teams

by Jerry Rhodes

Hailing from the southernmost county in the Diamond State, Blue Hens Hannah Rust and D.J. Long turned in rock-solid performances on the University of Delaware’s softball and baseball diamonds during the 2012 season.
Rust, a sophomore pitcher from Greenwood, and Long, a junior second baseman from Millsboro, delighted both fans and coaches with their sparkling play at the plate, on the mound and in the field.

An exercise sciences major with a concentration in exercise physiology, Rust earned her first career victory with a 2–1 gem over Presbyterian College on Feb. 11 in Charlotte, N.C.

Scattering five hits over seven innings and fanning six, Rust’s complete game outing earned her a Colonial Athletic Association softball pitcher of the week award.

“When I enjoy most about playing on the UD softball team is the growth I’ve experienced from the higher level of competition we face,” Rust said. “I feel like every game helps me become better than I was yesterday.”

A four-year All-Peninsula Athletic Christian Conference (PACC) selection at Greenwood Mennonite School, Rust was team captain during her senior year and led the squad to two conference championship games. A versatile performer, Rust also played four years of basketball and was team captain and all conference selection as a senior with the school’s volleyball squad.

Beginning with Little League softball at age nine, the right-handed Rust had many coaches helping to polish her play on the diamond, including her dad, Bill Rust, who was softball team coach for her junior and senior years at Greenwood Mennonite.

“Some players struggle to take instruction from a parent, but I wouldn’t have wanted it any other way,” Rust said. “All of my coaches were great, including Christine Kendle, who helped me develop the skills needed to compete at the college level. She was just as devoted to me as I was to pitching.”

Rust considered attending Messiah College in Pennsylvania but found she wanted to be closer to home. With weddings for her brother and sister slated for the fall of her freshman year, she enrolled at Delaware Technical Community College’s Jack F. Owens Campus in Georgetown, posting a 12–4 record for the Roadrunners during the 2010 season.

That effort brought her to the attention of Jamie Wohlbach, UD softball head coach.

“When Coach Wohlbach asked me to join the UD team, there was really no question about what my answer would be,” Rust said. “I would be close to home and get to play the sport I love.”

Rust is the latest family member to attend UD, following her brother Billy, who graduated in 2002 with a degree in criminal justice, and her sister Sarah, who graduated in 2009 with a bachelor’s degree in elementary education. Her older brother, David, attended UD classes in Georgetown before graduating from Wesley College in Dover.

Wohlbach calls Rust a hardworking individual with a lot of passion for the game, and a player who comes to the mound with a new challenge and goal each time she pitches.

“I enjoy coaching Hannah and seeing her grow into a strong individual on and off the field,” Wohlbach said. “With her leadership, work ethic, personality and drive, there is no stopping Hannah in what she can accomplish here at UD.”
On the other diamond at UD’s David M. Nelson Athletic Complex in Newark, infielder D.J. Long plays with an intensity that may earn him consideration as one of the best second basemen in UD history.

Last season, Long hit .289, banging out 56 hits, including 17 doubles, a triple and three round-trippers, driving in 21 runs with a .433 slugging percentage.

Earning a spot as honorable mention on the All-Colonial Athletic Association preseason squad, the luster that Long has brought to the diamond at UD comes from a solid grounding in baseball fundamentals.

“I’ve been playing baseball since I was able to walk,” Long said. “I played for school and travel teams in the summer in order to get recruited by colleges.”

At Sussex Central High School, Long earned first team All-State honors during his final season playing under coach Todd Brock. “He [Brock] played minor league baseball, so it was good to learn from someone who played at the next level. He really taught me great things defensively and offensively.”

Staying in the Diamond State for college made sense because Long said he liked the UD program, the players, the coaches and the competition.

“Playing at the college level is different from high school because the competition is so much better,” Long said. “My favorite part is playing teams like Arizona State and Houston, which are big-time programs.”

Being fairly close to home means that his parents can make all the games in Newark, while folks in his hometown also have a chance to keep tabs on his career as a Blue Hen.

“During my freshman year I had a 30-game hitting streak, and whenever I would go home for a day people would ask me if my streak was still going,” Long said. “I thought this was pretty cool to have people in my hometown following me.”

Jim Sherman, the UD head coach, said he believes Long might be the most competitive player he has ever coached.

“Defensively, he plays a real good second base. He turns a good double play and has the arm of a shortstop,” Sherman said. “D.J. also is a fierce competitor. Some players describe themselves as competitors, but D.J. is the real deal.”

Sherman also said it was good to have several additional players from Southern Delaware joining Long on the UD diamond this year, including Gary Jones of Magnolia, Cameron Travalin of Millville and Dan Gatto of Dover.

Besides hoping to play professional baseball after UD, Long, who is majoring in health and physical education, said he wants to teach physical education and to coach baseball and football while helping young athletes reach the next level of play.

“Most athletes in high school think about focusing on one sport in order to get recruited in that sport,” Long said. “I played football, basketball and baseball in high school, and almost every coach I talked to said they like it when athletes play other sports because it helps them to become more well-rounded.”

Jim Sherman, the UD head coach, said he believes Long might be the most competitive player he has ever coached.
New director for UD Cooperative Extension

BY KATY O'CONNELL

Michelle Rodgers’ feet hit Delaware soil on April 2 and she hasn’t slowed down since. Rodgers is the new associate dean for Extension and outreach in the University of Delaware’s College of Agriculture and Natural Resources and director of UD Cooperative Extension.

“Dr. Rodgers brings a wealth of experience from her previous positions in Cooperative Extension in Pennsylvania and Michigan, and she understands county, regional, university, and national dimensions of the Extension network,” said Robin Morgan, dean of the College of Agriculture and Natural Resources. “She has expertly managed change within the Cooperative Extension organization, and she articulates a promising vision for Cooperative Extension in the future. We are delighted to welcome her to the mid-Atlantic region.”

“It is a privilege to come to the University of Delaware and continue the work of Dr. Jan Seitz, the dedicated faculty and educators, and the strong stakeholders that make up the University of Delaware Extension team,” said Rodgers. “I appreciate the history and traditions of University of Delaware, and I also embrace the changes that we will make together to continue to bring increasing value of extension to communities in the state, the region and the national extension system. I look forward to working together to create the future.”

As associate director for Michigan State University Extension since June 2007, Rodgers provided overall leadership for MSU Extension programs, personnel and the organizational development units within MSU Extension.

Rodgers worked to build community and campus partnerships to enhance programming. She worked with the 13 district coordinators and the four program institute directors with programmatic focus in: agriculture and ag business, Greening Michigan, health and nutrition, and children and youth. Additionally, she supported the organizational development team efforts to support internal and external operations and relationships.

Before joining MSU Extension in 2007, Rodgers spent 27 years at Pennsylvania State University. There, she most recently served as the regional director of the Capital Region Cooperative Extension and Outreach unit, helping direct the work of 124 Extension faculty and staff members in nine counties. She began her professional career at Penn State, serving as a family and consumer sciences educator in Lancaster and Berks counties.

Rodgers holds a doctoral degree in agricultural education with a minor in public administration, and a master’s degree in rural sociology both from Penn State. She holds a bachelor’s degree in home economics education from Indiana University of Pennsylvania.

Jan Seitz retires

Michelle Rodgers succeeds Jan Seitz, who had served as director of UD Cooperative Extension since May 2003 and who retired in April.

Seitz had served on numerous boards at the state, regional and national levels, including the U.S. Department of Agriculture Director’s Council, the National 4-H Council board of trustees and the National 4-H Congress board of directors.

Seitz came to UD after having served as assistant dean and director of University of Illinois Extension 4-H Youth Development. During her more than six years as director of Illinois 4-H, enrollment increased from 209,000 to more than 412,000 youth and adult volunteer leaders and the 4-H youth development staff grew from 22 to 94.

Seitz holds a bachelor’s degree in elementary education from Bowling Green State University in Ohio and a special education credential from San Francisco State University.

Michelle Rodgers, new associate dean for Extension.
When Jonathan Boone accepted a position as assistant athletic trainer at the University of Delaware last July, it was a homecoming of sorts for the 2008 UD graduate. Boone, who grew up in Milford, had spent the first year after graduation with the NFL’s New York Jets and the next two working on a master’s degree at the University of Kentucky. After three years away, he was happy to get the call to come back to UD.

Boone’s new position with the UD men’s basketball team brought him a bit more excitement than he expected—the Hens finished fifth in the Colonial Athletic Association regular season standings while posting their highest win total in more than a decade.

“Now that I’m involved in meetings with the same people [who helped me when I was a student], I see how much work goes into making this a top-notch program.”

Boone admits that life as a student at UD didn’t go as he originally planned. He wanted to play baseball and major in athletic training but was advised against trying to play an intercollegiate sport while meeting the rigorous curricular and clinical requirements of the AT program. So he chose accounting as his major and attempted to join the Blue Hens baseball team as a walk-on.

Neither one worked out so well. “I didn’t make the baseball team, and I hated accounting, so my grades weren’t up to par,” Boone said.

The good news was that without baseball, Boone had the option to change his major to his first love—athletic training. “That was what I had wanted to do ever since I took a sports medicine class with Mike Tkach at Milford High School,” he said.

After his sophomore and junior years, Boone interned with the Seattle Seahawks during the team’s preseason and training camps, experience that led to a one-year position with the Jets as a seasonal assistant athletic trainer after graduation.

After that, he was ready for grad school. “Kentucky has one of the best post-professional athletic training programs in the country,” Boone said, “but I did well there because I had been so well prepared here. I had great clinical experiences here at UD where I was exposed to a lot of injuries and various treatment strategies. Also, Dr. K [Prof. Tom Kaminski] really challenges you in the classroom. His classes are tough and he is very detailed oriented. As an undergrad, I sometimes got frustrated with the work his classes entailed, but it paid off when I got to grad school.”

“Jon is a young professional who brings a patience and commitment to the workplace that make him seem like an employee with great experience,” said John Smith, head athletic trainer in UD’s Intercollegiate Athletics Program.

“From his days at Milford High School under Mike Tkach to the experiences he had with the New York Jets, the University of Kentucky, and the Seattle Seahawks, his knowledge has benefited all of the athletes at the University of Delaware.”

Milford’s Boone works with UD basketball team

BY DIANE KUKICH

BY AMBRE ALEXANDER
Eighth graders throughout the state of Delaware all study the same themes in their science classes—energy, weather, astronomy, and ecosystems. But only the 100 eighth graders in Mike League’s class at Millsboro Middle School are lucky enough to be learning about these topics from a teacher who has done research in the frigid sea off Antarctica.

League, who earned his bachelor’s degree in biology and education from the University of Delaware in 2003, recently spent eight weeks living at Antarctica’s McMurdo Station under the National Science Foundation’s PolarTREC (Teachers and Researchers Exploring and Collaborating) Program.

During that time, he was a member of a research team investigating biological adaptation. Led by Adam Marsh, associate professor of marine biosciences in UD’s College of Earth, Ocean, and Environment, the researchers are comparing two species of marine worms to assess how a polar environment shapes responses to environmental stress. An experienced diver, League collected specimens from under the Antarctic ice and helped to capture hundreds of underwater photos and hours of underwater video footage.

PolarTREC, which provides K–12 teachers with hands-on field research experience in polar regions, enabled League to share his experiences not only with his own students in Millsboro but also with students, teachers, and other groups across the country.

The photos and videos from Antarctica show, in vivid color, the rich and abundant life under the ice in the world’s coldest waters, from brilliant pink sea stars and sea urchins to four-foot-long worms, cockroaches as big as a human hand, and sea sponges as tall as League himself.

Having made the trip during the South Pole’s early spring, from August to October, the teacher also witnessed dramatic seasonal changes, with wide swings in temperature and noticeable changes in the amount of daylight as the season progressed. He shared these phenomena with his students through time-lapse photography.

“Kids today are used to rich, multimedia experiences,” League said, “and that’s the best way to engage them...it doesn’t get any better than seeing things like an anemone eating a jellyfish or watching a Ford F350 with modified wheels traversing the snow like a tank.”

League’s journal provides details about “suiting up” and the role of each diving gear layer, the types of vehicles required to get around in extreme conditions, and what the scientists do for fun when they’re not diving or in the lab. Every entry is loaded with photos, so the reader can see the dining hall, the living accommodations, and the landscape.

League also provides valuable insights into how research is done. In one entry, for example, he describes the dive hut as an operations platform for the scientists to gain entry to the world beneath the ice. In another, he gives a short lesson on what happens with specimens back in the lab after a dive.
The students learn about biological classification and organism adaptation without knowing what hit them.

They also learn that getting to Antarctica from Delaware is no small feat—it took League "a car, four airplanes, and a lot of patience" to make the 9,525-mile trek.

The journals, videos, and photos, along with webinars and conference calls, enabled League to share information far beyond his own classroom in Delaware during his stay at McMurdo. But he emphasizes that PolarTREC is about much more than a two-month experience.

“The goal of the program is to continue the dialogue,” he said. “Adam has been incredibly generous with his time, his knowledge, and his photos—I couldn’t ask for a better mentor. The bonus is that we’re geographically very close, which makes continued collaboration even easier.”

League also points out that all of the video footage and photos taken during this trip and Marsh’s other expeditions are available for the students to explore in their lessons. “Even with me back in the classroom,” he said, “our middle-school students can continue to use these materials in the same ways the UD researchers do—for example, to count the number of organisms in a sample.”

Originally from Massachusetts, League came to UD because he was attracted by the opportunity to complete a bachelor’s degree in biology while also earning secondary education certification and doing undergraduate research, all within four years.

“All of the connections I made at UD opened a lot of doors for me, and I try to share that concept with my students by telling them that a higher education can do the same thing for them,” he said. 
For the past 35 years, the Delaware Sea Grant College Program (DESG) has supported marine and coastal research, graduate education and public outreach. A national review panel recently commended the program, located at the University of Delaware, for excelling at meeting this three-part mission.

The review team included experts in research, fisheries, outreach and education appointed by the National Oceanic and Atmospheric Administration (NOAA)’s National Sea Grant College Program. The team described DESG as “an energetic and innovative Sea Grant Program that is deeply embedded in coastal management issues throughout the state.”

The team reviewed and discussed broad issues related to DESG’s organization and program management, stakeholder engagement and collaborative activities. Its report lauded the program leadership for being “strong, proactive and participatory” and stated that, “the state of coastal management in Delaware is much improved by DESG’s research and engagement activities.”

In addition, the reviewers congratulated DESG on “the breadth and quality of its program and its forward-thinking response to new opportunities in areas such as renewable energy and sustainable coastal development.”

“During the site visit, the review team heard from many stakeholders about the importance of the connections among the University, the state and the public and how together we make a difference for Delaware and the nation,” said DESG Director Nancy Targett, who is also dean of UD’s College of Earth, Ocean, and Environment. “We have a great team, and it was a real delight to have their work and its impacts validated by a national review panel.”

The site visit took place at the Otis Smith Laboratory on UD’s Hugh R. Sharp Campus in Lewes in April 2011. The agenda included a welcome by UD Provost Tom Apple and a presentation on program management by Targett and staff. The remainder of the review was conducted in a panel format, with panels of four to six partners formed around various case studies such as water quality, wind energy and sustainable seafood.

Since UD was named the nation’s ninth Sea Grant college in 1976, the program has supported research on a broad range of topics. Current areas of focus include healthy coastal ecosystems, sustainable coastal development, safe and sustainable seafood supply, and hazard resilience in coastal communities. The program has also educated hundreds of graduate students in marine science and disseminated research-based information to the public through its Marine Advisory Service and Marine Public Education Office. The program is a partnership among NOAA, the state of Delaware and UD.

Sea Grant is a nationwide network, administered through NOAA, of 32 university-based programs that work with coastal communities. The National Sea Grant College Program’s mission includes environmental stewardship, long-term economic development and responsible use of America’s coastal, ocean and Great Lakes resources.
Delaware’s beach waters are among the highest-rated in the nation, according to the Natural Resources Defense Council (NRDC). A team of volunteer water-quality monitors is helping to keep them that way.

The University of Delaware Citizen Monitoring Program, run by Delaware Sea Grant and featuring the efforts of trained citizen scientists, helps the Delaware Department of Natural Resources and Environmental Control (DNREC) monitor the state’s waters for signs of pollution.

For more than 20 years, nearly 300 volunteers have contributed more than 25,000 service hours.

“Our citizen scientists save state resources while making key contributions to Delaware’s water quality monitoring program,” program manager Joe Farrell said.

The volunteers undergo significant training by Sea Grant staff, allowing them to contribute scientifically sound data to DNREC’s overall monitoring program.

“The citizen scientists help to fill monitoring gaps with reliable data,” said Farrell, also noting that the trained volunteers are playing critical roles in statewide environmental stewardship and watershed protection efforts.

Such monitoring is a key factor in Delaware’s beaches achieving top ratings from NRDC and tourists alike. To learn about joining the effort, visit http://citizen-monitoring.udel.edu.
Alumni Clubs

More than 8,000 University of Delaware alumni live in Southern Delaware, so the Kent and Sussex Counties Alumni Club has been hard at work planning a variety of fun events just for them.

With a successful year of events behind it, and a myriad of great events planned for 2012, the Kent and Sussex Counties Alumni Club offers alumni and their families opportunities to network, volunteer and have fun with fellow UD graduates.

Celebrating its fifth year, the Kent and Sussex Counties Alumni Club consists of dedicated volunteers led by club president Shante Hastings, a 2000 UD graduate. Hastings, former president of the UD Alumni Association, said the alumni club does more than just put on great events for alumni—it strengthens the connection between alumni and their alma mater.

Events hosted by the alumni club are open to all alumni and their families and guests, and the club itself is dues-free. Those who are interested in organizing programs, planning events, or sharing ideas to strengthen the UD alumni community in Kent and Sussex counties can contact the Office of Alumni Relations at 302-831-2341 or alumnet@udel.edu.

Did you know...
The UD Alumni Association (UDAA) alumni club dues have been FREE since 1846?

Volunteerism is an important cornerstone of all UD alumni clubs, so twice a year, the Kent and Sussex Counties Alumni Club and the Delaware Department of Natural Resources and Environmental Control join forces to pick up debris at Delaware Seashore Park, where the club has adopted a portion of land. The day concludes with refreshments at a local restaurant.
“There is a special bond between Southern Delaware Blue Hens that is strengthened through the club’s efforts, and reinforces that we are all Blue Hens forever.”

—Shante Hastings, Club President

The alumni club’s biggest event is UD ALUMNI DAY AT DEWEY BEACH, co-sponsored by the Kent and Sussex Counties Alumni Club and the New Castle County Alumni Club, during which hundreds of alumni come together to enjoy food and drinks at northbeach, followed by the popular jam session at the Bottle and Cork and more food and entertainment at the Rusty Rudder.

JOIN THE FUN
Upcoming Kent & Sussex Counties Alumni Events

- **JULY 21**: UD Alumni Day at Dewey Beach
- **AUG. 18**: Delmarva Shorebirds Baseball Game
- **SEPT. 29**: NASCAR Nationwide Series Race, Dover Hospitality Tent
- **DEC. 08**: New York City Bus Trip

Register for events at UDconnection.com

For scheduled beach cleanup dates, visit UDconnection.com.
Success in Henlopen City

BY DIANE KUKICH

Most Delawareans don’t know that for a brief period in the 1890s, Rehoboth Beach was called Henlopen City. But Chris Bisaha and Joe Baker were familiar with this bit of trivia, and they dipped into history when they named their new restaurant in 2010.

The Henlopen City Oyster House (HCOH) is now a very popular eatery, with waits for tables even in the off-season. Dozens of diners have awarded the HCOH four or five stars in online reviews, and food writer Patricia Talorico wrote that it’s a “terrific spot if you’re craving perfectly chilled, freshly shucked oysters, simply prepared fish or perhaps a decadent plate of lobster mac and cheese along with a good glass of wine or beer.”

Bisaha and Baker brought extensive experience in the restaurant business to the table when they launched the oyster house, but their success is also due to some strong behind-the-scenes support from a man working out of an office 20 miles and a world away from the beach.

Bill Pfaff, manager at the University of Delaware’s Small Business Technology and Development Center (SBTDC) in Georgetown, played a major role in helping the pair of entrepreneurs prepare a business plan and obtain financing for the project.

After just 18 months in business, the restaurant boasts $2 million in annual sales and employs some 40 people during the peak season. But at one point several years ago, things didn’t look so optimistic.

“Joe and Chris had a small financial stake in a restaurant they were running, and they really wanted to buy the owners out,” Pfaff explained. “Although we worked with them on a number of plans, in the end they were unable to complete the deal. So they decided to take the knowledge they had and start their own business.”

Pfaff believed in Bisaha and Baker before they did. “Even while they were still trying to buy out the original business, I told them that they could make it on their own if the buyout didn’t work,” he said.

Pfaff was right. It took several years, but SBTDC staff helped the two restaurateurs at every step of the way, including working with local bank Wilmington Savings Fund Society to obtain a $400,000 loan.

“They really knew what they had to do, but coming to us gave them a comfort that they could make it on their own,” Pfaff said.

Pfaff’s work involves more than writing business plans and developing financial statements—he does whatever is needed to launch a business. When Sam Calagione was preparing to establish the Dogfish Head craft brewery, he discovered that Delaware law didn’t permit breweries. Pfaff not only assisted with business planning and financial analysis but also helped Calagione work with legislators to change the law, and Dogfish Head has become a major success in the First State.

And for Pfaff, that kind of success is all he’s looking for.

“It’s not about us,” he said. “We’re just a catalyst. If the business owner doesn’t have the passion, nothing we do will make a difference. My satisfaction will come when I retire and I can say that I really had an impact on the economy of Sussex County.”

“SBTDC doesn’t profess to have all the answers, but discovering the hidden capability in the potential of existing and new businesses is part of us making a difference. It’s very exciting.”

—Bill Pfaff, manager at the University of Delaware’s SBTDC in Georgetown
Physician Paul Cowan sees them coming in waves.

“We would have between a half dozen and a dozen in a one- to two-hour period,” Cowan said. “It seemed to be very random.”

On certain days, his emergency room at Beebe Medical Center in Lewes fills up with injured beachgoers. Other days, not a single one comes in. Their ailments range in severity—a dislocated shoulder here, a ruptured spleen there. A few have simple cuts and bruises. Some of the most devastating injuries are among those who arrive with spinal damage.

“If you see a young person who has a permanent neurologic deficit from a surf injury, it makes you pay attention,” said Cowan, who serves as chief of the department of emergency medicine at Beebe.

The cause is always the same—the ocean—but not nasty rip currents or deep water. These patients are injured in what’s known as the surf zone, the area between where you first dip your toes in the water and where the waves break. It’s where the majority of people play in the ocean and where the majority of injuries occur.

Cowan wanted to know what factors seemed to make some days more dangerous than others, so he contacted Wendy Carey at the Delaware Sea Grant College Program at the University of Delaware’s Hugh R. Sharp Campus in Lewes. Along with others, Cowan and Carey are now analyzing numerous factors.

From Memorial Day to Labor Day, they document ocean temperature, wave and current characteristics, beach and weather conditions, details of incidents in which beachgoers are injured including the time of day and day of the week, and characteristics of the victims.

The researchers suspect no single factor makes the ocean more dangerous and are looking for the ingredients that combine to create a dangerous cocktail.

Cowan and Carey pool resources for their research. Cowan and his hospital’s trauma registrar, Michelle Arford-Granholm, contribute the medical data. Between its main hospital in Lewes and its walk-in center in Milville, Beebe treats any surf zone injury in the area that requires a doctor’s care.

Area beach patrols provide data including estimates of the number of people in the water each day. Local paramedics contribute injury information as well, the Delaware Department of Natural Resources and Environmental Control assists with data collection, and Doug Miller, associate professor in UD’s School of Marine Science and Policy, synthesizes the statistics.

Data collection will continue through the end of this summer. So far, a least one contributing factor has become clear. The majority of those injured live out of state and those Delawareans who are injured tend to be from non-beach communities. These visitors often do not know basic safety tips—for instance, facing waves rather than turning away from them.

“There are so many people who are not familiar with ocean conditions and possible surf zone hazards,” Carey said. “They think they can stand up against the power of the waves.”

Some swimmers only learn they cannot when they are injured.

“A three- or four-foot wave has the same potential energy as a small subcompact car,” Cowan said.

Once the team completes its data collection, it hopes to determine the greatest risk factors, develop a computer program to forecast the most dangerous days, implement a warning system for lifeguards and develop a public education plan.

Many swimmers are unaware that a three- or four-foot wave has the same potential energy as a small subcompact car.
Role model

UD graduate student in Antarctica mentored ‘little brother’ in Lewes

BY TERESA MESSMORE

Mrinalini Nikrad enjoys taking fourth-grader Pedro Powell on outings as a mentor through the Big Brothers Big Sisters program. Together they have gone to the library, the beach and Grotto Pizza.

One place she could not take him with her, however, was Antarctica.

The third-year doctoral student in the University of Delaware’s College of Earth, Ocean, and Environment departed for the icy continent in December 2011 to research microbes’ roles in carbon cycling. She kept in touch via email, and made a special Skype video call from Antarctica to the boy’s classroom at Shields Elementary School in Lewes.

“I wanted the students to be able to have a more global experience than what they might normally have,” Nikrad said. “I hoped to expose them to another place—and other continents.”

She also hoped that their interaction would get Powell and his classmates excited about science. Judging by their reactions to her video tour of the research facility Palmer Station, she succeeded. Over the course of an hour, each student stepped to the classroom computer to ask a question of Nikrad, whose image was projected on a large interactive whiteboard. Their inquiries ranged from “How big are the elephant seals on the station?” to “What would happen if the Zodiac boat popped?”

The class was well-prepared. Each student had a question printed on an index card, books about Antarctica sat propped on shelves, and lists of applicable vocabulary words hung nearby. The students also reviewed a blog Nikrad created for them about her research, with pictures of landscapes, wildlife and field equipment.

Teacher and UD alumna Lisa Bayko said the blog in particular helped the children feel connected to the Antarctic and stay focused during their conversation. When Nikrad directed her web camera at the laboratories, hallways and other areas of Palmer Station, the children recognized objects like the bright red Mustang suits that scientists wear when boating in the bitter cold.

The video exchange helped provide perspective otherwise lost in photos. When Nikrad pointed out a glacier behind the station, she explained that the formation reached 400 feet in the air.

“Oh, it’s big,” Powell responded.

Nikrad returned UD’s Hugh R. Sharp Campus in February to continue her work with Matthew Cottrell, associate research scientist, and David Kirchman, the Maxwell P. and Mildred H. Harrington Professor of Marine Biosciences. She continues to examine how bacteria take in dissolved organic carbon from the ocean’s surface and emit carbon dioxide. Her broader interest focuses on microbial ecology in cold environments.

Nikrad also traveled to Shields Elementary to visit with her “little brother” and his classmates in person. She showed them videos she took of penguins, whales, dolphins and seals. She also gave them a copy Sea Secrets, a book that explores the science of Antarctic seas and how bacteria process the nutrients at the bottom of the food chain for all the higher animals.

“The class loved the videos of Antarctic wildlife,” Nikrad said. “I was really impressed with all they had learned from my blog and the activities Ms. Bayko did with them.”

See more photos on Nikrad’s blog:
http://antarcticmicrobes.edublogs.org
If you are a frequent traveler on one of Delaware’s main highways, such as I-95 or Delaware Route 1, it is likely that you’ve driven across a bridge designed or managed by University of Delaware alumnus and Millsboro native, Jason Hastings.

Hastings earned his bachelor’s and master’s degrees in civil and environmental engineering at UD in 2000 and 2001, respectively, before joining the Delaware Department of Transportation (DelDOT) as a design engineer. He is currently a supervising engineer in the Bridge Design group, where he leads multiple engineers, design squads and consultants throughout the state.

Over the years, Hastings has managed several projects in Southern Delaware, most of them small bridge replacements with varying designs and complexities. One of his favorites is the North Frederica overpass on Delaware Route 1, situated just 15 minutes from his office in Dover.

“If I was always interested in building and constructing things,” he explained. “I was good in math and enjoyed problem-solving, which naturally lent itself to civil engineering.”

Looking back

“I was always interested in building and constructing things,” he explained. “I was good in math and enjoyed problem-solving, which naturally lent itself to civil engineering.”

Hastings’ father was an architect and he grew up watching the houses his dad designed become reality. As he approached his senior year in high school, he started looking at engineering schools. When choosing between a school in Florida and UD, Hastings opted to stay local because “UD represented the best value for my educational dollar, a quality education and a civil and environmental engineering department with a recognized reputation and curriculum.”

Still, Hastings admits he was leery of remaining so close to home. “Once I was on campus, though, I realized that Newark is far enough away to consider yourself independent, but close enough to get home in an emergency,” he said.

In college, Hastings was an Honors Program student and member of the Chi Epsilon Honor Society. His strong interest in applied problems led him to work with Michael J. Chajes, professor of civil and environmental engineering, first as an undergraduate research assistant, and then as a master’s student.

His master’s thesis, entitled “Bridge Rating using In-Service Data,” was one of the early works in this area and it paved the way for many follow-on projects, and led to the implementation of an in-service system still in use at the University.

“Jason’s research projects on bridge evaluation and strengthening involved very novel ideas,” remarked Chajes. “His energy and enthusiasm helped to bring these ideas into practice.”

Following graduation, Hastings mentored undergraduate students in the department’s senior design course.

“I knew many students from my teaching assistant days and it was neat to mentor them as they culminated their undergraduate experience,” he noted.

Hastings’ credits UD and Chajes with providing him “a firm understanding of bridges and bridge design,” skills that are key in his current job. Hastings and Chajes still remain in touch today, working together professionally from time to time.

“One memorable lesson I learned from Dr. Chajes is that the important part [of school] is developing your knowledge bank and understanding what you are learning, so that you can apply it in the real world,” he said.
Staying connected

When he’s not working, Hastings remains active in the UD Kent and Sussex Counties Alumni Club [read more on page 18], where his wife Shanté, also a civil engineer, serves as president. The Double Dels recently joined more than 20 alumni for a cooking class at Big Fish Grill in Rehoboth, Delaware.

“It’s good to remain connected,” Hastings said. “For the longest time, all alumni events were in New Castle County which is less accessible to those of us in Sussex County. It’s nice to see the University strive to maintain connections downstate.”

Though his two daughters, Lilly and Maya, are both under five years old, Hastings said he definitely considers them future Blue Hens.

“Our girls have all the gear and we talk about UD every time we get a chance. It would be a shock if they didn’t end up there,” he said.
The University of Delaware brought a day of history to Southern Delaware last October, offering presentations by faculty and visiting scholars about Delaware’s role in the American Revolution.

The Saturday Symposium was held at historic sites in Dover and featured talks, discussions and museum tours, all focused on John Dickinson, who was known as the “Penman of the Revolution” for his writings and was one of three Delaware signers of the U.S. Constitution.

The daylong event was coordinated by the University’s College of Arts and Sciences and presented in partnership with the John Dickinson Plantation and the Old State House, museums operated by the state of Delaware.

Activities began at the Dickinson Plantation, where the tour included interactions with historic character interpreters, and concluded at the Old State House. The group also stopped at the nearby Biggs Museum of American Art, where lunch was served.

In the audience at the symposium was Jessica Bright, a 2001 UD graduate with a degree in communication, who called the tours and discussions “a great introduction” to John Dickinson.

“I think the symposium is a great idea,” Bright wrote in an email to Matthew Kinservik, interim associate dean for the humanities in the College of Arts and Sciences. She said she especially appreciated an event that lets alumni stay involved with their alma mater in a different way than the more usual social gatherings or football games.

“For me, personally, it felt great to be back in an ‘educational’ setting after so long,” Bright said. “I miss learning about something that has nothing to do with the daily grind—knowledge for the sake of knowledge.”

Among the speakers at the symposium was Jonathan Russ, UD associate professor of history regularly teaches courses in U.S. and Delaware history; David Ames, professor of public policy and administration, geography and material culture studies, who directs UD’s Center for Historic Architecture and Design and teaches courses in historic preservation; and Jane Calvert, associate professor of history at the University of Kentucky and director and chief editor of the John Dickinson Writings Project.

Deb Haskell, a former member of the Delaware Heritage Commission and an active participant in the Osher Lifelong Learning Institute at the University, attended the symposium. She praised the interpreters at the Dickinson Plantation and called the Old State House “a wonderful treasure, with its handsome portraits and interesting history.”

Overall, Haskell said, “It was a happy and exciting day.”

Bethany Beach lecture series

Life can seem quiet in coastal Delaware in January. This winter, 80 adults spent time learning from some of the region’s most fascinating people through a special lecture series hosted by the University of Delaware’s Osher Lifelong Learning Institute, a program for those 50 and over.

The South Coastal Lecture Series was offered at the Delaware National Guard Training Site in Bethany Beach. Like UD’s other lifelong learning programs, the lectures featured volunteer instructors and experts teaching the subjects they love, with a philosophy of learning for the fun of it. The program was open to everyone 50 years of age or older, and their spouses of any age.

The series was so popular that it sold out. As a result of the response from participants and feedback from the community, plans are underway to expand lifelong learning programs in the Bethany Beach area this fall. Classes will be offered as part of the Lewes program’s 10-week fall semester starting in September.

“We were privileged to draw upon an impressive pool of state and local talent for an interesting and diverse line-up of lecture topics,” said Carrie Townsend, Southern Delaware outreach coordinator for the Osher Lifelong Learning Institute at the University of Delaware.

Participants selected their lecture program from four topic clusters. Special highlights included:

The Tuskegee Experiment—Delaware state legislator and retired educator Don Blakey discussed the first African
American military aviators in the U.S. Armed Forces.

**Demagoguery in Politics**
Former CNN world affairs correspondent Ralph Begleiter, director of UD’s Center for Political Communication, discussed how politicians appeal to voters’ emotions, prejudices and expectations through propaganda.

**The Women of Abstract Expressionism**
A survey of the women artists who contributed to this post-World War II artistic movement, presented by artist, critic, curator and gallery director Lee Wayne Mills, whose art is being shown locally at Gallery 50 in Rehoboth.

“We look forward to further expanding UD’s Osher Lifelong Learning programs into the Bethany Beach area,” said Jim Broomall, assistant provost for professional and continuing studies at the University of Delaware. “We had enthusiastic support for the initial program this January, and we hope that other area residents will share that enthusiasm in the fall.”

The Bethany Beach lifelong learning initiatives are programs of the Osher Lifelong Learning Institute in Lewes, which will also be holding its regular semester classes this fall. Most of these classes take place at the Lewes School on Savannah Road in Lewes.

For more information, visit www.lifelonglearning.udel.edu.
Rider’s shoe drive initiative is directly responsible for at least 25 water systems being placed in India, Costa Rica, Dominican Republic, Haiti and western Africa.
For 14-year-old Emma Rider, footwear has become an ongoing obsession. Indeed, Rider has been bestowed with the unofficial honorific of “shoe princess” since 2010, in no large part to the many boots, sandals, pumps, loafers, mules, slings and sneakers she has accumulated at her home in Bridgeville.

It’s a collection that cannot be contained by the measure of a few shoeboxes in a young lady’s closet—that containment system wouldn’t even come close to taking care of the shoes Rider has amassed. Her mission to accumulate shoes, beginning with an early goal of 4,000 pairs, and realizing 40,000 pairs and counting, requires nothing less than stacks of watermelon crates bursting at the seams that are filling up a second tractor trailer parked on the family farm.

The shoes are collected for a cause—to obtain pure drinking water for remote villages across the globe. For her efforts, Rider, a freshman at Sussex Technical High School and a seven-year member of the Dublin 4-H Club, was named Delaware’s top high school youth volunteer for 2012 by the Prudential Spirit of Community Awards, a nationwide program honoring young people for outstanding acts of volunteerism.

The honor announced in February was a capstone to a year of recognition. Rider was one of five Delaware youth volunteers recognized by Gov. Jack Markell in 2011, and the Student Leadership Team at Sussex Tech presented Rider with the Jefferson Award this January in recognition of her volunteerism.

“I learned that every 15 seconds a child dies from drinking impure water,” Rider said. “Knowing about this crisis wasn’t enough. When I found out there was a pretty simple solution, I knew I wanted to help.”
No one should suffer from waterborne illness.

To learn more about EDGE Outreach and their global water project visit www.Edgegoutreach.com or contact their offices at 502-568-6342.

Being aware of issues outside of her personal domain and deciding to take action has been a family tradition and she’s relied on her family support during a whirlwind of shoes and attention. Since winning the award, Rider’s shoe-collecting drive has been shared on Facebook, Tweeted by Markell, received thumbs up on YouTube and broadly discussed in local print and broadcast media. But Rider is humbled by the attention and quick to remind anyone that, “It’s not my shoe drive. So many people have made this possible.”

It is important for Rider to credit her family and in particular her older brothers Justin, a newly inducted second lieutenant with the U.S. Army, and Nathan, a junior at Dort College in Iowa, for setting the family example of servant leadership—a practice that has become a way of life through her family’s involvement in church, youth group outreach and membership in 4-H, which stresses community service as part learning leadership. Rider is the daughter of Lori and Dennis Ockels, and Rob and Sue Rider of Bridgeville.

Inspired by her older brother Nathan’s mission effort with EDGE Outreach and alerted to a critical need for water sanitation across the globe in remote communities, Rider learned that beginning a modest shoe drive was an ideal way to raise funds for water purification systems that EDGE installs in villages where the need is greatest. The collected shoes are transported to EDGE’s headquarters in Louisville, Ky., where they are sold to exporters. The proceeds enable EDGE to purchase water units that purify 10,000 gallons a day. To date, her initiative is directly responsible for at least 25 water systems being placed in India, Costa Rica, Dominican Republic, Haiti and western Africa.

The Riders explain that the sale of shoes render extended benefits that direct
monetary donations cannot alone provide. Resale of used shoes keep them out of landfills, are offered at nominal cost to needy families, and creates a cottage industry where local residents can become vendors, create jobs and stimulate village economies.

In Sussex County, Rider’s passion also caused her local community to become engaged in the project. Rider took her message to her local 4-H community of youth and adult volunteers.

“I attended a Bridgeville Mustang 4-H meeting where Emma was a guest speaker,” said Mary Argo, 4-H educator for Sussex County. “She told us all about her project. I got so excited! I told her to share it with all the leaders—they can help you!”

Argo also shared Rider’s project at the next Sussex County 4-H leaders’ meeting, and the idea spread to the youth led 4-H Junior Council, of which Rider was a member. The shoe stampede began.

“Clubs latched on to the idea,” Argo said. “We began to collect shoes for her at every 4-H event.” In addition to drop-off bins Rider placed around the county, 4-H clubs began their own collection drives, transported by trash bags in trunks, hatchbacks and pickup trucks.

Rider honed her communication skills by writing an article for the 4-H newsletter and selecting her cause as topic as a participant in the Sussex County 4-H Public Speaking Contest. “She wrote and told her own story,” Argo said. “These gave her important leadership skills.”

Argo said she believes that as a result of Rider’s passion and involvement, the shoes kept arriving long after she had fulfilled her initial goal to collect 4,000 shoes.

Argo submitted Rider’s nomination for the Prudential Award on behalf of 4-H. In February, she was notified that Rider was a state finalist, and shared the news with the 4-H community during a larger 4-H event.

As one of Delaware’s two honorees, Rider will receive a $1,000 award, an engraved silver medallion and an all-expense trip to Washington, D.C., where she was considered along with 101 other youth for as one of Prudential’s 10 national finalists. National honorees receive an additional award of $5,000, an engraved gold medallion, a crystal trophy for the nominating organization, and a $5,000 grant from the Prudential Foundation for a non-profit, charitable organization of their choice.

“I am proud of the role 4-H played,” Argo said, “but the Rider family is a good example of seeing a need and doing something about it. They always give the credit to others, and that is a gift.”
Alternative routes to teaching certification have been attracting a lot of attention in the past few years. As a result of Race to the Top and the U.S. Department of Education’s emphasis on generating new sources for teaching and leadership talent, there are now increased opportunities for non-education majors to join the teaching profession.

The University of Delaware has a rich history of meeting the need for qualified teachers in critical need subjects like math, science, technology and foreign languages through its Alternative Routes to Certification (ARTC) program at the Delaware Center for Teacher Education.

For 15 years, the ARTC program has identified talented professionals and recent non-education graduates to teach in its 19 public school districts and 20-plus charter schools. While teaching, they complete college courses and other requirements to gain teacher certification.

The ARTC program has been a valuable source of teachers for many districts above and below the Chesapeake and Delaware Canal. Susan Bunting, superintendent of Indian River School District and recent finalist in the National Superintendent of the Year competition, writes, “Indian River’s rural location can present a challenge, when trying to attract a highly qualified candidate for a hard-to-fill content area. The ARTC Program consistently assists the district in successfully connecting with, determining the eligibility of, and certifying nontraditional candidates who have a strong desire to teach.”

As the student population has grown in Kent and Sussex counties, so has the number of ARTC teachers in those schools. Currently, of 76 active participants in the program, 26 teach in the two counties.

To serve Southern Delaware schools more readily, the ARTC program maintains an office and coordinator at the Carter Partnership Center on the Georgetown campus of Delaware Technical and Community College. Judy Collins, long-time educator and human resource administrator for several Southern Delaware districts, helps recruit, identify, prepare and support ARTC candidates during their first years of teaching and collaborates with school leaders to make sure their talent needs get met.

Once in the program, ARTC teachers can take their required courses for certification either at the Carter Partnership Center or one of several other Kent or Sussex locations. This summer, for example, the Lake Forest School District will be hosting a graduate education course in one of the district’s administrative buildings.

Many Southern Delaware educators who have been certified through the ARTC program appreciate not only the convenience of the class locations but the support of the program coordinators and instructors.

Michael Buoni, who completed the ARTC program in 1999 and was named Cape Henlopen School District Teacher of the year in 2007, said, “For those who wish to enter the teaching world after college, the ARTC Program is critical to help a new teacher assimilate. ARTC gave me a cohort of teachers who were in the same situation that I was. The instructors were able to help us to negotiate the unfamiliar world of public education, while giving us the freedom to explore our own teaching identity.”

E. Bennett Murray, IV, assistant principal at Indian River High School, said, “The ARTC
One of the leading administrators in the state is Indian River School District Superintendent Susan Bunting, a University of Delaware alumna who was one of four finalists for the National Superintendent of the Year award presented by the American Association of School Administrators.

“Susan Bunting is a brilliant, passionate advocate for improved student achievement. She truly believes that public education reform is a matter of social justice and national health,” said Delaware Secretary of Education Lillian Lowery.

In 2011, Indian River students ranked among the state’s best in reading, math, science and social studies scores from the Delaware Comprehensive Assessment System, and all 14 of the district’s schools were rated as “superior” in the state’s accountability system.

Bunting insists there is no magic formula for her district’s success. She just makes it clear to school leaders that it is their responsibility to figure out how to enable children to learn.

As a graduate of UD’s doctoral program, she encourages her administrators to take classes, stating that the quality of the University’s education program is unparalleled.

UD’s College of Education and Human Development offers a doctoral program in school leadership in Southern Delaware, as well as a master’s degree in instruction and courses in autism, technology, library media and special education. Said Bunting, “The Ed.D. program helps to prepare individuals to be instructional leaders and is a must for anyone looking to succeed in the educational field.”

Bunting called the national award the “capstone” of her career. “Hearing from all those people, the culmination of all those years and relationships, was truly a humbling and gratifying experience.”

UD alumna Susan Bunting finalist for National Superintendent of Year

program allowed me to bring my ‘real world’ knowledge of business into the classroom and better equip our students for the ever-changing economy that we live in. If it were not for the ARTC program, I fear that I would have never found my way into the educational field.”

And Melissa White, who has recently completed the ARTC program and teaches English and language arts at Laurel High School, wrote, “Without the ARTC Program, I would not have been able to share my passion for my subject, nor inspire students with my desire to be a life-long learner. The ARTC courses, offered in Sussex County, were extremely practical and have given me instructional strategies that are research based and proven effective. This program has exposed me to a wealth of ideas and learning experiences, and provided me with the pedagogy necessary to both instruct my content and successfully manage my classroom. I could not be happier with the resources the ARTC program has afforded me, so close to my school and home. I am forever grateful for the experience.”

The Delaware Center for Teacher Education, home of the ARTC program, has recently won a grant from the U.S. Department of Education’s Transition to Teaching program to partner with three struggling school districts in Kent and Sussex counties. The grant will help staff their middle and high schools with talented and highly motivated career changers or recent college graduates in science, math, technology and English.

The Delaware Transition to Teaching Partnership (DT3P) will train and support 15 teachers each year who will commit to teach in one of the districts’ “high need” school for four years. Program coordinator Rob Grey said he sees that commitment as a way to reverse a troubling national trend of high turnover in such schools.

UD alumna Susan Bunting finalist for National Superintendent of Year

by Kathy Atkinson
Chickens under stress
UD’s Schmidt takes look back to study heat stress in poultry

BY ADAM THOMAS

To help the chickens of the future, Carl Schmidt is looking to the chickens of the past. Schmidt, associate professor of animal and food sciences and biological sciences at the University of Delaware, has been awarded a grant to study heat stress on chickens—both those that would have been around in the grocery stores of the 1950s and those that are found in supermarkets today.

Totaling $4.7 million, the five-year grant is funded through the Climate Change Initiative of the United States Department of Agriculture’s National Institute of Food and Agriculture (USDA-NIFA).

Schmidt said of the research, “The basic thought is that with climate change, it’s not so much the fact that the average temperature is going to go up a couple of degrees; it’s more the anticipation that there will be more heat waves, they will be hotter and they will last longer. And that is a problem for poultry production.”

By studying poultry from the 1950s, or “heritage” chickens, Schmidt is trying to see if any specific alleles—or individual gene variances—have been bred out of modern chickens that might make them less resistant to heat stress.

“Our hope is to identify particular alleles, variances in the population of genes, that help them survive heat stress. The thought is that if we can identify these alleles, industry could attempt to breed the alleles into their production lines,” he said.

The heritage chickens used by the University of Delaware in the study have been provided by the University of Illinois. In 1956, Illinois scientists set aside a male and female line of chickens and stopped selecting them for improved meat production. Those lines have been maintained, unselected, throughout the years, allowing researchers to study the chickens much as they would have been found in the 1950s.

One of the differences between the two types of chickens is that whereas the modern chicken goes to market in six weeks, the heritage bird would not go to market for 16 weeks. The modern chicken is also a lot larger than the heritage chicken.

Schmidt said, “Given the focus of this, we’re very curious, and we’ve really just started to ask the question: Do these birds respond differently to heat stress?”

Explaining his research, Schmidt said, “We heat stress the birds and then we have a controlled population that we don’t heat stress. We then look at response and at gene expression.”
patterns. We’re just doing our first trial but the heritage birds actually are using their drinker—the implement from which they get water—to get wet, whereas the modern chicken hasn’t used that yet.”

Two indicators that will help determine the two breeds’ levels of heat stress will be survival rate and production traits. “In many ways, since these are meat birds, breast muscle yield would be the thing really relevant to that,” Schmidt said. “The anticipation would be that by having to deal with the heat stress, perhaps diverting energy into dumping heat or whatever, they don’t have the final production yields of the control birds.”

Schmidt also said that he is personally interested to see how human selection and evolution has impacted the various traits of the chicken. “How did selection pull out alleles of genes that for example made the breast muscle like three times bigger? That’s the kind of thing that really excites me.”

Schmidt is collaborating on the research with Susan Lamont and Max Rothschild from Iowa State University and Chris Ashwell from North Carolina State University.

In addition to the professors from other universities, students from UD will also help conduct the research. Those students involved include Janet de Mena, Schmidt’s associate and a UD graduate; Liang Sun, a doctoral student in animal sciences in the College of Agriculture and Natural Resources; and Shurnevia Strickland, a master’s degree student in animal sciences.
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Access to high speed Internet has emerged as a necessity for all Americans. The standard for staying competitive, Delaware’s access is critical for continued progress in agriculture, education and overall economy.

For rural communities in Kent and Sussex counties, few on-ramps to the information super highway exist. For farmers, lack of broadband is a frustrating reality. It is a numbers game. Although Southern Delaware dominates in square miles, it has less than half of Delaware’s population. Major providers have been less than eager to invest broadband infrastructure in rural areas of southern Delaware.

The University of Delaware Institute for Public Administration (IPA) seeks to accurately survey the need for broadband and argue a strong case for its implementation. In December 2009, IPA began a partnership with the Delaware Department of Technology and Information (DTI) and Cooperative Extension, whose historic links to rural communities brought voices from the agricultural sector to the conversation. Their goal is to accurately record the extent of the First State’s connectivity.

Agriculture contributes $8 billion annually to Delaware’s economy, but it is challenged as it moves into technology-dependent systems. As organizations transition to online delivery of resources, staying compliant with regulatory paperwork mandates broadband access. With a smart phone, a farmer can exchange field scout reports, adjust irrigation application to sudden weather changes and exchange data via a cloud interface.

Unfortunately, there are significant dead zones in cell phone reception. “The map shows I am covered, but I am not,” said Nathan Hudson, a private crop consultant located in Laurel, part of an area he calls the “black hole triangle” that includes Delmar and Gumboro. “All of my scouts get a PDA, mark what they find and could remote to my mainframe. Instead we have to drive back and forth. It takes time and fuel and days of delay that could be done instantly with broadband access.”

Hudson’s carrier imposes a 450 MB data cap, making compliance with regulatory paperwork difficult. “Once I hit that cap, I am cut off,” he said. “It shuts out all my USDA-NRCS programs.”

R.C. Willin, president of Willin Farms, agreed. Willin runs a grain and poultry business in western Sussex County and broadband is vital for efficiency.

“Rapidly changing technology is what we need. Technology is the heart and soul of this business,” he said. “It’s not just for business anymore, but also for farm management as well.”

The University of Delaware’s goal is straightforward—identify the lack of connectivity that weaves in and out of farmland and small towns, and advocate broadband parity.

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My goal is to go paperless, but we have a major drawback with our IT.”

R.C. Willin, president of Willin Farms, agreed. Willin runs a grain and poultry business in western Sussex County and broadband is vital for efficiency.

“Some farmers are frustrated knowing the technology is there, but can’t be used. “We need to interface with weather stations—obtain temperature and evaporation rates and we can’t comply with the law unless we can access the data. We can’t do it with DSL dial up,” he said.

The University’s goal is straightforward—identify the lack of connectivity that weaves in and out of farmland and small towns, and advocate broadband parity. The public can help by taking the speed test, as www.delawarespeedtest.com. For those who connect through phone lines, it is an opportunity to help their modem become obsolete.
UD’s College of Earth, Ocean, and Environment (CEOE) provides free, guided tours of the Hugh R. Sharp Campus in Lewes, offering a firsthand look at science and exposure to potential careers in the field.

Tours typically begin with a 20-minute video that showcases ways that CEOE researchers and students are exploring the planet. Guides then take groups on a walking tour of the facilities, which house laboratories, research ships and a 2-megawatt wind turbine that powers campus buildings. CEOE’s multi-screen Google Earth display is often available to touring groups, demonstrating how scientists use satellites, surface monitors and underwater robots to study the ocean environment.

Exhibits show how researchers study extreme marine environments such as the frigid, ice-covered seas of the Antarctic and the super-heated hydrothermal vents found more than a mile below the sea surface. Visitors will see how scientists are working to address local issues, such as the impacts of land development on Delaware water quality and wildlife. Tours also visit a large greenhouse where scientists are investigating salt marsh plants that can withstand rising sea levels and filter land-based pollution before it enters waterways.

Group tours may be scheduled year-round for five or more people, Monday through Friday, between 10 a.m. and 3 p.m. Individuals can take tours at 10 a.m. on Fridays in June and Tuesday and Fridays in July, August and early September. For scheduling, please call 302-645-4346.
Ten years ago, Chris Petrone was studying fiddler crab larvae in Lewes as part of his graduate research at the University of Delaware. He left after earning his master’s degree to become an educator in Virginia, but he recently returned to share his passion for marine science with teachers statewide.

“There is fascinating global and local research underway at the University,” Petrone said. “I hope to bring that science to as many Delaware teachers and students as possible and encourage the next generation of marine scientists.”

“I hope to bring that science to as many Delaware teachers and students as possible and encourage the next generation of marine scientists.”

In his new role as a marine education specialist with the Delaware Sea Grant Marine Advisory Service, Petrone spends much of his time translating complex scientific topics into terms and activities that teachers can use in the classroom. For example, he developed a lesson about sea breezes that incorporates the analysis of real-time data from the online Delaware Environmental Observing System. Instead of starting with terms like differential heating and frontogenesis, he asks students to imagine spending a day swimming at the beach, coming onshore for a snack—and then experiencing the sudden temperature dip, wind shift and humidity rise that often occur in the afternoon.

“If you go after that story and really try to relate it to students and their world, it’s going to be more interesting and understandable,” he said.

Petrone focuses on bringing ocean science into elementary through high school classrooms with teacher training, lesson development and publications like a popular horseshoe crab model. He offers a summer field course that takes educators into different local habitats to conduct water quality, biological and geological sampling, while also addressing challenges that teachers may encounter when taking students into the field. He is also aligning free field trips to the University’s Hugh R. Sharp Campus in Lewes with state science standards, making the experience more valuable for teachers.

Outings into the field are part of what sparked Petrone’s own interest in marine science. While attending Washington College in Chestertown, Md., the Philadelphia native planned to study physical therapy but changed course after several hands-on field labs for an ecology class. After graduating he earned a master’s degree in marine studies from the UD College of Earth, Ocean, and Environment in 2003. He gained experience in the classroom as a high school marine science teacher before transitioning to a marine education specialist position at Virginia Sea Grant.

Part of what he enjoys about his field is that it is cross-disciplinary, incorporating math, biology, physics, chemistry and even history.

“You can use ocean science to cover so many areas,” he said.
Two in one
Algae species explored for both biofuel source and pollution control

BY TERESA MESSMORE

♦♦♦ The tiny, plant-like Heterosigma akashiwo is too small to see with the naked eye, but the microscopic algae may pack a big environmental punch. University of Delaware researchers in Lewes are studying whether the species can neutralize harmful smokestack emissions—and also serve as a source of eco-friendly biofuel.

University of Delaware researchers in Lewes are studying whether [algae] can neutralize harmful smokestack emissions—and also serve as a source of eco-friendly biofuel.

The project is an outgrowth of biochemist Kathryn Coyne’s study into the ecology of H. akashiwo, which thrives in Delaware and worldwide. Coyne and her postdoctoral fellow, Jennifer Stewart, found that the algae contain a special enzyme with the unusual ability to detoxify nitric oxide, one of multiple contaminants released through industrial chimneys as flue gas.

Based on the discovery of that enzyme, Coyne and Stewart decided to explore the possibility of recruiting the algae for pollution control. They knew that other scientists were trying to use different types of algae to reduce emissions of another flue gas component, carbon dioxide, since algae need carbon dioxide to grow.

“The problem with those attempts was that the nitric oxide also present in flue gas usually killed the algae,” said Coyne, assistant professor of marine biosciences. “It’s very harmful.”

That’s where H. akashiwo’s special enzyme may come in handy. The protein may enable the algae to convert harmful nitric oxide into innocuous nitrate, while the algae are also metabolizing carbon dioxide.

In addition to having pollution-fighting potential, H. akashiwo is a proven source of biofuel. Rising petroleum prices and finite quantities of fossil fuels are prompting demand for renewable energy sources, and algae-derived biofuel is already powering some trains, jets and other machines.

Adding nitrogen is an important but costly step in the process of making biofuel. H. akashiwo’s ability to use nitric oxide from flue gas essentially eliminates that step.

Coyne’s project is still in the early stages, having only received funding from Delaware Sea Grant in early 2012. Before investigating commercial applications, Coyne will need to examine the long-term effects of flue gas on the algae’s physiology. She will also evaluate how well H. akashiwo uses nitric oxide as a nitrogen source and how light intensities affect its production of the lipids and fatty acids used to make biofuel.

Yet the potential upsides could be great. Existing methods of cleaning factory gas before it is released into the air are labor-intensive and costly, so algae pose a natural and potentially cheaper alternative. They also contain a high proportion of the fats needed to make biofuel.

“Algal biofuels are great values,” Coyne said. “Compared to crops like corn and soybeans, the same mass of algae can produce greater quantities of biofuel.”

Kathryn Coyne, assistant professor of marine biosciences, is studying algae as a source of biofuel and pollution control.

An image of Heterosigma akashiwo, with the nucleus colored green and the chloroplasts blue.
Spirit
of the
Blue Hen
by Margo McDonough

Photograph by Ambre Alexander
Feathers courtesy of Robert Alphin
Sidebar images courtesy of University of Delaware Archives and Records Management
The broiler industry got its start in Sussex County but it was purely by chance. In 1923, when Cecile Steele of Ocean View ordered 50 new chicks for her flock of laying hens, she received 500 instead. She housed them in a piano box until a shed could be built and sold them 18 months later to the New York restaurant market. It was a profitable transaction. By 1926, the Steeles had 10,000 birds and the broiler industry was born.

The blue hen also got its start in Southern Delaware—or at least thanks to a Southern Delaware resident—and its renown also was by chance.

The blue hen is the official mascot of the University of Delaware, as well as the Delaware state bird. However, it's not an officially recognized breed of chicken, noted Bob Alphin, UD’s poultry production instructor. The term was first used for a variety of fighting gamecocks that gained fame during the Revolutionary War. Depending on which story you believe—and there are several—the 2nd Company of the 1st Delaware Regiment was led by Capt. John Caldwell of Kent County, who was an avid fan of gamecocks. The soldiers of the 2nd Company were said to have amused themselves by staging cockfights with a breed called the Kent County blue hen, which sported blue plumage. Caldwell’s men, who were renowned for their fighting prowess, came to be known as “Sons of the Blue Hens.”

Over the years, fighting blue cocks became ingrained in Delaware folklore. During the Civil War, another company of Delaware militia was dubbed “Blue Hen’s Chickens.”

When the blue hen chicken was named the Delaware bird in 1939, small flocks of blue-colored chickens were being raised in the state, but they had little, if any, genetic connection to the Revolutionary-era gamecocks. Bird aficionados kept the flocks for enjoyment; the blue hen was never raised for commercial purposes.

“The blue hen isn't a meaty bird,” said Alphin. “It weighs about 4 pounds at 6 months of age while commercial broilers are almost 4 pounds at 5 weeks. And the blue hen isn't a productive egg layer, either.”
For a long time, the only Fightin’ Blue Hens at UD were the ones on the athletic fields. But S. Hallock du Pont, who raised livestock and chickens as a hobby, created a strain of bird reminiscent—if not genetically similar—to the blue hen of Colonial days. In the 1960s, he gave the University a flock of these birds for research and teaching purposes.

The descendants of du Pont’s blue hens now live in airy quarters on UD’s Newark Farm. The blue hens aren’t keen on visitors; even when just a few people enter their coop, they rush to the other side and huddle anxiously together.

But poultry manager Karen Gouge, who is responsible for their care, has seen another side of the blue hens. She said the hens occasionally peck her when she collects their eggs, but it’s the males she has to watch out for. “It doesn’t happen often, but the roosters have come after me with their spurs,” said Gouge. Spurs, which are pointy appendages on the back of the rooster’s feet, can grow up to 3 inches long.

“Our blue hens have English gamecock in their heritage, and that’s what makes them feisty,” said Alphin.

As for the $64,000 question—are the blue hens really blue? If you’re talking like the color of the sky—no. But you can see an iridescent hue of blue in their steel-gray plumage.

Alphin spends the bulk of his workdays managing a poultry research facility and teaching students, but sometimes, as overseer of the blue hens, he gets called upon for more unusual assignments. Like helping Gouge make sure the flock is bathed and groomed for an impromptu TV appearance. Or primped for a photo shoot for Delaware Today magazine. He also fields requests from bird hobbyists who will be traveling through the area and hope to meet the blue hens.

But the poultry specialist doesn’t mind being something of a press agent and personal manager for a famous flock of hens. “My teenage son, David, thinks I have a very cool job,” said Alphin. “After all, he can brag that I help take care of the real Fightin’ Blue Hens.”

When the Blue Hen football team scores a touchdown during home games, the calls of recorded blue hens fill the stadium. But don’t expect a real blue hen to ever fill in for the YoUDee mascot and start cavorting with football fans.

The actual blue hen would cower at the sight of 22,000 people packed inside Delaware Stadium. “Blue hens, like most chickens, don’t enjoy noise and crowds,” said Alphin. “They would get stressed out at a football game.”
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Butterfish may sound delicious, but local fishermen would rather keep them out of their nets. The small, silvery fish are protected by fishing limits yet frequently surface in tows when fishermen are trawling for squid. Too much of this unintended butterfish “bycatch” can get a fishery shut down by regulators for the year—before the squid allocation is caught.

The University of Delaware’s Matthew Oliver, assistant professor of oceanography in the College of Earth, Ocean, and Environment (CEOE), is helping to address the problem. Combining satellite data with radar information on ocean currents, he and others are developing a model to predict where butterfish populations are most likely to be on any given day. Their habitat model could assist fishermen in avoiding butterfish while fishing for squid.

The study is a collaborative effort with Greg DiDomenico of the Garden State Seafood Association, John Manderson of the National Marine Fisheries Service (NMFS), and Josh Kohut and Laura Palamara of Rutgers University. The researchers tested the accuracy of their predictions with an eight-day field experiment, sending daily reports to a fishing vessel roughly 200 miles offshore.

“We were taking real-time observations from satellites and high-frequency radar and sending it to fishermen to guide their fishing efforts,” Oliver said. “I think it may have been the first time anything has been done like that.”

Each afternoon Oliver provided NASA satellite data collected by CEOE’s satellite receiving station to colleagues at Rutgers, including ocean temperature and color indicating where water conditions change quickly. They combined it with updates on ocean currents and understanding of butterfish behavior; for example, the fish are more likely to be at the ocean’s bottom during the daytime.

Then they used the data to create color overlays on Google Earth maps that looked similar to weather maps, except the color blue indicated poor zones for butterfish to live and orange marked areas with prime butterfish conditions.

The scientists then beamed their daily butterfish forecast map by satellite phone to fisherman Chris Roebuck and NMFS’s Manderson aboard a squid boat near the edge of the continental shelf. The information was received through an underwater robot glider, a remote-controlled device that looks like a missile and normally darts through the ocean to sample water conditions.

The team strapped the glider to the top of the boat to both transmit information and track the boat’s location every hour, which was preferable to the ship’s satellite phone since it already had a communication protocol in place.

The fishermen used the map to sample areas where scientists predicted butterfish would and would not be to check if they were right. They sent catch data back to the team onshore through the glider.

Results showed that sometimes the model was slightly off, while the fisherman’s guesses were correct. Other times, the model suggested successful spots the fishermen would not have otherwise tried. Overall, the model pointed the boat in the right direction to find butterfish based on features of the ocean’s surface.

“It went really, really well,” Oliver said. “It was a successful experiment in all respects.”

Now the researchers are analyzing where and why the model was incorrect in some cases and how to improve predictions. The model may help define what preferred butterfish habitat is, Oliver said, and possibly shed light on why butterfish and squid seem to prefer similar habitats.

The hope is to give fishermen another tool beyond sonar and past experience in deciding where to trawl. The fishermen’s initial feedback on the habitat model was that they could use it in a way similar to a weather forecast, providing general guidance on when and where to drop their nets.

The collaboration between the fishing industry, academia and government demonstrates how real-time ocean observing can be useful and important for fisheries, Oliver said.
In these tough economic times, people are looking for creative ways to make money. For University of Delaware student Andrew Bell, he had to look no further than his own backyard in Seaford.

Bell, a sophomore in the College of Agriculture and Natural Resources (CANR), started a backyard farm during his junior year of high school, and said that he decided to undertake the project after making a list of ways to make money and deciding that starting a farm was the “option I hated least.”

Bell has been farming there ever since, and though he now enjoys the long hours and hard work, his love of farming grew out of an initial loathing. “I actually never wanted to be a farmer, but after a rough summer I grew to love it.”

Now Bell finds the work “surprisingly soothing, especially in the early spring when everything looks so new. The calmness you get from spending time out there, and the happy exhaustion you feel afterward, is something people are losing as more jobs move indoors.”

Being completely financially independent, Bell works on his quarter-acre farm, which will expand to half an acre this summer, to help pay for college.

On the farm he grows tomatoes, yellow squash, cucumbers, zucchini, string beans and bell peppers but hopes to expand to more obscure crops, like shallots, in the future. “I believe there is an untapped market for items like that, and it would make the upscale restaurants I sell to very happy,” he said.

To make money from his crops, Bell wholesales to restaurants and to markets in the beach towns in Southern Delaware. “I’ve always had a lot of empathy for struggling people in other countries, particularly Middle Eastern nations,” said Bell. “One important way to help them is to increase their nutritional security, since you can’t work toward goals like land reform until you are confident in your food supply. So while there are several careers that would allow me to help Middle Easterners, the farm sort of pushed me towards a career focused on improving their nutritional security.”

As for those interested in starting their own farm, Bell stressed that it is important to “do your research. Read books to get information about farming techniques and speak to Cooperative Extension agents to get information about marketing strategies, and condense this information into a very comprehensive strategy. Plan absolutely everything, because recovering from even minor mistakes is very difficult given the strict deadlines you need to make during the growing season.”

With the spring semester behind him, Bell has now returned to the backyard farm—working outdoors in the calm early mornings, everything looking brand new, sweating in the soil and relishing his exhaustion.
The long road home
Theology to pathology

As he sat with the dean of students during his second year at DeSales University in Pennsylvania, Bob Mulrooney knew that he had to pick a major, but there was just one problem: he didn’t know which one to choose. Mulrooney explained that after the dean read him the list of majors, “I sat there for a second and I looked at him and said ‘Father, I think I want to be a French major.’ And he looked at me, just straight faced, and said, ‘Mr. Mulrooney, I don’t think that’s a good idea.’”

Mulrooney eventually decided to major in biology, and while he didn’t know it at the time, that decision started him on a path that led to 38 years of service at the University of Delaware. Working for UD Cooperative Extension since 1974—with much of that time spent assisting farmers in Southern Delaware—Mulrooney will retire this spring. His responsibilities during his time at UD have included leading the Plant Diagnostic Clinic and Nematode Testing Service and conducting applied research, as well as presenting on current pest issues and conducting the Master Gardener training courses in plant pathology. He also instructed for the UD ornamental horticulture short course program and at Longwood Gardens.

Mulrooney regards himself as extremely blessed to have landed the UD Cooperative Extension job. His path was anything but conventional, what he calls a “long, fortuitous route to get into agriculture.”

It wasn’t until his junior year in high school at Salesianum School in Wilmington that Mulrooney took a science class. “Honestly, I was on the language track at Salesianum,” he explained. “I never had science until I was a junior, and I only had chemistry and physics, I never had biology in high school.”

It wasn’t just the language track that took Mulrooney on a detour to his eventual career as a plant pathologist. He entered the seminary to become a Catholic priest following high school, and during that time he began his undergraduate studies at DeSales.

Ultimately, Mulrooney decided that the priesthood wasn’t for him, and with two years left to finish on his degree, he decided to attend UD. And it was at UD where his love of plant pathology truly blossomed.

During his senior year as an undergrad, Mulrooney was looking for one last elective to take, and a student on his floor of the Harrington residence hall suggested plant pathology. Mulrooney recalls, “He said, ‘You know, Bob, you’re a biology major, you’ve had fungi, bacteria, viruses and all that, and plant pathology really applies all that.’ So I went ahead and enrolled in the course and that’s when my love affair of plant pathology took place.”
After receiving his undergraduate degree in biology in 1972, Mulrooney stayed on at UD and earned his master’s degree in plant pathology. It was while attending UD that Mulrooney met his wife, Tamar.

The two married between his first and second year of graduate school and Mulrooney explained that when Tamar got promoted to residence hall director of Rodney C and D, they were able to spend their first year and a half as a married couple in the most romantic of settings: a college dormitory.

After completing his graduate studies, Mulrooney accepted the position of assistant county agricultural agent in Kent County.

Mulrooney said of getting the job, “I’ve always had such fond memories because they kind of took a chance on a city kid for this job.” He also explained that he loved working with people and seeing all the amazing mechanical skills the farmers in Southern Delaware possessed.

Of transitioning to Southern Delaware after growing up in Wilmington, Mulrooney said, “I loved it, absolutely loved it. It was great.”

He also credits his peers for helping him to evolve into his role. “As a young county agent, we had a good support staff in the specialists that were here at the time, just like we have now, and I had all these specialists to call upon that were really helpful and gradually, like any job, you grow into it.”

In the fall of 1977, Robert Carroll, who had previously served as the Extension plant pathologist, moved to a faculty position in the Department of Plant and Soil Sciences, and Mulrooney stepped into the role of the Extension plant pathologist.

Mulrooney explained that he has enjoyed every minute of his job, mainly, the fact that being the only plant pathologist in a small state with lots of agricultural diversity made it so no two days were ever the same.

One lesson Mulrooney learned early on was to be careful about how he reacted when working with a farmer whose crops had been decimated by disease. “It took me a while to develop a bedside manner. When I’d be out with a grower in the field, I used to get excited.

I used to get into people’s fields and I’d see these great plant diseases and I had to curb my enthusiasm because this poor guy could be losing a lot of money, and I’m saying, ‘Wow, look at these symptoms.’”

He has enjoyed working with all of his colleagues, saying, “We just have a great group of people to work with here in Townsend Hall. And I knew that when I was a student here. There’s a friendliness, there’s a camaraderie there’s a kind of sense of family that’s always characterized the work that goes on here.”

Now that he is retiring, Mulrooney said that he looks forward to spending time with his eight grandchildren and traveling, but that he will definitely miss working as an extension plant pathologist.

“I can really say that I can’t think of a day when I woke up and said, ‘Gee I hate to go to work today.’ Overall, my gosh, it’s been just a big plus.”

Bob Mulrooney, who spent much of his time assisting farmers in Southern Delaware, is retiring after 38 years of service at UD.
Osher honors
Osher Lifelong Learning Institute receives Governor’s Outstanding Volunteer Award

Delaware’s Osher Lifelong Learning Institute, which offers programs in Southern Delaware, was recognized with a 2011 Governor’s Outstanding Volunteer Awards in the category of group education.

Gov. Jack Markell’s introductory letter stated, “These awards offer us the opportunity to recognize the countless hours served by volunteers on behalf of our fellow Delawareans. The recipients of the 2011 Governor’s Outstanding Volunteer Awards represent the best in community service and clearly demonstrate the long-lasting power of giving.”

Since 1980, lifelong learning programs at UD have provided people age 50 and over opportunities for intellectual development, cultural stimulation and personal growth. Organized as educational cooperatives in which members volunteer as instructors and on committees that coordinate the organizations, the purpose is to offer courses for the joy and stimulation of learning without the pressure of tests or grades. Statewide, more than 350 courses are taught by volunteers to more than 3,100 members.

“The University of Delaware is proud that our Osher lifelong learning programs have received the 2011 Governor’s Outstanding Volunteer Award,” said Jim Broomall, assistant provost for UD’s Division of Professional and Continuing Studies, which administers the Delaware Osher programs. “It recognizes the thousands of hours our volunteers contribute to improving the intellectual and cultural quality of life in Delaware.”

The Osher Lifelong Learning Institute at UD was originally known as the Academy of Lifelong Learning; the name was recently changed as a result of affiliation with the national network of Osher Lifelong Learning Institutes. Programs are located in Lewes, Dover and Wilmington. Additional activities are planned for the Bethany Beach area this fall.

The Dover program is located in the Modern Maturity Center. It is the newest location and is in its second year of operation.

The Lewes program is located at the Lewes School on Savannah Road, and was founded in 1989.

Representatives from the Osher Lifelong Learning Institute at the University of Delaware receive a Governor’s Outstanding Volunteer Award. Standing below Gov. Jack Markell (center back, in gray suit with red tie) are Ruth Flexman, Osher statewide program coordinator, and Jim Broomall, assistant provost for professional and continuing studies.

“The value of the lifelong learning program is seen both in and out of the classroom. An instructor said, “We are committed to bring the fullness of our life experiences to share with others. I feel fulfilled, knowing that at age 84, I can still contribute, that I can play and grow, and that I can continue to experience delight. I find new opportunities to serve in ways that I never dreamed possible.”

A member student said, “It’s the excitement of regaining curiosity about all things great and small, a new challenge, a celebration with many ‘wow’ moments, great camaraderie, knowledgeable instructors and shared laughter and memories.”

More information about the Osher Lifelong Learning Institute at the University of Delaware can be found online at the program’s website, www.lifelonglearning.udel.edu. Individual programs can be reached at 302-734-1200, ext. 168 (Dover) or 302-645-4111 (Lewes).
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Delaware Sea Grant helping the state become resilient to coastal hazards

BY TERESA MESSMORE

Living along the coast is full of simple pleasures, from savoring fresh seafood to enjoying spectacular scenery. Yet severe storms, coastal flooding and other hazards can also be part of life near the beach. The Delaware Sea Grant College Program (DESG) is helping coastal communities better understand potential risks and prepare for the protection of property and ecosystems.

Remembering the 1962 Storm

In March 1962, a powerful, slow-moving northeaster pummeled the mid-Atlantic coast, bringing huge waves, extreme winds and record-setting tides over the course of three days. Often called “Delaware’s Coastal Storm of the Century,” the catastrophe destroyed homes, flooded communities and killed seven people.

In commemoration of the storm’s 50th anniversary, DESG partnered with the Delaware Department of Natural Resources and Environmental Control and the city of Rehoboth Beach to hold free public events focusing on coastal vulnerability and sustainability at the Rehoboth Beach Convention Center. Nationally known experts gave presentations about meteorological predictions, flooding and inundation scenarios, coastal development, beach management strategies and flood-resistant development practices.

Exhibits featured 1960s photographs and memorabilia from coastal communities and the film The ’62 Storm—Delaware’s Shared Response was screened. The Delaware Emergency Management Agency and others provided information on hazard mitigation and preparedness topics and resources.

“We wanted to both commemorate the past and prepare for the future,” DESG Coastal Processes Specialist Wendy Carey said. “The ’62 Storm is the most damaging coastal storm on record in Delaware, but if a storm of that magnitude were to hit us tomorrow, how would we fare? All levels of government and society need to work together to reduce risks and create more resilient Delaware communities.”

Helping Lewes integrate hazard and climate change planning efforts

Delaware Sea Grant has assisted the city of Lewes through a process of integrating hazard mitigation planning with climate change adaptation. Building upon Lewes’ established hazard mitigation plan, the project incorporates a long-term view of potential future impacts of climate change to the community.

The hazard mitigation and climate adaptation pilot project assessed local vulnerabilities related to natural hazards and potential climate change impacts such as temperature increases and sea-level rise. A series of workshops were convened to obtain input from citizens and city officials on prioritizing issues of concern, identifying adaptation options and developing implementation strategies.

The City of Lewes Hazard Mitigation and Climate Adaptation Action Plan was unanimously adopted by the Lewes City Council in 2011. The final report includes action items that will ultimately prepare the city for future flood risk and improve community resiliency to natural hazards and climate change.

About the Delaware Sea Grant

The University of Delaware was designated as the nation’s ninth Sea Grant College in 1976 to promote the wise use, conservation and management of marine and coastal resources through high-quality research, education and outreach activities that benefit the public and the environment. UD’s College of Earth, Ocean, and Environment administers the program, which conducts research in priority areas ranging from seafood safety to coastal hazards.
Time-lapse video illustrates coastal flooding

In October 2011, Delaware Sea Grant’s Carey and Chris Petrone recorded images for three days during a perigean tide event at Savannah Road near downtown Lewes. Occurring a few times per year, the perigean tide causes higher high tides and lower low tides. The resulting time-lapse video provided a dramatic illustration of the severity of coastal flooding under certain astronomical and meteorological conditions.

On the first day, relatively low atmospheric pressure and mild winds had a negligible effect on the astronomical tides and the high tide barely met the road.

On day two, north and northeast winds began to build as a low-pressure system moved up the southeast coast of the United States. Sustained winds were between 20–30 miles per hours, causing water to “pile up” inside Delaware Bay and its tributaries and raise the observed tide level roughly one foot higher than the predicted level.

By the third day, a northeaster slowly tracked along the Delaware coast. Atmospheric pressure dropped, the north/northeast winds shifted to east/northeast and continued with the same intensity as the day before. With winds blowing from the northeast for more than 24 hours, the observed high tide was more than two feet higher than the predicted tide level, flooding Savannah Road.

The time-lapse video was developed to help coastal residents and property owners understand the potential severe flooding that could occur during extreme tide and storm events. The video also helped raise awareness about flood prone spots in coastal communities and increase awareness about the importance of following storm evacuation orders. It was shared on the city of Lewes website and with local media.
“What we want to do is clear the slate and create something new,” Edward Emmett explained in the fall of 2010. As director of Dover’s Positive Outcomes Charter School, he was speaking to Tracy Hudson, coordinator and literacy specialist of UD’s Southern Delaware Professional Development Center (SDPDC), and his request was a bold one. Could her organization work with the school to create a brand new curriculum—one that would be fully aligned with state standards, support teachers and students, and integrate new learning-focused methodology?

“Well,” Hudson replied. “I don’t know if it fits into our 28-day contract.” In fact, it didn’t. Now, as part of a three-year contract, the SDPDC is not just creating a new curriculum for the school, it’s developing a system that has never been done before.

The SDPDC provides nine districts in Kent and Sussex counties and one charter school in Dover with professional development in teaching-specific content areas. This covers everything from coaching teachers on writing lesson plans to developing school-administered tests that assess student performance.

In every instance, SDPDC specialists begin with baseline walkthroughs in the school to gain a firsthand account of strengths and weaknesses, and continue to engage with teachers and principals on what areas they would like to enhance.

“What we’re doing is targeted professional development,” said Timothy Young, a secondary social studies teaching specialist for SDPDC.

And in no school is this more clearly evidenced than Positive Outcomes, where 70 percent of the students are eligible to receive special education services and more than 90 percent have failed in traditional school environments. Emmett’s request to SDPDC to “develop something with us, for us” stemmed from the school’s own inventory of its strengths and weaknesses.

“We felt like we were doing a lot of things right, but we really needed to beef up our curriculum,” said Principal Steven Norman. Throughout Delaware, 2012–13 marks a crucial time for schools, as the state transitions from the Delaware Prioritized Curriculum to the Common Core State Standards, a national initiative to bring diverse state curricula into alignment.

For the SDPDC, this curricular move statewide made the task at Positive Outcomes even greater. SDPDC has therefore spent this past year training teachers, and already the Camden charter school has seen some tremendous growth. During winter math and reading DCAS—the Delaware Comprehensive Assessment System, an adaptive state test to measure student achievement—the Positive Outcomes Charter School doubled the growth that the state has been averaging.

“We’re a success story in the making,” said Norman. “We’re not done.”

Nor is the SDPDC, which views the 2012–13 school year as a “monitoring year” to ensure the curricular changes and new teaching strategies are in full effect.

Emmett, the school’s director, compares Hudson and the four other teaching specialists at SDPDC to “superheroes.” “Nobody in the state could do the work they’ve been doing,” he said. “The biggest thing they’ve brought is not just the new curriculum, but the improvements to instructional practice.”

Indeed, each of the five teaching specialists in the SDPDC is heavily involved in direct onsite teacher coaching and mentorship.

“You can do all the professional development you want,” said Hudson, “but if it’s not translated into teacher practice, which impacts student learning, then nothing is going to change.”

What makes the SDPDC so unique is that its specialists—all of whom are former teachers, most with 20-plus years experience teaching in Southern Delaware schools—are contracted for extended periods of time.

“We know the state, we know the teachers, and we stay in the schools,” Hudson said. “Sometimes when you have teacher training, the trainers come and leave. We don’t. We’re here training our teachers and staying to support them.”

Steve Norman, principal of the Positive Outcomes Charter School, works with Tracy Hudson of UD’s Southern Delaware Professional Development Center.
Associate in Arts Program promotes academic success

With satellite campuses in Dover and Georgetown, the University of Delaware's Associate in Arts Program (AAP) offers students in Southern Delaware access to an outstanding UD education close to home.

AAP offers small class sizes and personal attention from UD faculty, helping students achieve success through the associate in arts degree and the opportunity to transition to the University’s main campus in Newark.

That success is exemplified by two UD students at the Dover campus who have been awarded full scholarships to the University by the Air Force Reserve Officer Training Corps.

Cadet Fourth Class Robert Morgan and Cadet Fourth Class Danica Nahil received the good news concerning the scholarships earlier this year from their instructor, Lt. Col. Douglas Clark.

Out of the 200 scholarships granted nationwide, the detachment to which Morgan and Nahil belong—UD Detachment 128—received seven.

The scholarships were granted to freshmen in the Air Force ROTC program and relate to technical majors.

Morgan is majoring in mechanical engineering, and Nahil will be majoring in nursing when she transitions to the UD campus in Newark.

“We are pleased by the success of Cadets Morgan and Nahil, and grateful to the support of the Air Force ROTC,” said Jack Bartley, AAP faculty director. “AAP is an outstanding program that provides a strong foundation for academic success, and we encourage students in Southern Delaware to learn more about the program and about the University of Delaware.”

About UD’s Associate in Arts Program

UD’s Associate in Arts Program is designed to encourage successful completion of the associate in arts degree at satellite campuses in Georgetown, Dover and Wilmington, and to allow a smooth transition to baccalaureate studies on the Newark campus.

Courses in the program are UD courses taught by UD faculty and are the same courses taught on the Newark campus. Courses taken for associate in arts degree requirements count toward completion of a UD bachelor’s degree.

Up to 29 credits of courses transferred from other accredited institutions also may be counted toward associate degree completion, if the courses meet degree requirements and if they have been completed with a grade of “C” or higher.

The curriculum for the associate in arts degree, grounded in the traditional liberal arts, prepares students to enter a broad variety of bachelor’s degree majors, and provides students with skills that employers want most, such as proficiency in decision-making and problem-solving, oral and written communication skills, quantitative reasoning ability, the ability to work independently or as part of a team, and the capacity to understand and use different modes of reasoning.

“We encourage students in Southern Delaware to learn more about [the AAP] and about the University of Delaware.”

For additional information about the AAP, please visit www.udel.edu/associateinarts.
DASL assists schools

When principals and superintendents in Southern Delaware are asked who school leaders in the state trust for high quality professional development and technical assistance related to their roles and responsibilities for leading school improvement, they will most likely respond quickly with the answer DASL.

DASL is the Delaware Academy for School Leadership, a professional development, research and policy center in the College of Education and Human Development at the University of Delaware. Together with state, university and community partners, DASL works to improve public education by developing its leaders and providing a range of research-based training programs, policy initiatives and consulting services.

DASL is led by director Jackie Wilson, nationally recognized for her vision and leadership in developing the Delaware Department of Education’s Cohesive Leadership System. Supported by a diverse staff of retired school administrators and outstanding undergraduate and graduate students, DASL has been able to provide high quality professional development and technical assistance to school districts and charter schools for a decade. These former administrators serve a dual role, teaching the master’s in school leadership program, the doctoral program in administration and policy, and the Alternative Routes to Certification program for teachers, as well as providing training in schools.

DASL provides support to all districts and charter schools in Southern Delaware. The Milford School District invested in a program to support novice principals, aspiring school leaders and instructional coaches. The academy also works with the Woodbridge School District to train the middle school principal and Laurel School District to implement professional learning communities.

Since the Delaware Department of Education received $119 million in Race to the Top federal funding to reform public education, DASL has been able to expand services to schools in Southern Delaware.

The Delaware Academy for School Leadership has two locations. The Sussex County office is located in the Carter Partnership Building on the Owens Campus of Delaware Technical and Community College in Georgetown. The New Castle County office is located in Pearson Hall on the main campus of the University of Delaware in Newark.

Wilson said, “Educators in Southern Delaware care deeply about the students they serve and the communities where they live and work. They want access to high quality professional growth opportunities and depend on the University of Delaware and DASL to provide these services. We are delighted to support educators in Southern Delaware. There are great things happening in these schools and we love feeling as if we are part of the school and district team.”

Pictured are (from left) Jackie Wilson, DASL director; Sharon Brittingham, DASL Development Coach Project coordinator; and Alison Dubinski, DASL associate.
BEEBE MEDICAL CENTER DELIVERS FOR DELAWARE

Beebe Medical Center is a leader in providing comprehensive healthcare services—whether it’s inpatient care and surgical procedures or outpatient services at locations just around the corner from where you live.

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- Tunnell Cancer Center, known across the region as the choice to make for cancer treatment
- Gastrointestinal specialty services and procedures including bariatric surgery

To read about the accolades for our medical specialties, please visit Beebe Medical Center’s website at www.beebemed.org.

BEEBE DELIVERS CONVENIENCE

Beebe Health Services are never far away. Outpatient services offer flexible scheduling in multiple locations throughout Sussex County. Services are located on our main campus in Lewes, and in Rehoboth Beach, Milton, Georgetown, Long Neck, Millsboro, and Millville. Beebe also offers home health services.

Services include:

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EXCELLENT PEOPLE. EXCELLENT CARE.
The promise of seafood, ship tours, kids’ activities and science demonstrations draw thousands of people to the University of Delaware’s Hugh R. Sharp Campus for Coast Day. The event, sponsored by the College of Earth, Ocean, and Environment (CEOE) and the Delaware Sea Grant College Program, is held annually on the first Sunday in October.

“It’s delightful to see so many people having fun while learning about the work we do,” said Nancy Targett, CEOE dean and Delaware Sea Grant director.

Coast Day gives visitors the opportunity to learn about the state’s ocean and coastal resources as well as the work of CEOE researchers, Delaware Sea Grant and their many partners.

Last year, visitors clamored at the marine critter touch tanks, boarded UD’s research vessel Hugh R. Sharp, sampled crab cakes and clam chowder and attended lectures on everything from weather and hurricanes to UD’s wind turbine.

At the event’s kick-off ceremony, Targett, U.S. Sen. Tom Carper, UD President Patrick Harker, Lewes Mayor Jim Ford and National Hurricane Center Director Bill Read congratulated the winners of two Coast Day contests for Delaware school kids. The 2011 Fifth-Grade Essay Contest Winner was Shea Sweeney, a student in Marilyn Vallejo’s class at St. Ann School in Wilmington. Saleh Hamad of Caesar Rodney High School won the High School Video Contest.

Throughout the day, crowds of hungry visitors swarmed the seafood competitions for a chance to taste contestants’ creations. “Carl’s Stuffed Crab Cake” by Carl Zampini of Newark, Del., took first prize in the Crab Cake Cook-Off. In the Chowder Challenge, the Delmarva Chefs and Cooks Association took first prize over the First State Chefs Association with a winning recipe by Jennifer Courville and Kahdeja Pirkle of the Parkside High School Culinary Arts Program in Salisbury, Md.

The 2012 Coast Day will be on Sunday, Oct. 7, with the theme “Checking in on Our Coast.” For more information, check out www.decoastday.org or call 302-831-8083.

By Teresa Messmore
Coast Day 2012 is Sunday, Oct. 7, with the theme “Checking in on Our Coast.” For more information, check out www.decoastday.org or call 302-831-8083.

**Crab Cakes**
- 2 pounds jumbo lump crabmeat
- 2 cups mayonnaise
- 2 eggs
- 4 teaspoons Old Bay seasoning
- 3 drops Worcestershire sauce
- 3 drops hot sauce
- Juice of 2 lemons
- 1/2 cup fresh chopped parsley
- 2 cups fresh bread crumbs

Mix mayonnaise, eggs, Old Bay, Worcestershire, hot sauce, lemon juice and parsley. Add mixture to crabmeat and mix lightly. Add 1/2 cup bread crumbs and mix (if too wet, add more bread crumbs). Scoop into the size of cake you want. Stuff cake with 1 tablespoon of cocktail remoulade sauce. Sauté until brown on both sides. Bake in oven for 8 minutes.

**Cocktail Remoulade Sauce**
- 1 cup mayonnaise
- 1/2 cup ketchup
- 1/4 cup horseradish
- 2 teaspoons capers
- 2 teaspoons chopped gherkins
- 1 teaspoon chopped parsley
- 1/2 teaspoon chopped anchovies
- Juice of 2 Meyer lemons

Mix together and chill.

**Roux Ingredients:**
- 4 ounces flour
- 4 ounces butter

**Best Chowder**
2011 Coast Day Winning Chowder Challenge Recipe by Jennifer Courville and Kahdeja Pirkle (Seniors, Parkside High Culinary Arts Program Delmarva Chefs and Cooks Association)

In a large stockpot, on the lowest heat setting, add salt pork to pan. Add bacon. Cook over low heat for 15 minutes, allowing salt pork to render. Remove from heat and allow to rest another 15 minutes. Add olive oil and 1 tablespoon of butter, saving the remaining butter for later. Add diced celery and sliced onion in the salt pork and bacon and cook until the onions take on a light brown color. Add garlic in the last few minutes of browning. Add clam broth and the clam liquor from the cans, scraping the bottom of the pan to get browned bits from the bottom of the pot.

In a separate pot, melt butter for roux and add flour once melted. Cook for 20 minutes.

To the large stockpot, add bay leaves, a pinch of celery seed, thyme and minced leeks. Simmer for 15 minutes. Add the potatoes and bring to a boil for 30 seconds. Reduce heat to barely a simmer. Add the roux and cook for 20–30 minutes.

Add corn when potatoes are almost done. Stir in clams. Add milk and cream. Simmer for another 15 minutes. Add remaining butter and allow to melt. Add parsley. Add salt and pepper to taste. Remove bay leaves. Garnish with green onions and croutons.
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ASSOCIATE IN ARTS PROGRAM

Administered through UD’s College of Arts and Sciences, the Associate in Arts Program is a two-year program in the liberal arts and leads to four-year degree opportunities. AAP is offered by UD in Southern Delaware on Delaware Technical and Community College campuses in Dover and Georgetown.

Dover
Contact: Sharon Tucker, faculty coordinator
University of Delaware—Dover
100 Campus Drive
Dover, DE 19904
Telephone: 302-857-1214
Fax: 302-857-1280
Email: stucker@udel.edu

Georgetown
Contact: J. Richard Bacon, faculty coordinator
University of Delaware—Georgetown
Route 18, Jason Technology Center
Georgetown, DE 19947
Telephone: 302-855-1657
Fax: 302-856-5654
Email: jrbacon@udel.edu

Newark Administrative Offices
Contact: Jack Bartley, faculty director
Room 101, 77 E. Main St.
University of Delaware
Newark, DE 19716-2705
Telephone: 302-831-2473
Fax: 302-831-4358
Email: jbartley@udel.edu
www.cas.udel.edu/associateinarts

COLLEGE OF AGRICULTURE AND NATURAL RESOURCES

The college has facilities at the Paradee Center in Dover and at the Carvel Research and Education Center and Lasher Laboratory in Georgetown.

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Doug Crouse, director
Telephone: 302-730-4000
ag.udel.edu/extension/Kent

Elbert N. and Ann V. Carvel Research and Education Center (Georgetown)
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4-H Youth Development, Family and Consumer Sciences, Debtor Education, Food Safety, Child Care Provider Education, Food and Nutrition, Agriculture, Natural Resources, Horticulture, Master Gardeners, Nutrient Management, Poultry, Weed Science, Vegetable Production, Community Development
Mark Isaacs, director
Telephone: 302-856-7303
ag.udel.edu/rec

Lasher Laboratory (Georgetown)
Poultry diagnostic services
Dr. Dan Bautista, director
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ag.udel.edu/rec/lasher/index.html

COLLEGE OF EARTH, OCEAN, AND ENVIRONMENT

The college has facilities in Newark and at the Hugh R. Sharp Campus in Lewes, home of the research vessel Hugh R. Sharp.

CEOE Hugh R. Sharp Campus, Lewes
Classroom and research facilities
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www.ceoe.udel.edu
www.ceoe.udel.edu/about/campuses/lewes.shtml

DELWARE SEA GRANT COLLEGE PROGRAM

The University of Delaware was designated the nation's ninth Sea Grant college in 1976. The program's goal is to promote the wise use, conservation and management of marine and coastal resources.

Telephone: 302-831-8083
Email: ceoe@udel.edu
www.deseagrant.org

COLLEGE OF ARTS AND SCIENCES

In addition to the Associate in Arts Program, the college offers a variety of programs that serve Southern Delaware.

INSTITUTE FOR PUBLIC ADMINISTRATION

IPA, a center within UD’s School of Public Policy and Administration, addresses the policy, planning and management needs of its partners.

Contact: Jerome R. Lewis, director
Telephone: 302-831-8971
Email: jllewis@udel.edu

WATER RESOURCES AGENCY

A program unit of the IPA, the agency provides water resources planning and policy assistance.

Contact: Gerald Kauffman, director
Telephone: 302-831-4929
Email: jerryk@udel.edu

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The college offers several education-oriented programs in Southern Delaware, including the Delaware Academy for School Leadership and Alternative Routes to Certification.

COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT

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DELAWARE ACADEMY FOR SCHOOL LEADERSHIP/SOUTHERN DELAWARE

Carter Partnership Building
Seashore Highway
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Jacquelyn O. Wilson, director
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GRADUATE EDUCATION/ SOUTHERN DELAWARE
Carter Partnership Building
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Jacquelyn O. Wilson, director
Phone: 302-855-1621

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Contact: Frank Livoy
Phone: 302-831-4598
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OEIP works with the University community to turn research discoveries into meaningful inventions, and is home of the Delaware Small Business and Technology Development Center.

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Georgetown, DE 19947
Contact: William Pfaff
Phone: 302-856-1555
Email: wpfaff@udel.edu
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