

UNIVERSITY OF DELAWARE

MAGAZINE

Volume 27 • Number 3



BEHIND THE SEAMS

SCIENCE AND SOCIAL RESPONSIBILITY SHAPE FASHION'S FUTURE

“FASHION IS INSTANT LANGUAGE”

—MIUCCIA PRADA

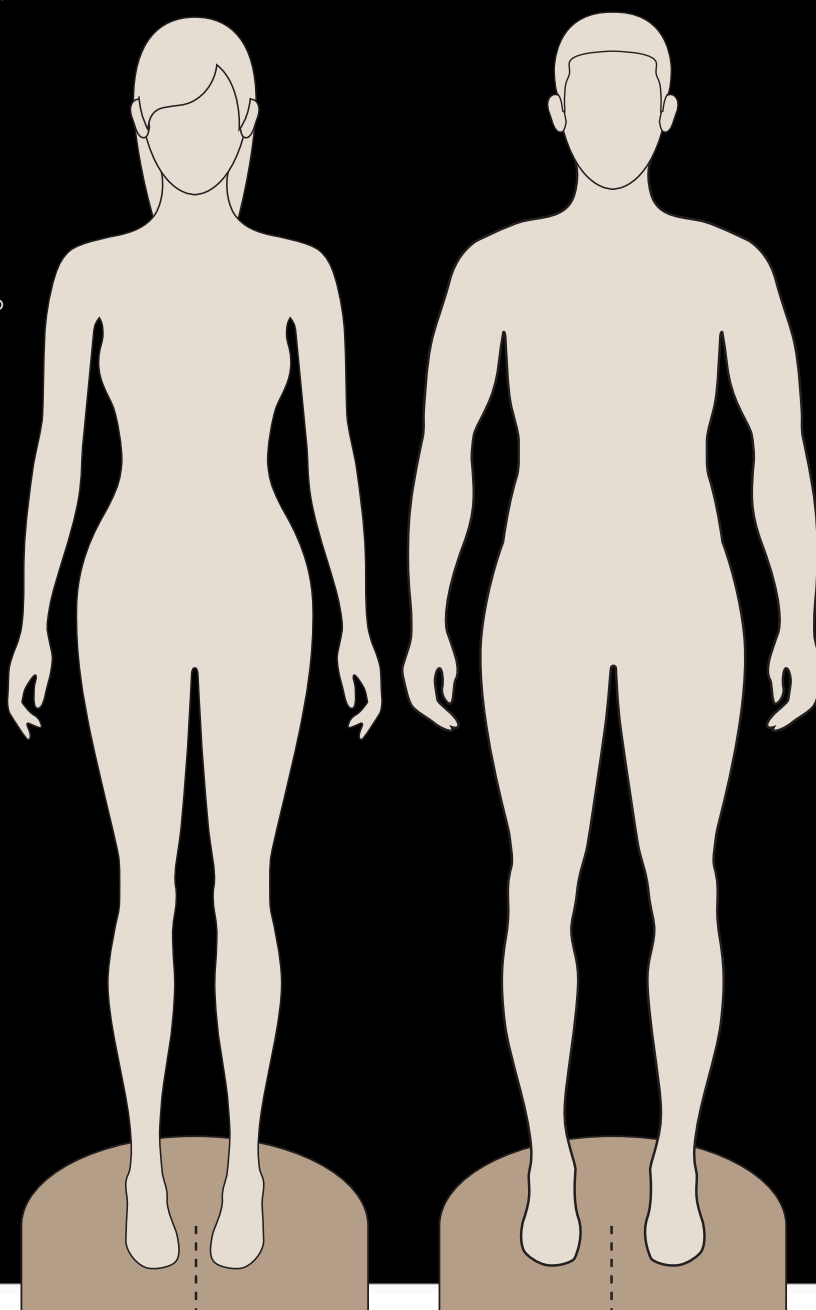


Celebrate our “fashion issue” with some paper-doll fun.

Here's your chance to explore UD's **Historic Costume and Textiles Collection**, and even try on an outfit or two. To assemble, cut out one or both silhouettes. Color in the dolls to personalize, and then cut out an outfit that speaks to you, using the tabs to dress your doll. Mix and match the possibilities, and share a photo of your creation(s) with us at magazine@udel.edu. The first five people to reach out will receive free and fashionable Blue Hen gear.



1. Felt Fez, 20th c.; 2. Turban-look Pillbox hat, 1960s; 3. Straw Cloche-style hat, 1950s; 4. UD Beanie or “Dink” cap, 1958; 5. Wool tweed Deerstalker cap, 20th c.; 6. Batik Blangkon hat, E. 20th c.; 7. Paisley Print Bucket-style hat, 1960s; 8. Fluorescent Paper Dress, 1960s; 9. Patent leather Vara Bow pump, Ferragamo, 2nd half 20th c.; 10. Leather and Wood High heel Clogs, 1970s; 11. Brocade Jacket, 2004; 12. Leather Patchwork Purse, 1970s; 13. Painted Metal Mesh Coin Purse, 1920s; 14. Velvet and Tulle Prom dress, 1958; 15. Patchwork print Tricot Knit shirt, 1970s; and Denim Flared pants, 1970s; 16. Polyester double knit Plaid trousers, 1970s; 17. Embroidered Caftan-style dress, 1970s; 18. Tassel Leather loafer, 2nd half 20th c.





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KATHY F. ATKINSON

HISTORY HANGING IN A CLOSET

With nearly 5,000 apparel and textile artifacts, UD’s Historic Costume and Textiles Collection is a “way to preserve and sustain our past, relate it to today, and use it to inform our future,” says Dilia López-Gydosh (pictured above), who co-manages the collection with Prof. Belinda Orzada.

The collection serves as a valuable educational resource, not only for fashion design and merchandising students, but also for students in art conservation, history, museum studies and journalism, whose research is aided by a searchable computer database.

Items from the collection are usually on display on the second floor of Alison Hall West. A recent, larger exhibit in the Old College Gallery showcased stories from World War I through clothes of the time: military uniforms, wedding dresses, footwear, political posters and much more.

For more on the closet, turn to p. 39.

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UNIVERSITY OF DELAWARE MAGAZINE

Volume 27, Number 3

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DO YOU HAVE A REUNION IN 2020?

If your class ends in “0” or “5”, save the date to reunite with fellow Blue Hens during your dedicated celebrations:

Alumni Weekend Reunion Celebrations | June 6, 2020

Classes of 1985, 1990, 1995, 2000, 2005, 2010 and 2015

www.udel.edu/AWreunions

Homecoming Reunion Celebrations | Fall 2020

Classes of 1970, 1975 and 1980

More details to come!

Interested in lending a hand? Email ud-reunions@udel.edu

FROM OUR PRESIDENT

CULTURE OF GENEROSITY DRIVES UD TOWARD BRIGHT FUTURE

How can you be so boundlessly optimistic all the time? That's the question I was asked recently after speaking proudly about the University of Delaware, our amazing people and their incredible accomplishments. The answer is simple: Our institution has a robust, pervasive and absolutely infectious culture of generosity that drives us every day to create a better world. How could I *not* be optimistic?

UD students live out this generosity by volunteering their time and energy to teach children to read, help people with chronic illnesses manage their homes, spend spring break serving communities around the country, raise money to help end childhood cancer and perform myriad other tasks—including being students! It's so inspiring to see how much our students care about each other, supporting their classmates through peer mentoring programs and cheering on our Blue Hen student-athletes. Our students are eager to apply what they learn in the classroom to make a positive, real-world impact on others. For example, students in fashion studies, physical therapy and engineering work together to make clothes and assistive devices for people with disabilities. Our budding entrepreneurs are developing innovative

products and services to address issues of poverty, cancer, climate change and more. They are deeply engaged in selfless causes like social justice, political empowerment and civil rights.

Our faculty and staff, too, so generously give their knowledge and expertise to advance the mission of the University. The professors who stay after class to explain a difficult concept, the researchers who dedicate their lives to solving society's most complex problems, the advisers and counselors who guide our students to success, the crews who put so much care into making our campuses feel like home ... they all embody this generous culture that makes UD so special.

And, of course, our alumni, parents and friends provide vital support in so many forms to ensure that UD flourishes. Nearly 30,000 people donated to the University last year, with many giving their time to help our students through internships, clinical placements and mentoring programs. We simply could not succeed without their support!

Indeed, the University of Delaware today would not even exist without a vibrant and enduring culture of engagement throughout our history. Our achievements have been possible



because every member of the UD community—from our earliest days until now—has believed in our essential mission to be a powerful source of education, discovery and service in the world. Today's abundant generosity is what builds tomorrow's thriving University of Delaware!

During this season of giving, my wife, Eleni, and I want to thank you for investing so freely in our shared future as the University of Delaware community. Indeed, at this vibrant institution that continues to both impress and inspire, we are all reminded of how calling ourselves Blue Hens means to be forever optimistic about tomorrow's possibilities.


Dennis Assanis, President

COURTESY OF UNIVERSITY OF DELAWARE ARCHIVES



THE OLDEST OF THE OLD

The oldest known photograph of Old College and the Delaware College campus was “rediscovered” earlier this fall in a box of unprocessed photographs in the Office of University Archives and Records Management.

Dating from 1875, the faded sepia-toned image shows young men, presumably students, standing between two rows of linden trees in front of the steps of Old College. It is a double image prepared for a stereoscope, which was used with a special viewer to appear 3D.

“This is a great addition to our collection of historic images, documents and artifacts,” says Ian Janssen, director of University Archives and Records Management. “These resources give us a greater appreciation of the rich history

of the University and its predecessor institutions, as well as providing valuable information for scholars and researchers.”

While the University traces its origins to the Academy of Newark, which opened in 1743, Old College is the first official college building, opening in 1834 as the home of Newark College (which would become Delaware College in 1843 and the University of Delaware in 1921). When it opened, the building housed classrooms, meeting rooms for student organizations, the library, an oratory, administrative offices and student housing with dining room and kitchen.

Over the years, the building has undergone several changes. In 1852, a Gothic style cupola was added to the roof over the central portico—but later

removed in 1917 during an extensive renovation that cemented Old College as the social center and dining hall for the all-male school.

By the 1940s and 1950s, Memorial Library (now Memorial Hall), would shift the social hub, with its basement snack bar, the Scrounge, drawing in students. When the Perkins Student Center opened in 1957, many campus organizations moved their meetings there.

In 1978, Old College underwent extensive renovations to return the space to a classroom building, while honoring its heritage. Now UD’s oldest building is home to classrooms, offices, the Old College Gallery and the departments of Art History and Art Conservation. 🐦

MANUFACTURING MEDICINE

A collaborative agreement between the new national biopharmaceutical institute headquartered at UD and the U.S. Food and Drug Administration seeks to improve drug quality, help address medicine shortages, improve time-to-market and support personalized medicine.

Under the direction of UD Prof. Kelvin Lee, the National Institute for Innovation in Manufacturing Biopharmaceuticals (NIIMBL, www.niimbl.org) will open its headquarters in 2020 at UD's Science, Technology and Advanced Research (STAR) Campus, where expertise in

biopharmaceutical manufacturing is tackling some of the world's most vexing diseases, from cancer to Alzheimer's.

"The FDA is taking many steps, including this public-private partnership with NIIMBL, to encourage and help realize the potential of advanced manufacturing: issuing guidance on emerging technologies, approving products made with these technologies, and advancing regulatory science," says Acting FDA Commissioner Dr. Ned Sharpless.

The goal, says Lee, is to "advance patient access," and the new FDA partnership will help do so. [!\[\]\(e3f8612927870f2e0f9f5989e6dd3064_img.jpg\)](#)



\$23 MILLION FOR BIOMEDICAL RESEARCH

A University of Delaware-led network of higher education and healthcare institutions will receive \$23 million in federal and state funding over the next five years to further grow opportunities for multidisciplinary biomedical research in Delaware.

For the last 15 years, the state's IDeA Network of Biomedical Research Excellence (INBRE) has helped develop a collaborative statewide biomedical research network aimed at improving disease outcomes, building a diverse and educated workforce and driving economic growth in Delaware. This fourth program award, providing \$18 million from the National Institutes of Health and \$5 million in matching funding from the state, will continue efforts to build research capacity.

"Delaware is a state of partnerships, so it is critical to build and sustain



ASHLEY BARNAS

research and education relationships through networks like Delaware INBRE to fuel innovations in healthcare and help improve the health of people throughout our state and around the world," says UD President Dennis Assanis. [!\[\]\(b4eeff342f60cc7bcd67d869b4fedca2_img.jpg\)](#)

John Slater, an assistant professor in the Department of Biomedical Engineering, received one of his first grants from Delaware INBRE and used it to develop a new approach to investigating cancer cells.

IDENTITY AND ISLAM

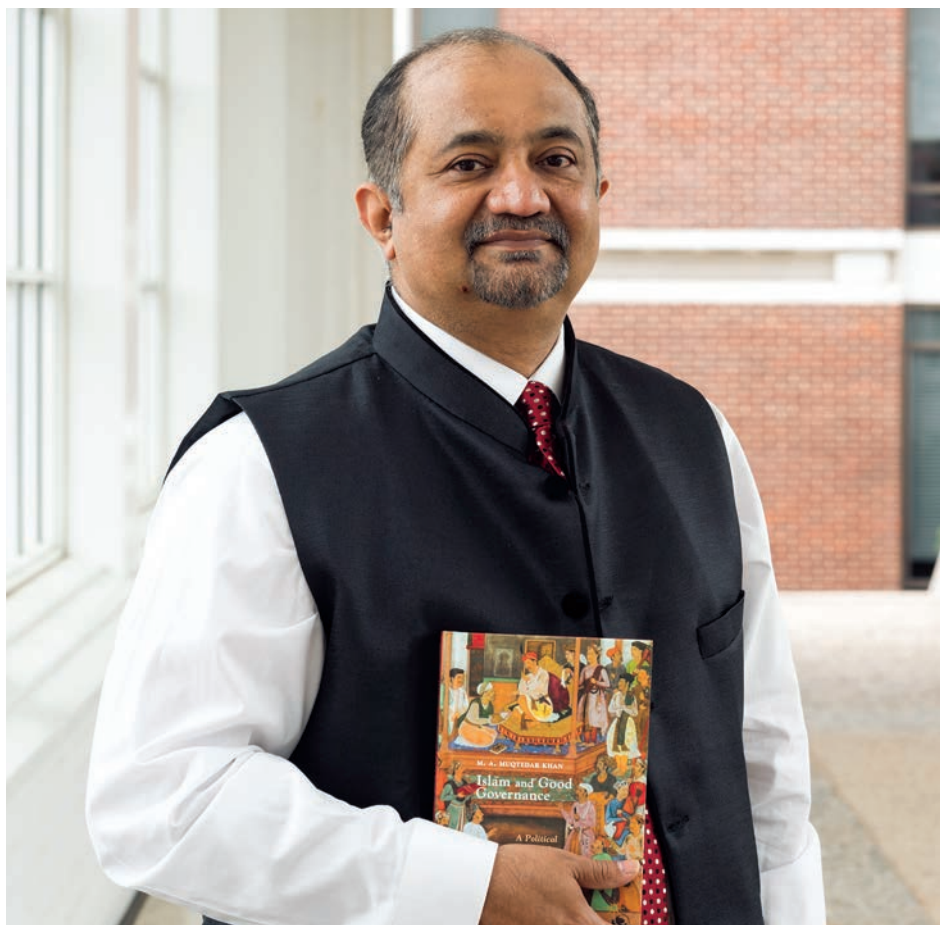
In the days, months and years after 9/11, Muqtedar Khan found himself grappling with an unrelenting question of religious identity: “If al-Qaeda, ISIS and all the human rights violations committed in the name of Islam are not my faith,” he would ask himself, “then what is?”

The UD professor of international relations calls his most recent book, *Islam and Good Governance*, “my much-delayed response.”

Simultaneously an endorsement of religious and political freedom and an academic reinterpretation of the Quran, the book seeks to reclaim the beauty, mysticism and virtues of Islamic teaching through a concept Khan believes “Muslims have not yet understood—or simply ignored.”

That concept is Ihsan, taken from the Quran passage that says, “God is with those who do beautiful deeds.” In Islamic tradition, it also lives in the words of the prophet Muhammad, who was asked by the angel Gabriel to define Ihsan: “To Worship Allah as if you see him; and if you can’t see Him, know that He sees you.”

Rethinking the Muslim religion through this lens will require a fundamental philosophy shift, Khan believes. Ihsan goes against how many economies and institutions have evolved over centuries. It stands in opposition to how the Muslim world is perceived and understood.



KATHY F. ATKINSON

“An Islamic state is currently one where Islamic law is enforced—and these are laws come from the medieval understanding of Islam. Until we change that, we will never have good governance,” he says. “It is unfair of Muslims to demand non-Muslims to bypass realities like ISIS and al-Qaeda and discover true Islam. Muslims must manifest what it is. The Prophet has said three times that you’re not a Muslim if your neighbor is afraid of you.”

But Ihsan could help reframe a global and collective understanding of Islam. In fact, Khan explains, “The word ‘worship’ in Arabic literally means, ‘to serve.’ The service of humanity is the purpose of Islam.”

His book has already attracted wide interest, from Mennonite Christians

to fellow Muslims, and speaks to the impact he hopes to make.

“Muslims could carve a niche for themselves as the minority that cares, serves and loves everyone,” Khan writes in *Islam and Good Governance*. “Muslim states and societies can advocate a culture of volunteerism. There are volunteer movements in the Muslim world whose explicit goal is to gain closeness to God by service to humanity. What we need to do is globalize them, make service as valued and desirable as is worship, and make Muslims take pride in service as they do in their ritual devotions, especially in the month of Ramadan. It will require a sea change in attitudes, but the pursuit of Ihsan demands nothing less.” 🐦

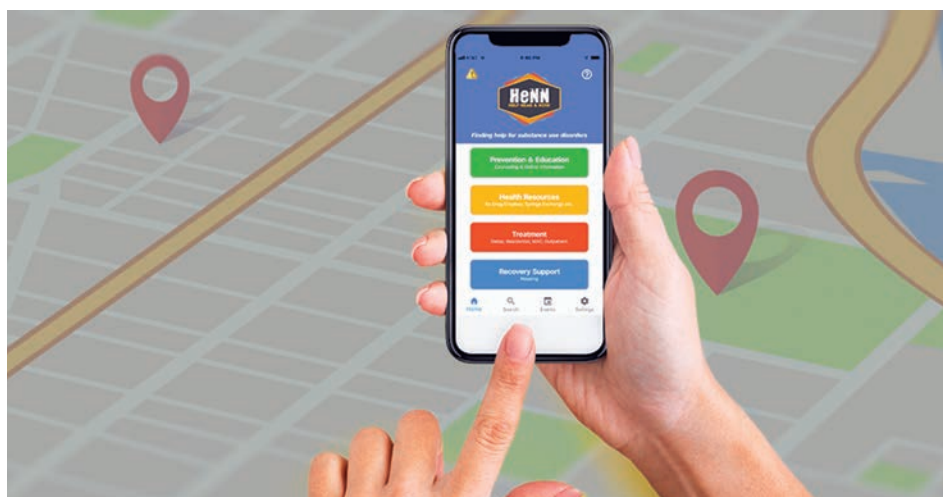


PHOTO ILLUSTRATION BY JEFFREY C. CHASE

HENN APP TO CURB OPIOID ABUSE

A new UD-developed smartphone app seeks to offer immediate help to those struggling with opioid addiction, connecting Delawareans looking for treatment with available resources and state-wide services.

The app, Help Near and Now (or HeNN), was developed by faculty experts in sociology and computer engineering. It offers a location-based, interactive platform designed to help anyone affiliated with the growing opioid crisis: People can access real-time information on treatment services, along with driving directions and available public transportation; doctors can view statewide options, not just those affiliated with his or her hospital; individuals can provide feedback and rate services; and health care providers can use the app data to help patients find services most appropriate to their situation.

Last year, the Centers for Disease Control ranked Delaware among the top 10 states in the nation for overdose deaths, with 400 fatalities in 2018.

HeNN seeks to change those rates, with special focus on:

- **Prevention.** Before someone develops a substance use disorder, the app can help individuals and families find information about risk factors and preventive actions.
- **Treatment.** Its directory of providers and agencies gives detailed information about the types of services offered and their location.
- **Posttreatment.** The app also provides a listing of support resources for those who have completed treatment and are rebuilding their lives.
- **Harm reduction.** HeNN features information about topics including where to safely dispose of unused medications and where to get training on providing emergency overdose treatment (such as administering naloxone).

Developed by a multidisciplinary team at the University, along with industry partners Greenline Business Group and CompassRed, the app is free and available for download on all Apple and Android devices. 🐦

WEST SIDE GETS NEW STORIES

The old Dickinson dorms may be gone, but the students will someday return to this hallowed site of so many Blue Hen memories.

The city of Newark has approved a plan to replace the beloved edge-of-campus residence housing complex with 46 four-bedroom townhouses and 45 apartments, all contained within four three-story buildings at Hillside and Apple roads.

Next door, the demolished Rodney dorms are destined to become a stormwater pond and park, with opening set for 2020.

Plans for the Dickinson complex had been mired in municipal controversy for the better part of a year as nearby residents raised concerns about traffic, parking and potential noise. After several modifications, a final plan won City Council approval in October, despite a thumbs-down from the town's planning commission.

When the two residence complexes closed in 2015, former residents gathered to cherish their "West Campus" memories, pinning notes of remembrance to the chain-link fence.

"We had a motto that said, #West Side Best Side, and we believed in that," says Antonio Robinson, AS15, a former Rodney resident assistant. "It was awesome." 🐦

ILLUSTRATION BY JEFFREY C. CHASE



DEATH BY STEREOTYPE?

Unmarried patients with cancer are less likely to get potentially life-saving surgery or radiotherapy than their married counterparts, raising the concern that medical providers may be relying on stereotypes that discount sources of social support other than a current spouse.

That's the conclusion reached by the University of Delaware's Joan DelFattore, a professor emerita of English who combined her personal experience as an unmarried patient with her skills as a researcher to publish

a peer-reviewed article in a recent issue of *The New England Journal of Medicine*.

Titled "Death by Stereotype? Cancer Treatment in Unmarried Patients," the article examines 84 medical articles that draw on a massive National Cancer Institute database to show that patients are significantly less likely to receive surgery or radiotherapy if they are not currently married.

Although this disparity has been attributed in studies to such factors as patients' treatment preferences or a

weaker will to live among unmarried people, DelFattore found that those speculations are not only unsupported by data but actually conflict with extensive research findings. Rather, her article suggests that cultural stereotypes inappropriately influence the treatments recommended for unmarried patients with cancer.

The central issue for physicians is the social support that patients need, especially if their treatments require numerous healthcare visits or may cause debilitating side effects.

But while unmarried people often have especially strong networks of friends and community ties, medical researchers tend to equate social support with having a spouse, DelFattore found.

“The statistics definitely show a connection between marital status and the treatment patients receive,” she says. “There are people getting sick and getting second-best treatment.”

Some patients—married as well as unmarried—certainly lack the social support necessary to handle aggressive treatment, “but that generalization can’t possibly apply to nearly half the adult population,” she adds. According to the U.S. Census Bureau, 45% of U.S. adults are unmarried.

DelFattore is part of that population, and when she was diagnosed in 2011 with advanced gallbladder cancer, she relied on her network of friends, colleagues, neighbors and extended family to help her. As she recounts in the journal article, her surgeon at Memorial Sloan Kettering Cancer Center accepted her description of her friend-based support network without question.

At the time, she didn’t realize that his acceptance couldn’t be taken for granted, but when she went for postsurgery chemotherapy, the first doctor she saw asked about her marital status and continued to focus on that subject. Even after she tried to explain the support she had available, the oncologist recommended a milder course of treatment that DelFattore knew was not the most effective.

PATIENTS ARE SIGNIFICANTLY
LESS LIKELY TO RECEIVE
SURGERY OR RADIOTHERAPY
IF THEY ARE NOT
CURRENTLY MARRIED.

“He wouldn’t risk serious side effects [of the more aggressive treatment] with, as he put it, ‘someone in your situation,’” she writes. She changed doctors and was given the harsher, more effective chemotherapy by an oncologist who accepted that she had the necessary support.

DelFattore is concerned that doctors might rely on medical researchers who, in turn, are citing sociological and psychological studies that don’t say what the researchers assume they say.

“Even if medical researchers mean to recommend what’s best for patients, as they presumably do, their reliance on stereotypes about unmarried adults is misleading, especially when they misinterpret sociological and psychological studies that do not, in fact, support those stereotypes,” DelFattore says.

For example, she says, almost all authors in the 84 articles she reviewed equate marriage with social support, “but the psychological and sociological studies they cite to support that claim don’t even mention the words ‘marriage,’ ‘marital’ or ‘spouse.’” Instead, those studies talk about social support as a complex web of connections that can’t be reduced to a single element.

Consistent with longstanding social stereotypes, DelFattore says, doctors may use the question about marital status as a kind of shorthand way to ask about social support. Once they hear the word “unmarried,” they may stop there.

DelFattore is quick to point out that she’s not the person who discovered the differences in treatment between married and unmarried patients. Based on her review of articles, it’s been known since at least 1987 that cancer patients with a current spouse are more likely to get surgery or radiotherapy than those who are divorced, separated, widowed or never married.

“This is not shocking news,” she says of the disparity. “What’s shocking is that it’s been buried in the fine print of academic journals and footnotes for over 30 years.”

Now, she says, she hopes her journal article will raise awareness and spur additional research. She also hopes that, just as medical schools now teach about the dangers of unintentional racial and gender bias in treating patients, they’ll also start discussing marital status.

“I’m not writing about this and advocating for change out of anger or outrage,” she says. “It’s not about blame. It’s about asking people to examine their assumptions—in this case, with respect to potentially life-or-death decisions. Medicine has to evolve, not only in science and technology, but also with respect to an evolving society.” 🐦

—Ann Manser, AS73



STEP AWAY FROM THE WATER

When it comes to climate change, moving people and development away from at-risk areas can be viewed not as a defeat, but as a smart strategy that allows communities to adapt and thrive.

That's the case for carefully planned "managed retreat" made by three environmental researchers in an article published in the Policy Forum section of the journal *Science*.

"We need to stop picturing our relationship with nature as a war," says lead author A.R. Siders, a core faculty member of UD's Disaster Research Center and assistant professor of

public policy and administration and of geography. "People sometimes see retreat as defeatist, but I see it as picking your battles."

In the *Science* paper, she and her coauthors acknowledge the complexities of managed retreats, including the short-term economic gains of coastal development, subsidized insurance rates and disaster recovery costs, and people's attachment to the place where they live and to the status quo. Also, when disaster strikes, the more affluent residents are more able to relocate,

often leaving behind those who don't have the financial resources to move.

As a result, the authors take the long view, noting that retreat may not be necessary this year or even this decade.

But as coauthor and University of Miami Prof. Katharine J. Mach explains, "The story of retreat as a climate response is just beginning. It is compelling because it brings together so many aspects of how societies work, what individuals are trying to achieve and what it takes to ensure preparedness and resilience in a changing climate." 🐦

—Ann Manser, AS73

CLOSING THE GENDER GAP

Women in the United States may still have to contend with a shortfall in their lifetime earnings and a glass ceiling in the boardroom, but they've closed the gender gap in at least one arena—the television coverage they receive as Olympic athletes.

A UD-led analysis of coverage by NBC, which has exclusive rights to broadcast the Olympics, found that the network's decades-long emphasis on male athletes and their events began to change with the 2012 Games, when women athletes received 55% of the prime-time coverage. A new examination of the 2018 Olympics has found that trend continuing.

"Women are seen more on the screen, heard more in the commentary and are generally the focus of more coverage," says James Angelini, associate professor and director of graduate studies in UD's Department of Communication.

His latest research on the 2018 Games in Pyeongchang, South Korea, coauthored by Andrew Billings of the University of Alabama, was published in the journal *Communication and Sport*.

Their research shows the gender gap "closing to the point of, if anything, favoring female athletes—who now have received the majority of clock-time and mentions in three of the past four [2012,

2016 and 2018] Olympic broadcasts."


Much of the change in coverage is due to the success that American women athletes have had in comparison to their male counterparts, Angelini says, adding that NBC's coverage of the Games has always focused on successful U.S. athletes. 

—Ann Manser, AS73

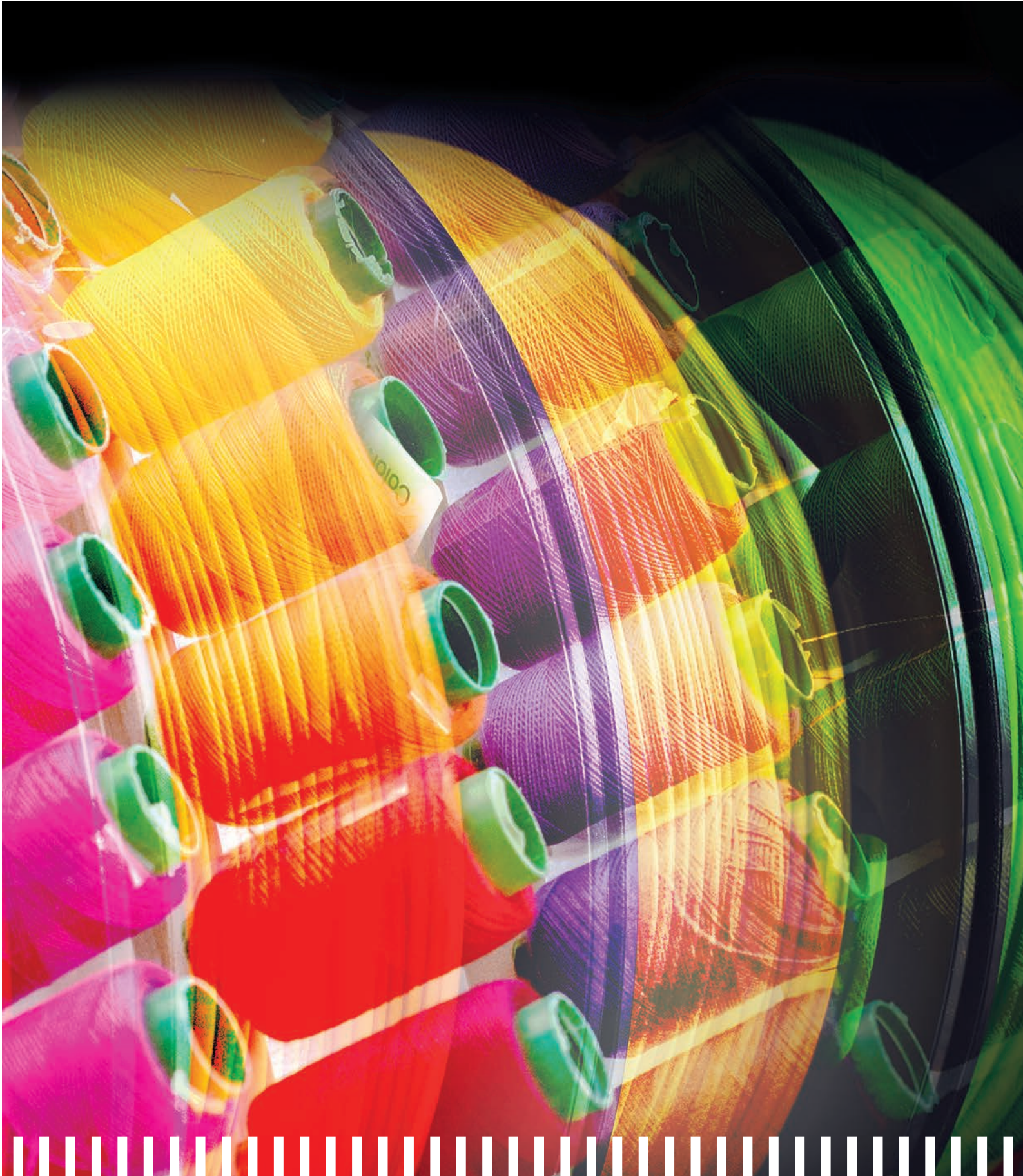


PT CLINIC CELEBRATES 25 YEARS

Twenty-five years ago, UD's physical therapy clinic opened its doors to the wider community, building a link between student success and patient care that has helped cement the University's physical therapy program as the best in the nation—#1, according to *U.S. News and World Report*.

"The idea that discovery and research, in the same time span, should impact the community and patients is what physical therapy has shown and where we have led the way," says Kathleen Matt, dean of the College of Health Sciences. 

KATHY F. ATKINSON





Threads of Innovation & Impact

Think about your clothes. They seem like simple-enough expressions of identity, a daily statement of who you are and how you want to be perceived.

But far beyond our bedroom mirrors, clothes provide us a lens to understand some of the world's greatest complexities, from the environmental to the economic, the cultural to the political. And, as Blue Hens are discovering, our clothes have the power to be a great force for good. You might call it the "power of fashion."

Through the power of fashion, researchers from UD's renowned programs in physical therapy and engineering and apparel are making life better for the disabled by giving them the gift of mobility. Through the power of fashion, UD is helping athletes who have been injured, firefighters in life-threatening situations, babies who have never moved their limbs on their own.

Through the power of fashion, UD has found tangible and practical applications for some of our greatest scientific breakthroughs, from the wonder fabrics of alumnus Bob Gore, founder of Gore-Tex, to the "liquid armor" of Prof. Norm Wagner, used by soldiers, astronauts (and most recently, female runners in need of a good sports bra).


Through the power of fashion, UD's world-leading expertise is helping change abusive industry practices, and making our planet a healthier, cleaner place.

Read on. You won't ever look at your clothes the same way again.

Extending our reach

UD professor designs garments to improve upper-body mobility in children

by Artika Casini, AS05



Michele Lobo in UD's Move 2 Learn lab, where she designs flexible, lightweight garments used by children with disabilities worldwide.

PHOTO BY KATHY F. ATKINSON

“WHEN YOU HEAR
THE TERM ‘FASHION,’
YOU THINK OF THE
RUNWAY, BUT WE’RE
LOOKING AT DESIGN
AS A SCIENTIFIC
PROCESS.”

The smartphone video opened with a stack of plastic rings, sitting unused and untouched on the nursery floor. But then came the shot of 8-month-old hands, unable to lift objects since birth, suddenly reaching out and raising one ring, then another, as mom and dad cried and captured the miraculous moment.

When Michele Lobo saw that video four years ago, she knew the plastic arm-support designed by her colleague at Nemours had worked.

“But as excited as I was, I was just as disappointed when the family decided not to use the hard arm brace,” says the professor of physical therapy.

That initial exoskeleton was too clunky, bulky and uncomfortable for young children. “If only it could be a shirt,” a mother casually mentioned, spawning a years-long journey by Lobo and her students to design an innovative line of garments to provide mobility, looks, comfort and support. Their lightweight and flexible creations are now used by children with disabilities worldwide, thanks in part to their low-cost construction and the low-tech DIY plans Lobo posts online for free (sites.udel.edu/move2learn/how-today).

As a physical therapy professor, Lobo never imagined she’d one day find herself at the forefront of rehabilitation technology.

But the idea wasn’t so foreign, especially at UD, where fellow physical therapy Prof. Cole Galloway had revolutionized pediatric mobility through his GoBabyGo! program. But where Galloway had retrofitted toy cars through simple engineering, Lobo sought to transform clothing.

Traditionally, the model for assistive medical devices has often relied on one fundamental question: Does it work? For Lobo, it’s an incomplete assessment. “The reality is people don’t use those things we’ve made for them,” she says. “My approach is to treat this audience that’s usually overlooked

the same way as you or me. So when we’re designing products for them, we’re asking, ‘Is this affordable? Is it accessible? Does it look nice? Does it help people express themselves?’”

In her efforts to turn the daily function of clothing into a tool for physical health, Lobo recruited Martha Hall, AS99, 13M, HS18PhD, a fashion designer who transitioned

into a Ph.D. program in biomechanics advised by Lobo (read more about Hall on p. 24). Together, they worked with the special-needs community to create comfortable, fashionable, easy-to-clean, easy-to-wear clothing and the Playskin Lift™ exoskeletal shirt.

Quickly dubbed “Super Suits” by both researchers and recipients, the Playskin’s “superpowers” have helped strengthen arm muscle and improve upper-body mobility in infants and toddlers across the country and world, from Brazil to Turkey.

Patient connection is at the very heart of her work, and Lobo’s Move 2 Learn Innovation Laboratory interacts closely with families on their unique needs. Since she launched the Super Suits program in 2014, she has received more than 60 requests for different projects, such as garments that can help support muscles (in the neck, legs, arms and elsewhere), clothes to protect against self-injurious behavior, stylish scarves to absorb saliva for children with oral motor problems—the list goes on.

“There’s a massive external need, and our combination of health sciences, fashion and engineering offers unique internal expertise,” says Lobo, who has taken on more than a dozen such projects and always includes students in the effort. “When you hear the term ‘fashion,’ you think of the runway, but we’re looking at design as a scientific process,” she says. “We’re meeting people’s needs and the realities that come with them.” 🐦

Within Reach

It takes 10 hours to drive from North Carolina to Newark, but Kerstin Thompson doesn't mind a bit. It's here, at UD's Move 2 Learn Innovation Laboratory, that a simple invention changed her daughter Sarah's life.

Sarah was born with arthrogryposis, a rare (1 in 3,000) condition that limits joint movements and affects the 4-year-old's ability to move her arms, legs and jaw. At UD, Prof. Michele Lobo and then-doctoral student Martha Hall created a shirt like no other—an exoskeleton garment, or “Super Suit,” that helps babies like Sarah move their arms, build their muscles and ultimately enjoy the kind of independence and freedom all children crave.

“We put it on, and instantly her arm went up for the first time,” Kerstin recalls. Now, almost three years later, Sarah can do what once seemed impossible—draw pictures, feed herself, brush her hair. “All of that started because she was able to build muscles through that suit,” says her mother. “I don't know where we would be without it, I really don't.” 🐦





A PAINFUL INTRODUCTION

"I had never heard of arthrogryposis," says mother Kerstin Thompson. "It came up in my ultrasound. The doctor said she could die within hours or have a mild version and live a mostly normal life—we won't know until she's born."

"That's another reason I'm such an advocate for the work here. Many doctors don't understand it. And this is why we travel up to UD and Nemours [where pediatricians specialize in arthrogryposis]."



THE POWER OF DIY

Unlike most exoskeletons, UD's Super Suits can be tailored to reflect a child's personality and spirit, whether that means dinosaur prints or pink fabric with fancy frills, like Sarah's. But for families, it's their affordability that truly helps.

"Medical stuff is expensive. It just is," says Thompson. "And to open it up and say, 'Here's a DIY version that you can try on your own that's not going to cost you \$3,000, \$10,000—what most of the equipment costs—it's just nice.'"

PROMISING ALTERNATIVE

"A doctor had recommended a muscle transfer on Sarah's right arm (now her 'good arm')," recalls Thompson, who learned of UD's Super Suits before committing to the invasive surgery. "Thank goodness I didn't. Parents think they have to do this surgery because top doctors are telling them to, and I say, 'Wait. Try this first.'"



BEYOND THE SUITS

Today, the Thompsons continue to work with Lobo on new devices like the S.A.S. (soft-ankle support), as well as with faculty across campus, including art and design professor Ashley Pigford, who built Sarah special dining utensils to feed herself independently. "People ask me, 'Will she ever be cured?' and I say, 'Well, no. But it's part of her, it's part of who she is, and it makes her stronger because of it.'"

Lessons from the Lab

Under Armour designer applies skills learned at UD

It was a small group: a 4-year-old girl who could only move in a wheelchair, a 5-year-old boy with limited mobility, and a 13-year-old girl who could walk independently, with a leg brace on one foot. All had unique medical conditions, but all reached out to Prof. Michele Lobo with the same request: a pair of shoes.

Thirteen-year-old Charlotte, who suffered a spinal stroke the day before middle school, just wanted high tops. “Mom, do you ever think I’ll be able to wear those?” she asked, and her mother, Nancy, didn’t have the heart to tell her no. “I thought, ‘She’s been through so much. Why can’t she just have this one thing?’”

As it turns out, Charlotte could—and did—wearing the perfect pair to her 8th-grade formal.

For a few magical hours, the middle schooler didn’t wear a hard, plastic ankle-foot orthosis (AFO) brace on her right foot. Instead, she rocked high tops over a beautiful soft ankle support designed by Dani Civil, AS15, 19M, then a student in Lobos’ Move 2 Learn Innovation Laboratory.

The soft-ankle support created by Civil functions much like an AFO, but with a thin, flexible material that allows them to be worn with normal shoes—a gift for kids who just want to fit in with everyone else.

That’s the very basis for Lobo’s laboratory, where individuals come in with “wish lists” for clothing, some that serve as alternatives to existing medical devices. Students like Civil help bring those dreams to life, gaining invaluable experience along the way.

Today, the Blue Hen alumna works at Under Armour, where she has developed apparel for hunters, Olympian speed skaters, youth soccer players and others, always keeping her UD experiences close to both heart and mind.

“If a garment isn’t meeting a person’s end needs, then they won’t enjoy wearing it,” Civil says. “It has to look good and perform the way you need it to.” 🐦

—Artika Casini, AS05



ASHLEY BARNAS



Former fashion student and current Under Armour designer Dani Civil (above right) worked in Lobo’s lab to enhance mobility for children. One of Civil’s projects was to design an orthotic for 13-year-old Charlotte (left).

A shoe for everybody

To Elena Delle Donne, basketball stardom is a gift that cannot compare to her love for sister Lizzie, who has fought her whole life against cerebral palsy and autism. Now her devotion to Lizzie is following her further onto the court.



Nike has teamed up with Washington Mystics forward Delle Donne, EHD13, to create a basketball shoe with an easy on-and-off feature, designed to give athletes with disabilities more freedom to join the fun. High-tech enough to be worn even by pros like Delle Donne, the Air Zoom UNVRS uses a new “FlyEase” system that allows wearers to fold back the magnetized heel and secure it to the sole, making it far easier to slip on without the use of hands.

“Male, female, adult, people with disabilities – this shoe is going to work,” says Delle Donne, who continues the record-setting style she was known for as a Blue Hen: This year she was named the Associated Press WNBA player of the year, and became the first in the league to shoot over 50% from the field and 90% from the foul line, giving the Mystics the best record in the league. 🐔

—Eric Ruth, AS93



PHOTO COURTESY OF NIKE

From the minds of HensWEAR

by Eric Ruth, AS93

It seems like the right idea, at the right time, in the right place: Bring together a handful of UD's top researchers, get the ideas percolating, and come up with "smart wearables."

It's called HensWEAR, and in its relatively brief existence, this cross-campus collaboration has already sparked some envelope-pushing ideas, inspired student-led innovations, and raised the possibility of commercial applications for a variety of people, from stroke survivors to athletes.

At its core, the Unidel-funded effort capitalizes on core UD strengths: entrepreneurship, rehabilitation,

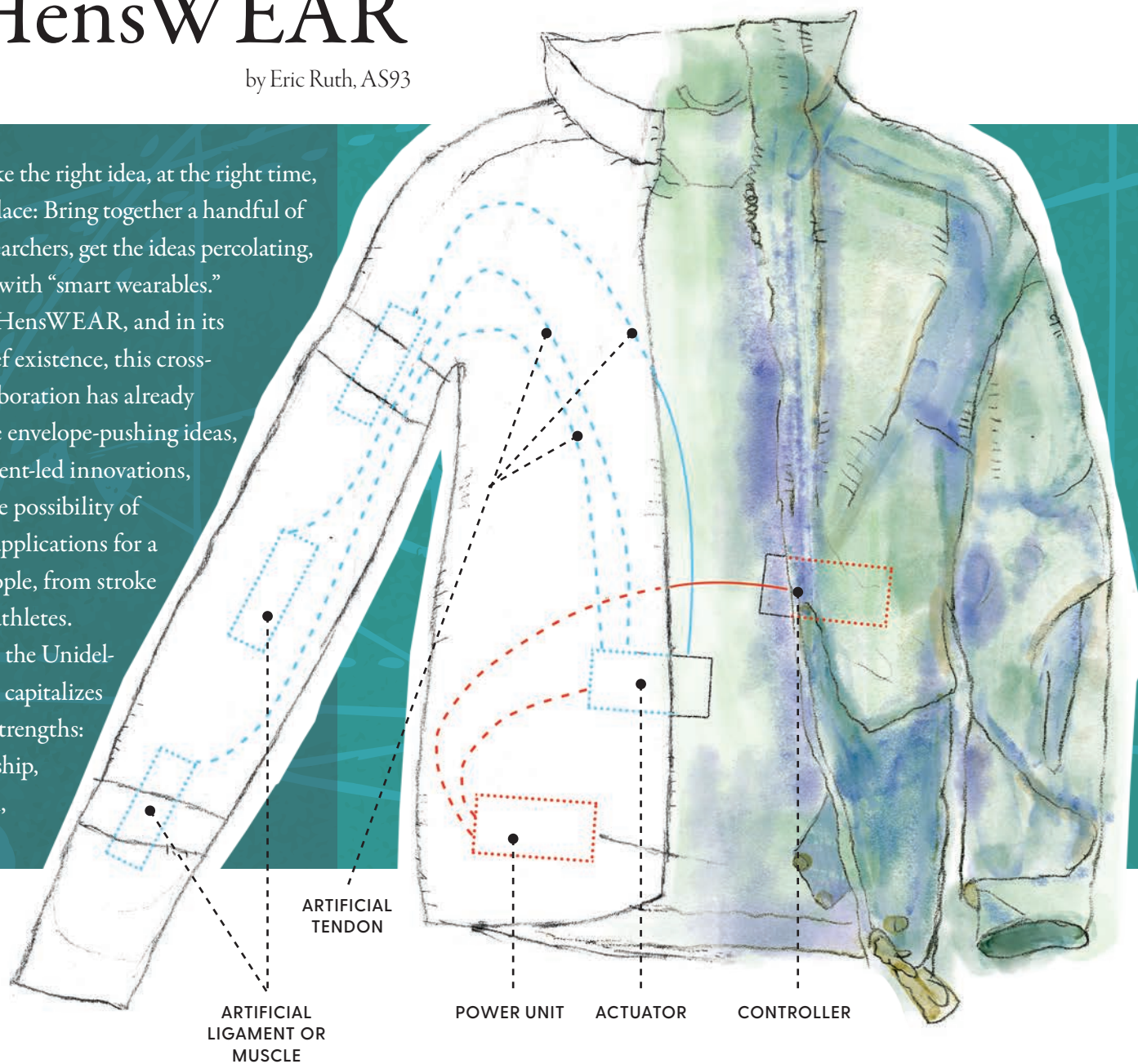


ILLUSTRATION BY JEFFREY C. CHASE

ACTIVE EXOSKELETAL GARMENT would help restore upper-body mobility for stroke survivors

Mechanical actuators within the device push and pull on cables that run through the sleeves, serving as artificial ligaments, muscles and tendons. The pushing and pulling of the cables help raise and lower the wearer's arms, and computer algorithms sense when the patient needs an assistive boost, and how much help to provide.

The "active exoskeletal garment" for stroke survivors will include a self-contained power unit, which supplies the current that drives actuators and programmable controllers. Circuitry for the controllers is being designed by Electrical and Computer Engineering Prof. Fouad Kiamilev, while Biomedical Engineering Prof. Fabrizio Sergi researches how much force will need to be applied, and Prof. Jill Higginson investigates proper placement of the actuators.



JILL HIGGINSON

Mechanical Engineering

As director of Neuromuscular Biomechanics Lab, Higginson is using human movement analysis and musculoskeletal modeling to pinpoint placement of sensors on the suit, a crucial step for ensuring that patients' receive just the right amount of help from the motors and cables.

materials science, physical therapy, and fashion and apparel studies. By brainstorming, good ideas soon grow into real solutions, ranging from customized face masks for athletes to activity trackers for people with intellectual disabilities.

"Eventually, we hope to see them commercialized by our industry partners," says Jill Higginson, the mechanical engineering professor who is helping lead the effort.

Here's a look at one of the first efforts to emerge from these collaborating minds: an upper-body "active exoskeletal garment" that would help stroke survivors move their limbs with the help of embedded motors and cables, overseen by a computer that senses when the patient needs help. 🐦

HUANTIAN CAO

Fashion and Apparel Studies

As an expert in textile science and functional apparel design, Cao is in charge of "putting the pieces together" into a garment that meets the common criteria for wearability: It needs to be comfortable despite its high-tech components, and there has to be an aesthetic appeal, so that the patient will be more likely to wear it routinely.



ERIK THOSTENSON

Mechanical Engineering



Once equipped with the mechanics of motor-assisted movement, the garment needs some way to measure and monitor those movements.

That's where Henswear relies on mechanical/materials science engineer Erik Thostenson, EG98M, 04PHD, and doctoral candidate Sagar Doshi, who are developing a groundbreaking method for turning the fabric itself into a measurement device. Once coated with a super-thin, super-light coating of carbon "nanotubes," the fabric becomes capable of measuring movement through tiny changes in electrical resistance when stretched.

MICHAEL KEEFE

Mechanical Engineering

MARTHA HALL

Biomechanics

MICHELE LOBO

Physical Therapy



HensWEAR's potential is bolstered by research from other top UD professors, including Michele Lobo, who is exploring the use of inflatable bladders to aid in arm movement. Martha Hall is busy working on customized body braces for injured UD athletes, and Michael Keefe is analyzing the minutia of how garments interact and bend with human movement. The project also includes Elisa Arch, Sean Healy and Adriana Gorea.



FABRIZIO SERGI

Biomedical Engineering

As director of the Human Robotics (HuRo) lab at UD, this biomedical engineering professor and expert on human-robot interaction is working on computer algorithms that will be the "brains" of the system of motor-driven pulleys and cables that will sense when to give a mechanical boost to a patient's movements. Motors would be attached to the back of the suit. Grad students Steve Buchanan and Cheyenne Smith helped push it all forward.



Makerspace to Marketplace

Prof. Martha Hall is developing a pattern of success in UD's wearable technology lab

by Eric Ruth, AS93



“THE STUDENTS HERE
ARE FROM ALL ACROSS
THE UNIVERSITY AND
THEY’RE HERE BECAUSE
THEY LOVE THE WORK.”

—Martha Hall

ASHLEY BARNAS

With her rocket-plume red hair streaming in her wake, Prof. Martha Hall shoots up the stairs and strides into her spanking-new Tower at STAR lab, where gaggles of eager undergrads wait with stars in their eyes.

It's just 9 a.m. on a muggy Monday, and despite the midsummer campus torpor, ideas are already percolating:

"Smart watches" to help dementia patients. Jeans to ease dressing for the disabled. From a prototype-filled countertop, the ghostly 3D-printed head of an NBA star who needed a facemask oversees the fast-breaking scrimmage of students.

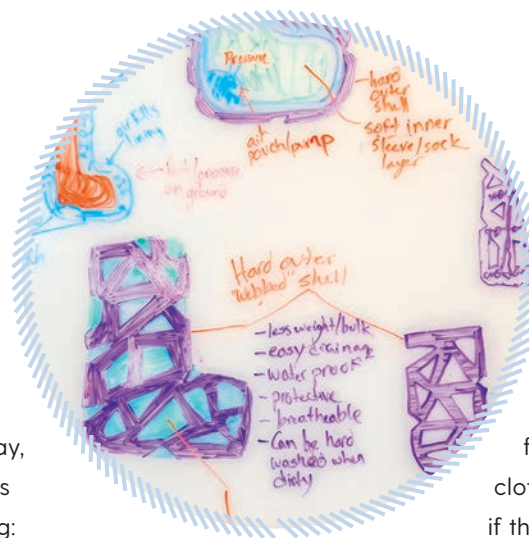
They work in teams, filling whiteboards and notebooks with their visions, their dreams and hopes—their hopes for helping others.

Inexplicably inexhaustible and defiantly youthful, Hall flits coolly from table to table at UD's Innovation Health and Design Lab, nudging and coaxing as the ideas pop and gel. Soon the folks from Target will be stopping by to hear some of these ideas for "wearable technology" from Hall, AS99, 13M, HS18PhD. A few weeks back, it was the reps from Calvin Klein, and before that, Ralph Lauren's peeps had a peek.

"Everyone wants a part of her now," says perpetually nitro-fueled research assistant Danielle Kempner, HS21, who has just applied for her first patent at age 20.

At the start, just three people asked to join her team at UD's Science, Technology and Advanced Research Campus; today it's 32 and climbing. Biomedical students, nutrition majors, electronic engineers—they are drawn here from across campus, willing to work for little credit or none, clamoring to join Hall's mission: To give patients and caregivers alike new opportunities for closer-to-normal lives. They all seem to see in Hall what they came here hoping to find in themselves.

"I would have never thought I'd be where I'm at," Kempner



Ideas abound on the whiteboard in Prof. Martha Hall's Innovation Health and Design Lab.

adds. Her teacher knows the feeling—not too long ago, Hall was a fashion grad student grasping for her direction, until she saw a presentation by Prof. Cole Galloway of UD's ongoing work in giving disabled children the gift of mobility.

Hall wondered that day: What if the artsy fashionista inside her could create simple clothing with the power to help others? What if the stay-at-home caregiver Hall had once been—the wife who spent so many years by her husband's side as cancer slowly took his life—what if she could devote her career to easing other caregivers' burdens?

She could, and she would. Within a few short years of her master's, and soon after earning her Ph.D. in biomechanics and movement science, Hall would tumble into one of those happy happenstances where energies and visions improbably align. When she mentioned the potential of a wearable technology lab to Kathy Matt, AS75, 78M, dean of the College of Health Sciences, she found to her surprise that Matt quickly agreed—and wanted Hall to head it up.

Even now, she aspires: To develop a major called "Health Design," which would be made up of course work in healthcare, clothing design and creation, as well as community research. It suits Hall's mantra: Figure out what people want and need. Then create things that can be scaled up to reach even more.

It doesn't seem to have fully settled in for Hall, even after the calls from big-name retailers and the flickers of campus celebrity that seem to shadow her pursuits. But to her students, and to the patients who eagerly await her creations, it all seems to be so fantastically right, and such an obvious step for a university seeking big strides.

"Everything that happens here is so exciting," says undergrad researcher Vicki Silverman, AS21. "You realize that everything that's being done here is going to change someone's life." 🐦

A World of Wonder: Inside Martha Hall's lab

Inspired by UD's work with disabled children—and eager to make a difference after the tragic loss of her husband—Prof. Martha Hall is devoting her career to helping others through “wearable technology.” Here's a sampling of the innovations that she and her students have dreamed up at her Innovation Health and Design Lab:



HAPPY FEET ▶

An exuberant-but-lonely 9-year-old boy with cerebral palsy inspired these shoes. “He said, ‘What if I had shoes that could light up and play songs,’” Hall recalls. “Then kids would play with me because I have cool shoes.”



CUEMINDER ▶

This wearable learning device—similar to a smartwatch—would be programmed to improve the lives of Alzheimer's and dementia patients by reminding them to perform everyday duties, such as using the bathroom, drinking water, taking medications and exercising.



JOEL EMBIID'S MASK ▶

When local prosthetics and orthotics expert John Horne needed help designing a user-friendly protective facemask for NBA star Joel Embiid, he asked for Hall's advice on colors and design, relying on her fashion experience, then used a 3D-printed scan of the player's head to ensure an exact fit. Now aided by their own high-tech scanner that measures exact body dimensions, Hall and her students are making similar custom-fitted wearables for other athletes, as well as people with disabilities.

JEANS 2.0 ▶

Hoping to give a new sense of independence to Down syndrome patients who have difficulty using zippers and buttons, Hall's lab created special blue jeans that feature easy-to-use magnetic fasteners.





◀ NICU DEVICE

Premature babies left isolated for weeks in a neonatal intensive care unit would be able to feel a little more connected to a living, moving human with this device, which swaddles the baby close to a soft, human-like device that “breathes” and has a simulated heartbeat.



Simulated heartbeat to match the heartbeat of the mother



Incubator surface maintains body temperature to match that of the mother.



Interior of NICU device is formed to match torso of mother, and shape and texture of device is intended to mimic human skin.



◀ ANKLE-FOOT ORTHOSIS (AFO)

Designed to aid in athletes' recovery from high ankle sprains, this device can be custom-fitted to each client using the lab's 3D body-measurement scanner, and produced on the 3D printer. Designed in collaboration with Biomedical Engineering student Kiki Bink, the brace is the first of its kind specifically designed for high-ankle injuries, and is already being tested on Blue Hen football players in collaboration with Head Athletic Trainer Brandon DeSantis and Mechanical Engineering Ph.D. student Kaleb Burch.

TRANSGENDER UNDERWEAR ▼

Inspired by a conversation Hall had with the Calvin Klein company, students are interviewing members of the transgender community to pinpoint their unique needs in undergarments, with the aim of designing an entire collection. The initial focus is on people trying to transition to a female gender identity, who need prosthetic enhancement in some body areas, and some “tucking in” in others.



The Perils of Fast-Fashion

by Eric Ruth, AS93

Touch the fabric of your shirt. Feel how the thin fibers are woven so smoothly; notice how the pattern suits your style so colorfully. See how the cloth is stitched and seamed with expert precision, letting the whole garment fall with soft comfort across your body.

Our clothes hold an undeniable power to make us feel good. Sometimes, they can even make us feel good-looking. But we tend not to think too much about the uglier realities of what we wear.

UD Prof. Marsha Dickson has seen them up close: Entire families in Bangladesh, working seven days a week in garment factories that don't pay a living wage and are dangerous, deadly sweatshops. Huantian Cao has all the harsh statistics at his fingertips: Thousands of gallons of water and pesticides are needed to make a single cotton shirt and a pair of jeans. And Kelly Cobb is well-acquainted with the modern "fast-fashion" consumer cycle that is pushing this vital industry toward an environmental and humanitarian crisis point—she sees it in her classes all the time.

"We have great students, but they were raised in a make-take-waste mindset," says Cobb, an assistant professor in UD's Department of Fashion and Apparel Studies. "But they're coming in ready to engage, ready to ask the hard questions."

And by the time they leave UD, none of them will look at fashion the same way again, thanks to

"We've got more companies asking, 'What do we do about this?'" —**Marsha Dickson**

professors like Dickson, Cao, Cobb and others. Over the last 15 years, UD has turned its fashion program into a world leader in eco-friendly, socially responsible fashion, instilling a passion for good practices in its students and serving as a major force for change in



HOW IT STACKS UP



Nearly **20%**
of global waste water
is produced by the
fashion industry.

**\$500
billion**
lost every year due to
clothing that's barely worn
and rarely recycled.



75%
of materials used to produce
clothing are sent to a
landfill or destroyed.

Consumers throw away
70–80 lbs.
of shoes and clothing
per person, annually.

The average person buys
60%
more items of clothing
every year and keeps
them for about half as
long as 15 years ago.

an industry that reaches all corners of the globe.

“We’ve got to find a different way to work. And some companies get that,” says Dickson, who oversees an international effort called Better Buying that uses a ratings system to help safeguard financially pressed suppliers, often in Third World countries, from predatory purchasing practices. “We’ve got more companies asking, ‘What do we do about this?’”

Broadly encompassing an array of environmental, economic and social impacts, the topic of “sustainable fashion” is woven into core classes for every fashion student, accompanied by lab work that frequently pushes those students to design their own solutions, whether it’s new uses for old clothing, or earth-friendly substitutes for leather, or even easier ways to “take” apart old clothes for recycling. Those classes are just the leading edge of a coordinated UD campaign to push for change within the entire industry, in all of its far-flung aspects, from supply chains to sales inventories.

Because of UD, the fashion industry now has the tools by which to assess (and improve) its sustainable practices: Known as the Higgs Index, the rating system

allows brands, retailers and manufacturers to choose the most socially responsible course of action at every stage of the process. Thanks to UD, the sometimes-insidious economics of global fashion are held up to greater scrutiny: UD Prof. Sheng Lu’s critique of current practices are followed by global industry insiders. And because of the efforts of UD’s cadre of sustainability experts, more academics and businesspeople are now working together for a system that serves all constituencies, from the planet’s people to the planet itself.

“It’s a big, big problem for the industry,” says Cao. “But it’s also an opportunity.”

Already, the force for change is spreading beyond UD as graduates are snapped up by a newly impact-conscious industry. “We attract students from all over the country and all over the world,” Cao says. “That shows the industry need.”

It’s those students who hold the best chance for tackling the most elusive challenge, and one they’re intimately familiar with: Consumers’ obsession with chasing the latest trends, while tossing their out-of-fashion clothes in the trash. “It could be part of these students’ future jobs to educate consumers about that,” Cao notes. 🐦



EVAN KRAPE

Networking for Success

Ruthie Davis, shoe designer to stars like Beyoncé and a member of UD's Fashion Advisory Council, first met Wing Tang, AS19, when she spoke about her work on a project to build a sustainable and biodegradable "mushroom shoe." Impressed, Davis invited Tang and a small group of fellow undergraduates to intern and collaborate with her on a few shoe and packaging designs with an eco-friendly edge for the designer's Disney Princess X Ruthie Davis line.

"Bringing UD students into my world is a way of translating what I do on the council into practical use," says Davis. Prior to working with Davis, Tang held internships with Vera Wang in New York City and at the Paris American Academy, where she took classes and worked as a global showroom intern at Elie Saab.

"My time at UD showed me that persistence, hard work and relentlessness pay off," she says. 🐦

—Karen Roberts, AS90



Seeing past the sparkle

Humans have always loved to adorn themselves in shining, sparkling and colorful earrings, bracelets and necklaces. But rarely do we think of where these symbols of love and affection originate. Indeed, the rarest and most beautiful gemstones and precious metals are many times sourced from some of the most fragile and vulnerable economies on the planet.

A just-launched, first-of-its-kind "mini-master's" program at UD is aiming to change that dynamic for jewelry and many other natural resources—for the benefit of the planet and all of its people.

The Minerals, Materials and Society (MMS) graduate certificate program is designed to help extractive industries, including the entire jewelry industry, move closer to meeting the global challenge of sustainable, socially responsible supply chains. Industry professionals and others who want to adopt better sourcing practices will have the option of visiting mining operations in Australia or Russia, study the changing landscape of legal and regulatory dynamics, and even learn how to add transparency to supply chains that are contorted at times by civil unrest.

For its graduates, the 15-credit, multidisciplinary program will help qualify them for the growing number

of "sustainability" or "social responsibility management" jobs within industry.

"Our program is one of the first in the U.S. that takes an interdisciplinary approach to linking mineral science, policy and human rights to affect positive change," says program leader Saleem H. Ali, Blue and Gold Distinguished Professor of Energy and the Environment in UD's geography department.

As part of the effort, researchers at UD and partners at other universities are also developing the concept of a "Jewelry Development Impact" index (JDI), a project that aims to establish an academically reliable source for assessing the socioeconomic and environmental impacts of the jewelry sector in specific countries. By capturing positive examples of sustainability and supply chain transparency, it aims to become a "Roadmap to Responsibility" that serves as an example to others.

"This is totally from scratch," says MMS program development manager Patricia Syvrud, former executive director of the World Diamond Council. "Because of the complex nature of the jewelry industry, there's never been an index like this before, and never been a program like this in the U.S." 🐦

—Eric Ruth, AS93



UD's Patricia Syvrud, former executive director of the World Diamond Council

KATHY F. ATKINSON



EVAN KRAPE

Chicken-and-mushroom magic

Every year, Americans buy 2.4 billion pairs of shoes—many of them made by girls working 70–80 hours a week in a process that churns out tons of greenhouse gases and uses barrels of toxic chemicals. And every year, about 300 million of those pairs are simply thrown away.

Megan Wolfe, AS21, (above) hopes to help break that wasteful cycle. Building on previous UD research, Wolfe spent this summer refining a process for making biodegradable shoes out of mushroom roots, chicken feathers and textile waste.

“Once I learned the fashion industry impacted so much. I thought, how can I make this a focus?” 🐦

—Eric Ruth, AS93

EVERY YEAR
300
million
PAIRS OF SHOES ARE
THROWN AWAY

The Life Cycle of a Pair of Jeans

It seems to be such a simple, wholesome thing—a product of earthy origins and humble purpose. But to UD's scholars on sustainable fashion, the blue jean we know and love can also serve as an apt example of the far-reaching consequences that clothing is having on our planet and our lives.

1 COTTON/FABRIC PRODUCTION

The journey starts in a sun-baked field, where cotton spends its life gulping water and being guarded by herbicides and insecticides—cotton is planted on 2–3% of the world's arable land, yet uses 25% of all insecticides and 11% of pesticides.



COTTON

IS A VERY THIRSTY CROP. IT

REQUIRES

766 GALLONS

OF WATER—

WHAT ONE PERSON DRINKS IN
2.5 YEARS—TO MAKE ONE
PAIR OF JEANS.

2 FABRIC PRODUCTION

27% of cotton's impact on climate change occurs at this stage, as the fiber is subjected to dyeing, bleaching and other treatments, leaving residual chemicals as wastewater pollution. About 20% of the world's industrial water pollution is blamed on garment manufacturing.



COTTON FARMING IS
RESPONSIBLE FOR
25% OF INSECTICIDES
AND
11% OF PESTICIDES.

3 MANUFACTURING

Gallons of water are needed, and piles of waste product are produced, but UD researchers are most concerned by the social impacts of manufacturing, which can involve abusive labor practices and unsafe working conditions.



SECOND TO OIL, THE
CLOTHING AND
TEXTILE INDUSTRY
IS THE
LARGEST POLLUTER
IN THE WORLD.

4 TRANSPORTATION AND DISTRIBUTION

In the life of a pair of jeans, 74 pounds of CO₂ emissions are produced, and 11% of that total occurs during transportation. It's estimated that each pair requires the equivalent of 3,489 miles of driving.





5 CONSUMER USE

Washing accounts for 23% of the total water used through the life of a pair of jeans, and contributes 40% of the climate impact. The average consumer bought 60% more clothing in 2014 than in 2000, but kept each garment half as long.



WASHING JEANS EVERY 10 TIMES THEY ARE WORN INSTEAD OF EVERY TWO REDUCES ENERGY USE, CLIMATE CHANGE IMPACT AND WATER INTAKE BY UP TO 80%.

6 RECYCLING

Levi Strauss estimates that recycling one pair of jeans has the same impact as recycling 69 plastic bottles, or 96 pounds of yard trimmings.



GLOBALLY, NEARLY
75% OF MATERIALS
USED TO PRODUCE CLOTHING ARE
SENT TO A LANDFILL
OR DESTROYED. LESS THAN
1% OF OLD CLOTHING
IS ACTUALLY
USED TO MAKE NEW CLOTHING.



NEW LIFE FOR UNLOVED DENIM

Like a dear friend, blue jeans tend to stand fast through tough times, still worthy despite the wear and tear.

Alumni Morgan Young (above right) and Greg Harder (above left) sense that supple-but-solid bond between people and denim. So together, through their “AndAgain” clothing line, they are creating new, earth-friendly ways to love our Levi’s, while becoming something of a sensation in the fashion world (their designs of jackets, pants and coats have been featured in *Vogue Italia*, *Elle France* and elsewhere).

But it all started as students, when Young, AS18, had the idea to repurpose aging blue jeans into redesigned wearables, with boyfriend Harder, BE18, handling the business side. Mentorship at UD’s Horn Entrepreneurship center added confidence, and soon they were on their own in the Big City, striving for a breakthrough.

That would come when they readjusted their approach—using denim scraps as material instead of old jeans—and started to enlist local designers. Now, they’re expecting distribution deals with major retailers, and feeling amazed at how far and how fast UD lifted them.

“It’s definitely an exciting time for us,” says Young, 24. “The emphasis on sustainable approaches that I got at UD really inspired me to look at fashion with a larger view.” 🐦



Worldly Goods

For better or worse, commerce across oceans and borders makes your wardrobe affordable

Economics is the study of people and money, and in many ways, so is fashion. Indeed, to understand some of the world's greatest economic complexities—from international trade to poverty reduction—you need only look in your own closet.

There lies a \$2.4 trillion annual global industry, employing over 120 million people from 150 different

fashion and global trade, he says. Simply put, “fashion exists because of global trade.”

Consider a pair of jeans: made from U.S. cotton, spun into yarns in South Korea, woven and dyed in China, cut and assembled in Bangladesh (with zippers from Japan), and finally exported to the world.

That single item reflects globalization, says Lu. When each country specializes in what it produces best using the least amount of resources, people have access to more goods at lower prices. But there’s always a cost—to workers, to the environment, to the world at large.

As trade wars dominate the news, and as automation displaces more workers, Lu recognizes that there will be winners and losers, people who benefit and the ones who don’t.

“We wear more than our clothes,” he says. “We wear the global economy, public policy and politics that make our clothes possible.” 🐦

—Artika Casini, AS05

“Fashion exists because of global trade.”

—Fashion and Apparel Design Professor Sheng Lu

countries. And assessing the economic, social and political dimension of our clothes is UD Prof. Sheng Lu.

Academically trained as an economist, he is, admittedly, “the least fashionable professor in the fashion department.” But his research is quoted in almost every major news story or policy decision around

Software Developer
\$95,283

Wholesale & Retail Buyer
\$55,603

Marketing Manager
\$122,120

Compliance Officer
\$66,620

**SOURCING
ABROAD
SUPPORTS
MANY
HIGH-SKILLED,
HIGH PAYING
JOBS AT HOME**

Sales Manager
\$111,283

Management Analyst
\$82,253

Retail Legal Jobs
\$91,610

Fashion Designer
\$73,640



97.5%
Imported

2.5%
Produced domestically

<\$1

goes toward worker's wages in an article of clothing that costs \$100
Source: LA Times

60%

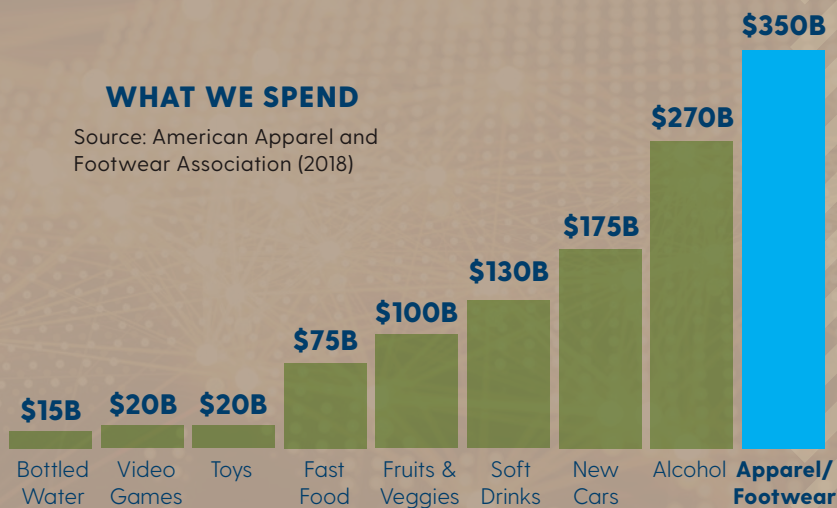
of international trade is composed of intermediary goods, not final products

76%

of U.S. apparel mills use imported fabrics

WHAT WE SPEND

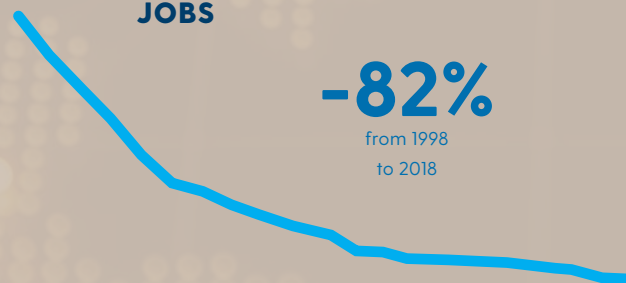
Source: American Apparel and Footwear Association (2018)



VALUE OF U.S. APPAREL IMPORTS



U.S. APPAREL MANUFACTURING JOBS



Data sources: American Apparel and Footwear Association (2018); Bureau of Labor Statistics (2019); International Trade Administration, U.S. Census Bureau; Office of Textiles and Apparel, U.S. Department of Commerce (2019)

Too cool for school

If Prof. Kelvin Fu's dreams come true, the day is coming when we won't have to worry about cranking the AC when things get hot and bothersome—our clothes will do the cooling for us.

That in turn would mean lower household and office electric bills, less energy demand and hopefully a healthier planet—thanks in part to the “personal cooling technology” Fu is working on in his Composites and Additive Manufacturing Lab.

Using a few off-the-shelf materials and some decidedly high-tech 3D printers, Fu and his colleagues have found a way to make a bi-layer composite textile fiber that is strong enough to weave into durable clothing, but also able to quickly whisk sweat and heat away from our bodies.

It's so good at it, in fact, that tests have found that the fabric feels 55 percent “cooler” than cotton.

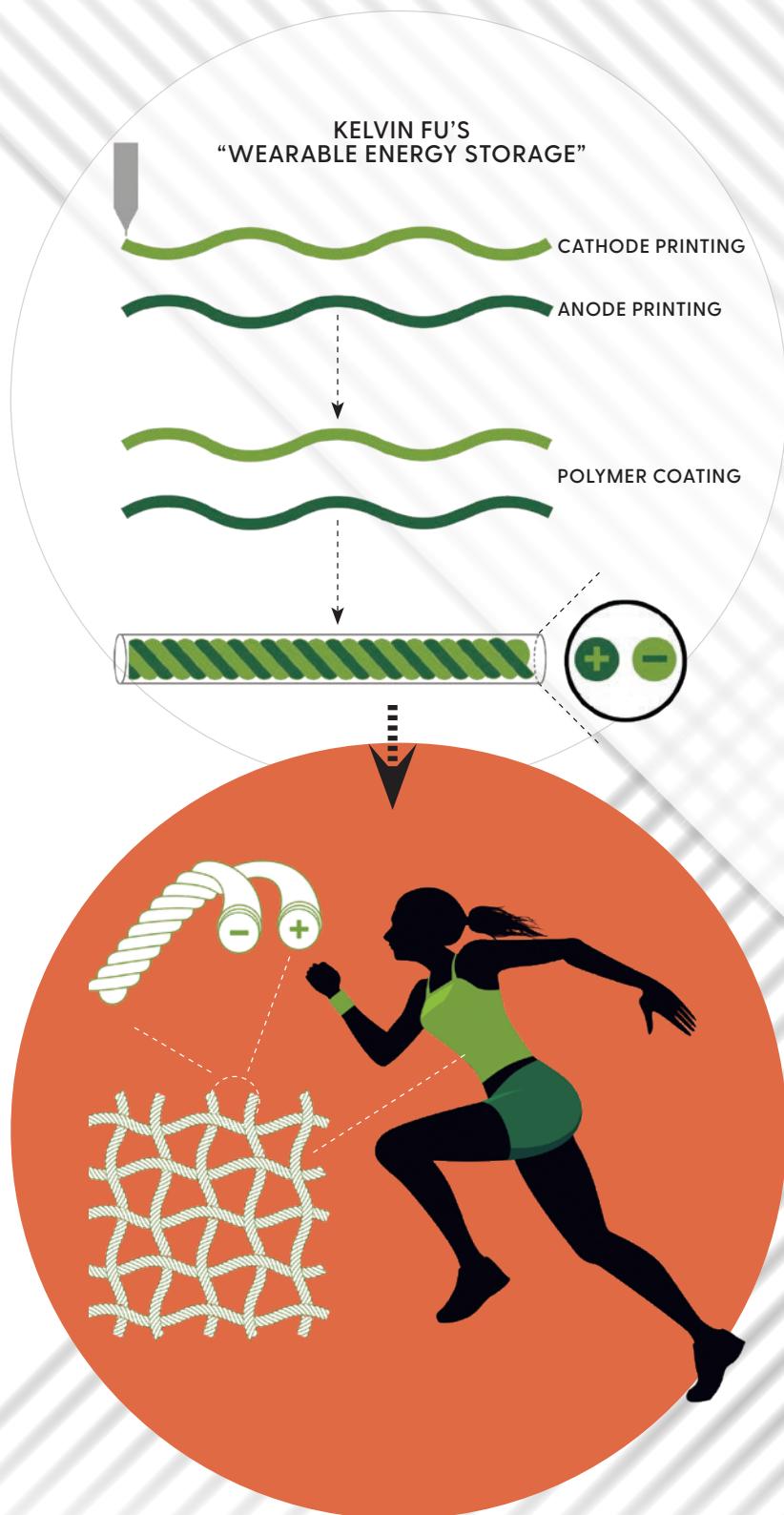
Those breezy capabilities are due in part to the fiber's shape-shifting structure, and also its high-tech composition: Yarns are woven in such a way that the fibers contract when they contact moisture, creating openings that allow for evaporation of sweat.

Big companies have long sought the “holy grail” of cooling clothing, but have struggled with the challenge of moisture evaporation, leaving current products less capable of conducting heat away from the skin.

“When I designed this, I thought it was a simple idea, but when I reviewed the literature, I found no one had tried to do this before,” says Fu, who hopes to develop the technology to the point that the fabric is capable of warming us when it's cold, as well as cooling us when we're hot.

Also on the horizon at Fu's nano-immersed lab: 3D-printed fabrics that will be capable of holding a charge like a battery, thus serving as a power source for the ever-growing array of “smart” wearables. 🐦

—Eric Ruth, AS93



High-fashion Hen

All through Cynthia Gale's life—through her days as a sports-obsessed tomboy, during her mid-'80s spin into fashion modeling, and even in the midst of her ongoing success as a chic Manhattan jewelry designer—she has always been inclined to give back some of what she has been given.

To her, it's a simple formula: "If everyone gives a little bit, big things can happen," says Gale, AS85, who has directed sales proceeds to museum education programs, veterans, female artists, tsunami victims, and now, her alma mater.

Gale has been collaborating with UD Alumni Engagement for the past year and a half to create Legacy Lock by Cynthia Gale, a one ring program focused on strengthening the Blue Hen Nation. The signature sterling silver UD Legacy Ring features University icons (Old College, Memorial Hall, the Blue Hen) engraved on a rotating band that will serve to symbolically connect Blue Hens everywhere, while simultaneously supporting students: 20% of proceeds will benefit University programs.

"I fell in love with UD as a student," says the Oyster Bay, Long Island native, known nationally for her sterling Grateful Dead collection, her designs for over 50 museums such as The Metropolitan Museum of Art, the Getty and Rock and Roll Hall of Fame and (closer to home) her mentorship of students in UD's fashion and apparel studies department. To her, the ring is a natural evolution of her commitment to giving back.

"We are all a sum of our parts. The UD Legacy Ring is the sum of my career in fashion which all started with my University of Delaware education and incorporates everything I feel passionate about. From works of art in sterling silver, to global design sensibility, to educating and creating community through art-inspired jewelry design, to giving back and supporting others, my career to date has been a gift." 🐔



Fashion and...

...Race

Fashion, according to Prof. Tanisha Ford, is a “powerful social skin.” Her new book, *Dressed in Dreams: A Black Girl's Love Letter to the Power of Fashion*, examines that skin through her own.

Both memoir and manifesto of black feminine pride, her book views fashion as a form of resistance. When the world has already formed its opinion of you—“that your hair is wrong, your culture is primitive, your family is broken, your mind will never be bright enough for college, your money will never be good enough to buy luxury,” as she writes, subversively—there is immense power in reclaiming your story and reaffirming your worth.

Recently named one of the 100 most influential African Americans by *The Root*, Ford understands that fashion is both personal and political. Here, through excerpts from her book, she shares a few items from her closet, and how they reflect an often-overlooked story of identity and expression.



TENNIS SHOES

Our gang-inspired fashion spoke to a painful truth: We had an intimacy with crack cocaine that we couldn't escape. The loss of factory-funded middle-class culture was devastating for folks who had derived their entire sense of worth from being a bigwig in the factory. We watched as our parents' freedom dreams morphed into crack vapor... But this crazy, horrifying, infuriating, heartbreaking history also brought with it a wave of creative cultural expression that took on enormous momentum and power. The music, the fashion, the culture I grew up with united me with my peers and still does. And I, a kid of the crack era, am forced to wrestle with these contradictions, even as I glorify the Dopemans name we gave the Nike Cortez [sneaker].”

ILLUSTRATIONS BY KAILEY WHITMAN



LEATHER JACKET

“The folks making and selling luxury goods were not looking for customers among poor and working-class black folk. But just because something wasn't marketed toward us didn't mean we didn't want it.”



BAMBOO EARRINGS, “AT LEAST TWO PAIRS”

“I had learned about how my ancestors in precolonial Africa adorned themselves in gold: elaborate jewelry and gold flakes in their hair. The hip hop generation was reviving this ancient custom, carrying our ancestors' style legacy with us across the diaspora.”



HOODIE

“The garment had transcended its origin as a blue-collar workers mantle, and then as the gear of the underground economy. It had even transcended blackness in many cases—but still, cops didn't revere the hoodie like we did.”

...History

Across the years, the trends of fashion have always been prone to getting tangled with the threads of contemporary culture. Our clothing holds the power to reflect our values, reaffirm our politics, even help shape our notions of sexual expression and social empowerment.

Take the “flapper” dress of the 1920s, when shorter hemlines seemed to seamlessly coincide with women’s newly won right to vote. Or the miniskirts of the 1960s, when feminism found new voice and verve. Or, on the opposite end, the velour tracksuits of the early 2000s.

“Post 9/11, you found people seeking comfort and safety, and fashionable loungewear began to emerge as a unisex trend,” says Dilia López-Gydos, curator of

UD’s Historic Costume and Textiles Collection.

With nearly 5,000 apparel and textile artifacts, from a 14th-century knitted Inca hat to the modern-day skinny jean, this repository of dress and culture has been used by students and faculty across academic disciplines to reflect a deeper reality: That while fashion is a commentary on identity, identity is never formed solely in isolation.

“The collection is a way to preserve and sustain our past, relate it to today, and use it to inform our future,” says López-Gydos.

She expects the next big trends will involve activism (“defiant free speech”), as well as protective clothing to combat extreme weather and climate change—reaffirming that the link between our world and our wardrobes is ever-present and everlasting. 🐦



...Body Image

Jaehee Jung looks out over our restlessly spinning 21st century world and wonders: Why do so many beautiful women see only ugliness in the mirror? What makes a thin person believe they are obese?

This psychologically savvy fashion professor has explored the planet for 15 years in search of answers, finding a few likely suspects—the media’s unrelenting emphasis of unrealistic ideals; the sprinting pace of progress in tradition-bound cultures. She’s also found some surprises—that in Asian societies like China and South Korea where curves once reigned, new-found consumerism has created a mindset that beauty can be bought, even as the lingering social pressures of Confucianism demand that they work to “fit in.”

So she keeps watching, well aware of the real impacts that unrealistic aspirations can have on physical and psychological well-being. “It’s mind-boggling,” says Jung, noting that even men are now getting caught in the body-image trap. “I’ve never seen change happening so fast.” 🐦

“TO MY SURPRISE, I FOUND THAT CHINESE WOMEN ARE EVEN MORE DISSATISFIED WITH THEIR BODY IMAGE THAN AMERICAN WOMEN ARE.”

—Jaehee Jung

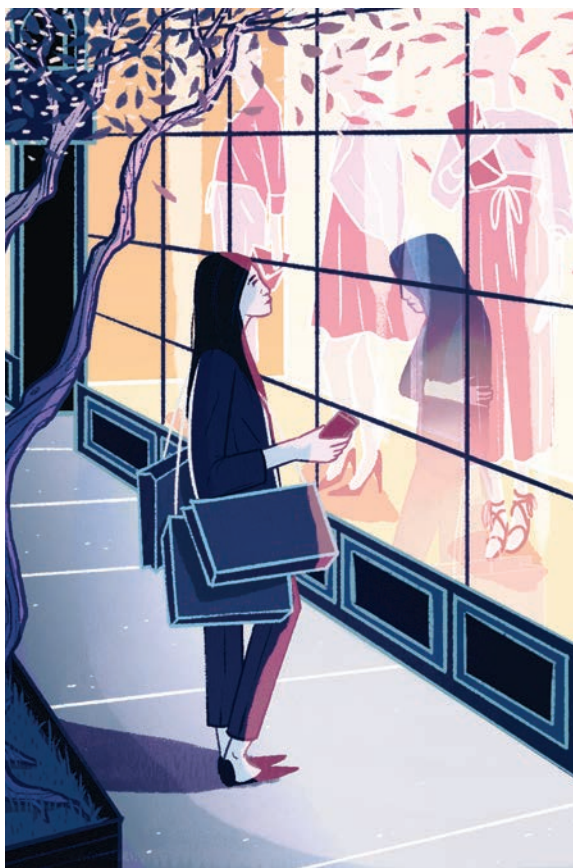


ILLUSTRATION BY KAILEY WHITMAN

Fit for the



EVAN KRAPE

Queen



Clothes are just things made of cloth, until our bodies bring them to life. Fitted just so, they flow and they flutter, they get ruffled and rumpled, emphasizing our presence with every step we take.

UD Prof. Laura Mina sees a beautiful lyricism in this interplay between people and their attire, in the oneness that is created when the two are joined: Her task and her passion is to bring this sense of symbiotic kinship to life, even when there's no body to fill the fabric.

As associate director of textiles and head of the Textile Lab at Winterthur Museum, Garden and Library, Mina is an

expert in conserving the fabric artifacts of history, but also a master in creating a context for those textiles to speak

their story. For Winterthur's recent "Costuming The Crown" exhibit, she and her team worked months to build 40-odd mannequin displays for the royal attire worn on the Netflix series, zhusing and tucking and bracing until the elaborate clothing was brought to life.

Students from UD and Winterthur's Art Conservation Program were by her side, five days a week for four long weeks, gaining expertise and an esoteric sort of insight: How would ladies' undergarments of the era have altered the lines of a dress? Should the displays put more emphasis on the historical characters in the show, or the wearable works of art themselves?

This time, Mina chose to highlight the art. But she hopes her students appreciate how it's all infused with history as well, just as she did when she discovered her passion. "I thought, 'Oh my goodness, I actually could be paid to touch the art, and do all this historical research. This sounds amazing. How do I get this job?'" 🐦

—Eric Ruth, AS93



Sew sister

For ChaCha N. Hudson, AS19M, there is power and beauty in creating something from nothing.

That philosophy is at the very heart of both sewing and Hudson's SEWcial (social) Café: an incubator and co-working space for female fashion designers to collaborate and develop handmade products.


Located in Philadelphia's Kensington neighborhood, the 2,600-square-foot café offers 20 sewing machines, five industrial machines, sergers and other equipment. But more than that, it provides support and sanctuary to dozens of creative, entrepreneurial women, from the high school student who has started her own line of T-shirts to working mothers (groundskeepers, nurses, teachers, doctors and others) who just want to sew.

"There are not a lot of places with this kind of energy," says Hudson. "It's like a sorority, a sisterhood. We're a community of people wishing the best for each other."


An instructor in UD's fashion department, Hudson opened the SEWcial Café in October 2018, with her own savings, contributions from SEWcial founding members and earnings from the University's Hen Hatch competition (she received \$1,000 as a semifinalist in 2018 and another \$8,400 as a finalist in 2019).

She also recently traveled to Ghana, where she taught brand building and design workshops for fashion students.

Hudson views fashion design and the SEWcial Café as a means of economic empowerment, but also as a form of confidence building and spiritual fulfillment.

"We're about turning hobbies into thriving businesses," she says, "one woman at a time." 

—Artika Casini, AS05



"We're a community of people wishing the best for each other."

—ChaCha Hudson

PHOTO BY CHACHA HUDSON

JOSH PESKOWITZ, AS01

VP OF FASHION DIRECTION AT MODA OPERANDI

This New York native rose to Insta-fame through his suave social media posts, and soon found himself in demand by higher-end retailers hoping to tap into his style savvy. After co-founding Magasin, a trendy L.A. men's retailer, he became fashion director for Moda Operandi in NYC.



Q & A with our FASHION EXPERTS



KENDALL KEOUGH, AS19, 20M

Now a grad student in fashion and apparel studies, Keough interned with as a business management professional with Macy's, working to tweak the brand's appeal to Millennial and Gen Z shoppers. The Connecticut resident is also a winner of the prestigious Fashion Scholarship Fund case competition in New York City.

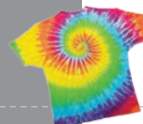
...In broad strokes: one of the most important visual languages that humans use to express themselves. And to protect themselves from the elements.

FASHION IS...

...Something we all participate in every day. It is both a form of protection from the elements and the most fundamental visual form of self-expression.

...Thanks to the Internet and social media, the next big trend will be the end of trends. Everything that has ever been in fashion is on its way to being "in-fashion" all the time.

NEXT BIG FASHION TREND WILL BE...



...Tie Dye. This fabric dying technique has been seen emerging in every type of garment and accessory for the spring 2020 season.

...A pair of loafers, a good overcoat and pants that fit.



EVERY CLOSET SHOULD HAVE...

...a great fitting pair of jeans, because they never go out of style.

...Embroidery

HISTORIC TREND THAT SHOULD MAKE A COMEBACK...

...'60s British Mod because it was all about well-tailored clothing in fun prints and colors.

...A trench coat



TIMELESS CLOTHING ITEM...

...a classic blazer, which can be worn many ways to polish off an outfit.

It depends on the item. Shoes should be new, but jeans, trench coats and T-shirt can be — and in most cases are — better when they are old.

VINTAGE OR NEW?

I am a big promoter of sustainable living, so I try to buy second hand/ vintage whenever I can. Not only do I find one-of-a-kind pieces, I am also able to reduce my environmental footprint.

... Leopard



(BLANK) IS THE NEW BLACK...



...the Pantone color of the year, Living Coral, inspired designers to suggest Bleached Coral instead, creating a discussion around fashion and climate change.

Biggest mistake most people make is that their clothes don't fit them. They are either too big, too small, too long or too short. Every brand fits differently.

BIGGEST FASHION MISTAKE PEOPLE MAKE...

....Wearing something that makes you uncomfortable. It's good to try new things and experiment with trends, but what really matters is wearing what makes you feel beautiful and confident.



ERIC RUTH

UD's Factory of Fashion

It might be the beginning of something big: An out-of-the-way UD classroom, now slowly filling with stuttering industrial-strength sewing machines, open to anyone who has a dream and some drive. That's the vision that Fashion and Apparel Studies instructor Katya Roelse has for her fledgling "Flex Factory," a space in Alison Hall that aims to foster entrepreneurial spirit (and maybe even some profitability) among fashion-minded students who want to make their own products. "So many times, you have an idea, and it doesn't go anywhere," says Roelse, who has years of experience in fashion industry product development. "This will give students the structure they need to make their product and market it. I'd like to get every student at UD behind a sewing machine." 🐦

—Eric Ruth, AS93

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ALUMNI NEWS

ALUMNI ACHIEVEMENTS FOREVER INSCRIBED ON NEW ALUMNI CIRCLE

For decades, alumni have been recognized by the University of Delaware Alumni Association (UDAA) for their achievements and dedication to the University, and now there is a permanent and physical representation of these honors on campus.

The new structure, called the Alumni Circle, graces the green space between Alumni Hall and the Carpenter Sports Building (or Little Bob) near Old College. Its shape represents the lifelong, never-ending relationship the association hopes all Blue Hens have with their alma mater, and its stone walls bear the names of more than 550 graduates, including UDAA presidents and recipients of the UDAA's Outstanding Alumni Award, Alumni Wall of Fame Award, and the Emalea Pusey Warner and Alexander J. Taylor Sr. Awards for Outstanding Senior students. The remaining panels of the Alumni Circle are blank, representing the stories and accomplishments yet to happen.

During Homecoming 2019, more than 200 Blue Hens gathered for a dedication and ribbon cutting, with honorees and award recipients from the 1950s to present day in attendance.

Among the guests were Reed Pyeritz, AS68, the first Taylor Award recipient,



KATHY F. ATKINSON

who met this year's Taylor Award honoree, Nick Konzelman, BE19, AS19, AS19M. "The best thing is meeting Nick," says Pyeritz, who received the Taylor Award in 1968 and the Alumni Wall of Fame Award in 1994. "It's interesting to see how spanning the decades has made a difference. I think education today is much more multifaceted and intense."

Konzelman was humbled by the experience and by his seeing his name inscribed and immortalized for future generations of students and alumni to see. "To be recognized in such a way with so many successful and distinguished people and to have my name a part of UD's history is an honor," he says.

"Our alumni are key to UD's success and legacy," says Lauren Murray Simione, BE95, associate vice president,

Alumni Engagement and Annual Giving. "It is only fitting that we honor the impact these alumni have made at the University by displaying their names on this meaningful piece of campus for many generations to come, and I am grateful to the UD Alumni Association for the generous gift that made this possible." 🐦

—Megan Maccherone



EVAN KRAPE

Taylor Award recipients Reed Pyeritz, AS68, and Nick Konzelman, BE19, AS19, AS19M.

A portrait of Cedrick Johnson, a Black man with a short haircut, smiling. He is wearing a dark suit jacket, a light blue patterned shirt, and a blue patterned tie. The background is a textured blue.

I PUT DELAWARE FIRST

"I put Delaware first because my University education and experience was such a large part of my transition to adulthood and who I am today. Now, I can give back and help UD students through the scholarship I established to honor my parents and by recruiting Blue Hens to intern and work at my company. When I hire someone from UD, I can trust the education and knowledge they are bringing to the table. It's very rewarding for me to help young people realize their goals." —Cedrick Johnson, EG95

Cedrick Johnson, EG95, is co-founder and president of Airport Design Consultants, Inc. (ADCI), and he created the Raymond T. and Alma Johnson Scholarship at UD in 2012. Named for his parents, the scholarship benefits students with financial need who are pursuing studies in the Department of Civil and Environmental Engineering—the same field he excels in today. Johnson also serves on the department's advisory council and is active in the college's Resources to Inspire Successful Engineers (RISE) Program, which provides resources and support for underrepresented engineering students.



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MOCKTAILS FOR MOM

Activities like meeting friends for happy hour or having a glass of wine with dinner are so intertwined with modern socialization that their sudden absence can sometimes leave pregnant women feeling a bit lonely.

For nutritionist Kerry Criss, AS12, 13M, there's a solution, and her new book, *Drinking for Two: Nutritious Mocktails For the Mom-To-Be*, offers them by the dozen.

In addition to fancy, delicious beverages, the book's recipes include ingredients to help alleviate various pregnancy symptoms, from nausea to heartburn to a host of other common ailments.

"Our goal was to get the conversation started and get people thinking a little differently and raise awareness on the topic [of alcohol exposure during pregnancy]," she says of the book, which she co-wrote with nutritionist Diana Licalzi.

Her own interest in the subject began at UD, as a neuroscience major researching fetal alcohol

syndrome alongside Prof. Anna Klintsova. "My experience in the lab was so formative," Criss says. "I think there is a real need to have better education around the issue, and to approach it from a standpoint of empowerment." 🐦

—Carlett Spike



Alumna and author Kerry Criss wrote a nutritious recipe book of "Mocktails" with fellow nutritionist Diana Licalzi

Mulled Wine-Not Serves 6

This cozy mocktail is the hot counterpart to the authors' Red Sans-gria. With wintry spices like cinnamon and clove, it will warm you from the inside out.

INGREDIENTS:

3 cups pomegranate juice or grape juice (no sugar added)
3 cups coconut water
1/2 cup orange juice
Zest of 1/2 orange
Zest of 1/2 lemon
12 whole cloves
4 cinnamon sticks
1/4 tsp ground nutmeg
1/4 tsp ground cardamom
Lemon and orange slices and cinnamon sticks for garnish
Optional: up to 1 tbsp honey; up to 3 star anise pods

TOOLS:

Citrus juicer
Zester or microplane

PREPARATION:

1. Simmer pomegranate and citrus juices, coconut water, honey (if using), spices, cloves, and zest for 15 minutes over low heat. Avoid boiling the mixture.
2. Serve with fresh lemon slices, orange slices, and cinnamon sticks.





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You must have seen the photo from earlier this spring: Young computer scientist Katie Bouman, sitting before a laptop with her hands barely concealing a smile, watching the first-ever photo of a black hole appear on the screen.

Her joy that day spoke of our collective astonishment, her smile suffused with our collective pride: Thanks in part to her algorithmic prowess, the 30-year-old helped make real what even our imaginations could not grasp.

The snapshot captured scientific geekery in its purest, most glorious form, and it warmed Charles Bergquist's heart. "It's that kind of excitement that gets people excited about science," says the UD chemistry-alumnus-turned-journalist, who directs and produces the popular radio series *Science Friday*, broadcast on 400 stations to more than 2 million listeners.

Bergquist, AS96, returned to campus earlier this year as part of the "Words for Nerds" seminar series, which helps STEM majors connect with the public, and invited more student scientists to let their geek flags fly. After all, it's science that wrestles with the universe's most mind-boggling questions: Where did we come from? Where are we going? How did we get here, and how can we make things better?

Through in-depth discussions on everything from gene splicing

to wildfires, *Science Friday* seeks to dissect and serve up those very ideas in ways that are palatable to the general populace.

Take, for instance, the circadian rhythms of jellyfish, a surprisingly interesting topic, and not just because jellyfish don't have brains, and not just because of the startling finding that they "snooze," revealing the innate power of sleep over all living things. What truly interests Bergquist in the story is its origins—how the research stemmed from a lighthearted question posed by a handful of tipsy graduate students at a happy hour: Do these floating, drifting creatures ever slumber?

The fun, as Bergquist sees it, is in these sometimes-whimsical paths that science takes in its analytical quest for discovery.

"The tone of our show is curious and exploratory and proudly geeky," he says.

"We don't want to bore you at a cocktail party."

It's a goal with deep roots for the Blue Hen, who grew up wanting to be Mr. Wizard (the 1970s' Bill Nye). When he arrived at UD in the early '90s, he majored in chemistry with a minor in political science, and surprised the late chemistry Prof. Burnaby Munson by asking for a grad school recommendation—to study journalism. After earning his master's in science, health and environmental reporting, Bergquist would find his way to *Science Friday*, where he's remained for the past 22 years.

"We're kind of a big deal in this weird, science niche," he says. "We're geeks. But fun." 🐦

—Artika Casini, AS05

The fun geek

Charles Bergquist directs and produces the popular radio show *Science Friday*.

PHOTO COURTESY OF CHARLES BERGQUIST





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MET TO BE

.....

“Just try it,” Brian Fenderson, AS17M, told himself. “The timing will never be perfect, but you have to take the risk.”

The chances of failure were high when the music alumnus auditioned for the Metropolitan Opera’s production of *Porgy and Bess*, with 500 of the world’s best vocalists vying for the 60-person chorus. “My audition was on Jan. 7, and when I left, they said, ‘You’ll hear back by May,’” Fenderson recalls.

His offer came two weeks later—“a surreal, incredible moment that I don’t even know how to put into words.”

Those indescribable moments have followed the Blue Hen since graduating in 2017. With the support and encouragement of Prof. Isai Jess Muñoz, Fenderson has spent a month singing in Germany and performed in the annual Opera Gala at Carnegie Hall. Through his mentor’s recommendation, he has completed programs in Chicago, Michigan, Texas and Wales.

“Brian really understands the responsibility we have as artists to reflect the world around us,” says Muñoz. “And the rich diversity that surrounds us is crucial to our understanding of the world,” adds the music professor, who has dedicated much of his career to increasing diversity in the arts.

Since *Porgy and Bess* debuted in 1935, Gershwin’s famous opera on race, class, life and love has featured an all-African-American cast of classically trained singers. J. Rosamond Johnson, who would compose America’s Black National Anthem and star in the original 1935 cast, called the opera “a monument to the cultural aims of Negro art.” For Fenderson, the production represents a confluence of past, present and future. *Porgy and Bess* opened at the Met the night before the baritone’s 26th birthday. “I feel like this is the start of something really special,” he says. 🐦

—Artika Casini, AS05

PHOTO COURTESY OF BRIAN FENDERSON

BLUE HENS IN NORTHERN NEW JERSEY



Surrounding New York City and stretching west to Pennsylvania and halfway down the state, Northern New Jersey is as varied in culture as it is in landscape. The 13 counties that make up the region range from densely populated urban areas like Jersey City and Hoboken, to traditional suburbs like Maple Shade, to beach towns like Bruce

Springsteen's hometown of Long Branch, to even the vast farmlands and mountains near the Delaware Water Gap.

There is something for everyone in northern New Jersey. (And if you're looking for the best burger in the state, you can find it at the White Manna in Hackensack, according to The Daily Meal.)



The Schwartz family at Homecoming 2019

MEET NORTHERN NEW JERSEY DOUBLE DELS BRITTANY SNYDER SCHWARTZ, AS08, BE09M, AND DAVE SCHWARTZ, AS08

When Brittany was a sophomore living in Rodney Hall, she connected with Dave on Facebook because of their shared passion for music—she majored in the subject and he played trumpet in one of the University bands and jazz band. Even though Dave lived just upstairs in the same building, they didn't meet in person until after their Facebook connection.

"He waved to me in the music

building and I didn't recognize him!"

Brittany says of the first time they saw each other. "I only realized it later and profusely apologized for, as he would say, 'ignoring him.'"

After six years of dating, the two married in 2011 and lived in Brooklyn for a few years before moving to Maplewood, New Jersey, not far from where Dave grew up.

...AND ACROSS THE COUNTRY

"We fell in love with this diverse, friendly, close-knit community of north Jersey," Brittany says. Now it is home to the couple and their two young children and two dogs.

HOW HAS YOUR UD EDUCATION AND EXPERIENCE INFLUENCED YOUR PERSONAL AND PROFESSIONAL LIVES?

Brittany: I met my husband and lifelong friends at UD. We have gone to football games with family and attended Alumni Weekend. Because my UD education allowed me to gain experiences in several areas of the nonprofit sector, I was able to discover my real passion. Now, I am the owner of a fundraising consulting business that I started in 2018. (Plus, I now teach the UD music management course "Patterns of Patronage," which I took as an undergrad!)

Dave: I was very fortunate to have several professors in political science and foreign languages and literature and coaches in men's track and field that were very passionate about their work. These role models showed me the value of a strong

work ethic and finding a career path where your expertise and skills determine your success.

WHY IS IT IMPORTANT FOR YOU TO STAY CONNECTED WITH UD?

Brittany: UD is such an important part of our family story, and Dave and I want to share that with our children, keep in touch with friends and make new friends in our area through the Northern New Jersey alumni club. We've also included the University in our legacy plans to ensure that our support for fellow Blue Hens continues for as long as possible.

WHAT DO YOU LOVE ABOUT UD EVENTS OFFERED IN NORTHERN NEW JERSEY?

Brittany: We really enjoyed meeting other alumni and gathering with our alumni friends during the Hike and Lunch at Ramapo Valley County Reservation last year. It wasn't too far from home and it was something that we could do with our daughter, who was just under 18 months at the time. We look forward to attending more family-friendly events in the area. 🐦

ATLANTA

Jan. 25 – Georgia Aquarium Tour

BAY AREA

March TBD – Exploratorium Learning Laboratory

BOSTON

Jan. 25 – UD vs. Northeastern Men's Basketball Game

Feb. 4 – Boston Bruins Hockey Game

CHICAGO

Feb. 4 – Museum of Contemporary Art

DENVER

Jan. 18 – Colorado Avalanche vs. St. Louis Blues Hockey Game

HOUSTON

Feb. 23 – Houston Livestock Rodeo and BBQ Cook off

KENT AND SUSSEX COUNTY

March 14 – Big Fish Grill Cooking Class

LEHIGH VALLEY

Jan. 11 – Lehigh Valley Phantoms vs. Laval Rocket Hockey Game

LOS ANGELES

Jan. 11 – Beach Cleanup Service Project

NORTHERN NJ

Feb. 26 – Hudson Table Cooking Class

March 10 – NJ Devils Hockey Game

PHILADELPHIA

Jan. 13 – Philadelphia Flyers Hockey Game

Feb. 18 – Philadelphia 76ers Basketball Game

PHOENIX

Jan. 11 – Service Project at Saint Vincent DePaul

March 15 – Spring Training Game

PITTSBURGH

February TBD – Kingfly Spirits

April TBD – Topgolf

RICHMOND

January TBD – Virginia Museum of Fine Arts

SOUTH CENTRAL PA

Feb. 9 – Iron Hill Brewery Tour and Reception

For event updates, details and registration, please visit

www.udconnection.com/events



Remember to join your regional alumni club group on Facebook!



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Matthew K. Voltz, DO

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Michael J. Principe, DO
Nicholas F. Quercetti, DO

*Affiliated Assistant Professor - UD Physical Therapy

**Affiliated Professor - UD Department of Kinesiology & Applied Physiology

†Orthopaedic Surgeon for the University of Delaware Athletic Department

DELAWARE ORTHOPAEDIC SPECIALISTS

FROM THE FILES OF LEGENDS AND LORE

Alumni of a certain age may recall the brimless caps that adorned many a freshman head. With a bean-sized, cloth-covered button at its top, the “beanie” (or “dink”) bore the graduation year of those who wore it.

Those two numbers told a story of hierarchy, reminding freshmen of their lowly rank while instilling a sense of class pride and camaraderie.

Beanies, which first emerged at UD in 1914, were “a form of freshman initiation,” says the encyclopedic Lisa Gensel, ASOIM, coordinator of University Archives and Records Management. “And also,” she adds, “mild hazing.”

Freshmen handbooks of the time included “rat rules” for incoming students, and the directives—from carrying matches and lighting cigarettes for upperclassmen to banning high school insignia—were often enforced on cap-wearing first years.

But in the words of the 1938 freshmen handbook, “Contrary to the opinions of many dissatisfied Freshmen, the scourge of ‘rat’ rules really has a very definite purpose. Perhaps the primary reason is to enable incoming students to have some medium by

THE BEST UD STORY YOU NEVER KNEW.

✧ The story: “Behold the beanie”

✧ The years: 1914-65

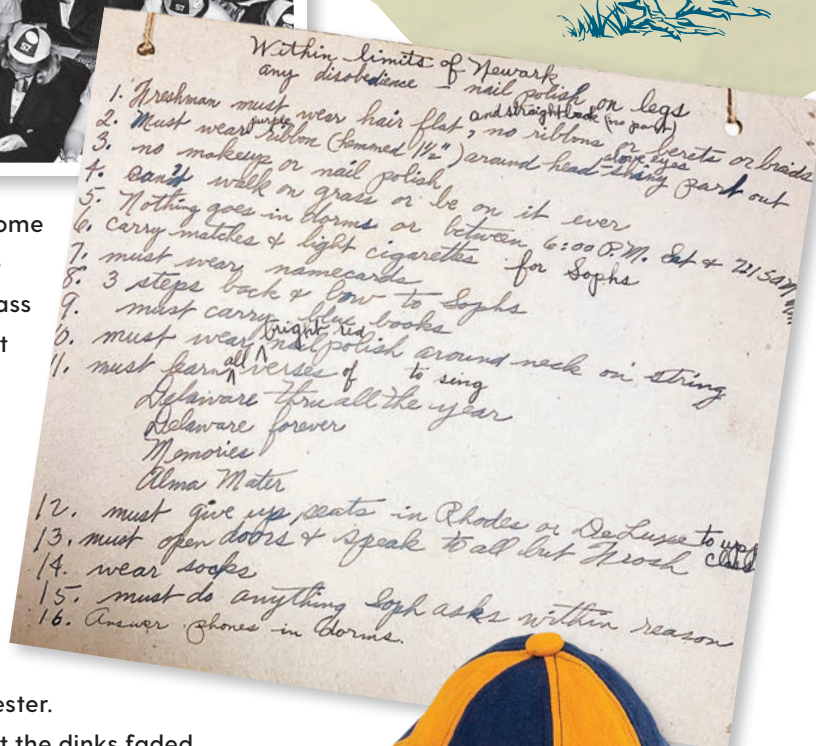


which they can become acquainted with the members of their class and with the student body as a whole.”

Consistently ranked as (rat) rule #1: “Freshmen must wear the regulation Freshmen caps until time for their removal,” usually within the first semester.

Legend has it that the dinks faded from UD history in 1965, with worries that the incoming class’s graduation year would be indecently embraced.

But Gensel believes beanies went out of fashion as wider changes swept both the nation and the campus. “You no longer have wide acceptance of compulsory ROTC. You no longer have compulsory dress codes,” she says. “We’re seeing activism from black



students and women for the first time. The world is changing, and the beanies are a little too symbolic of another generation.” 🐔

—Artika Casini, ASO5

CLASS NOTES



John Pelin, EHD79

1970s

Charles Bacon, AS70, of Beverly, Mass., celebrated 50 years of marriage to his wife, Ann, whom he first met in 1968 at Rodney Dining Hall. "Even though she had just finished eating, she joined Charlie under the guise that 'no one should eat alone,'" remembers daughter **Jessica, AS97**.



Sharon Stohler, EHD88

Roommates **Teri Reynolds MacMillan, AS72**, of Milford, Del., **Linda Hynson Siena, AS72**, of Jupiter, Fla., **Judy Tucker Radebaugh, HS72**, of Selbyville, Del., **Darlene Reeves Klein, HS72**, of Wake Forest, N.C., and **Mary Oyer Gotwald, HS72**, of Chambersburg, Pa., enjoyed a reunion and beach getaway in June.

Joseph J. Giambone, ANR72, 74M, of Auburn, Ala., has retired after 42 years of service, research and teaching at Auburn University, where he is now an emeritus professor of poultry health.



Scarlett Noelle Wittlinger

Rev. Dr. Greg Hill, AS73, of Pawleys Island, S.C., received the Military Officer's Association of America Leadership Award.

Carol Randolph, AS73, of Olney, Md., celebrated 40 years as founder and executive director of New Beginnings, a nonprofit support group for separated and divorced men and women in the D.C. metro area.



Louis Jones, AS92M

Richard D. Bond, AS79, of Wilmington, Del., has been selected by professional peers as one of *Delaware Today* magazine's 2019 Top Dentists. Bond is a partner with Dental Associates of Delaware.

John Pelin, EHD79, of Brockport, N.Y., has retired from the Spencerport Central School District after 30 years as director of health, physical education and athletics. The high school gymnasium has been named after him in recognition of his service and accomplishments.

1980s

Deborah M. Gill, BE80, of New Castle, Del., earned second place in the Delaware Press Association's nonfiction memoir category for her book, *Struck by Lightning: My Journey from the Shadow to the Light*. Gill's website, gowithinspiritualcoaching.com, also received a first place award from the DPA, as well as second place from the National Federation of Press Women.

Marty Diamond, AS82, of New York, N.Y., has received the 2019 SummerStage Icon Award from the City Parks Foundation, as well as the Bobby Brooks Agent of the Year Award. Diamond is head of global music for Paradigm Talent Agency, where his clients include Ed Sheeran, Coldplay, Lorde, Sia and many others.

Elizabeth Halliday, AS84, of New York, N.Y., married Roderic Randolph Richardson on July 25, 2019.

Sharon Stohler, EHD88, of Indianapolis, Ind., has written her first historical and biographical children's book, *Affectionately Yours: The Devoted Life of Abigail Adams*.

Eileen Wallace, HS88, of West Long Branch, N.J., has received a grant from the Women Divers Hall of Fame to help students or certified SCUBA divers with communication impairments.

Kevin J. DiMedio, AS88, of Haddonfield, N.J., is celebrating the one-year anniversary of his firm, DiMedio Law.

Lisa Smith, AS89, 91M, of Thousand Oaks, Calif., has published *Godly Character(s): Insights for Spiritual Passion from the Lives of Eight Women in the Bible*.

1990s

Eric Wittlinger, AS90, of Fair Lawn, N.J., welcomed daughter Scarlett Noelle on Dec. 19, 2016.

Tony Esposito, BE92, of Lincoln University, Pa., recently published a children's book, *Imaginary Morah*, about a smart, loyal and occasionally mischievous imaginary friend.

Louis Jones, AS92M, of Plymouth, Mich., has been named a fellow of the Society of American Archivists.

COLLEGE DEGREE LEGEND

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- EOE • Earth, Ocean and Environment
- EHD • Education and Human Development
- HS • Health Sciences
- M • master's degree
- PhD
- EdD • doctoral degrees
- DPT
- H • honorary degree



Roommates (left to right) Teri Reynolds MacMillan, Linda Hynson Siena, Judy Tucker Radebaugh, Darlene Reeves Klein and Mary Oyer Gotwald enjoy a reunion and beach getaway in June.

SHARE YOUR NEWS

The Magazine encourages alumni to send us news to share with your fellow Blue Hens. A new job, a promotion, a personal or professional award ... they're all accomplishments we want to announce.

Email a note or a press release to

magazine@udel.edu

Please include your hometown, graduation year and college or major.

Anthony Varallo, AS92, of Charleston, S.C., has published a novel, *The Lines*, set in Delaware in the summer of 1979. Varallo is a professor of English at the College of Charleston.

Tony Allen, AS93, 97M, O1PhD, of Wilmington, Del., has been named president of Delaware State University, where he previously served as provost.

Brad Bofford, AS93, of Mahwah, N.J., is founder of Financial Principles, a wealth management firm that recently joined the HighTower network of independent advisers. Bofford serves on the UDAA executive committee and is past president of UD's Northern New Jersey Alumni Club.

Bryan Butvick, AS94, of Floral Park, N.Y., **John Sierp, HS94**, of Staten Island, N.Y., and **Serge Zborovsky, BE95**, of New York, N.Y., have opened Home Base Bistro, which serves "bar food, kicked up a notch."

Jeffrey S. Podoshen, BE96, of Wayne, Pa., has been promoted to full professor at Franklin and Marshall College.

Christopher Burgos, BE99, of Hockessin, Del., has been named president of Delaware State Financial Group.

Lt. Col. Kenneth Scerbo, AS99, of Grovetown, Ga., relinquished command of the 369th Signal Battalion at the

Army's Cyber Center of Excellence and will assume duty at the United States Military Academy in West Point, N.Y. as regimental tactical officer. Scerbo previously served as department chairperson for UD's military science department.

Andi Jenkins Williams, BE99, and Omar Williams of Wilmington, Del., welcomed son Omar Malcolm Williams on Aug. 17, 2018. He joins big sister Loren.

2000s

Jennifer Steele, BE00, of Smyrna, Del., has published a memoir, *One Step at a Time*, about coping with the sudden death of her husband.

Andrew Sullivan, BE00M, of Wilmington, Del., is now executive vice president and head of U.S. businesses for Prudential Financial, following a 27-year career with the company.

Kristen Buzzell Best, AS03, of York, Pa., has been named chief of staff for operations support in the Department of Homeland Security's Transportation Security Administration.

Frederick Cox, AS03M, of Port Deposit, Md., has been named director of research and technology at the U.S. Army Combat

Capabilities Development Command Chemical Biological Center, where he is responsible for \$1.8 billion in facilities and equipment and leads more than 400 government and contractor personnel.

Kevin Fitzgerald, EHD03EdD, of Camden, Del., was named the 2019 National Administrator of the Year by the National Association of Educational Office Professionals. In 2018, he was recognized by the National Association of School Superintendents as Superintendent of the Year for his service as superintendent of the Caesar Rodney School District.

Devin Ralph, AS03, of Philadelphia, has joined Timoney Knox, LLP, in the firm's Business, Corporate and Tax Law Department.

Vanessa Robinson, AS03, of Cherry Hill, N.J., has obtained the designation of fellow of the Casualty Actuarial Society.

Suzanne Venteau-Koch, AS03, and **Brian Venteau-Koch, EG04**, of Reston, Va., welcomed Lucien Matthew on March 16, 2019. He is the third baby Blue Hen in the Venteau-Koch family, joining Caelan and Micah.

David Mendez, BE03, of Hoboken, N.J., married Michelle Wood on May 25, 2019, with many fellow Blue Hens in attendance.



Lt. Col. Kenneth Scerbo, AS99



Frederick Cox, AS03M



Lucien Matthew Venteau-Koch, with big brothers Caelan and Micah

ENTREPRENEURIAL SPOTLIGHT

Updates from Blue Hen creators, innovators and entrepreneurs

INSIDE Public Accounting ranked Siegfried, founded by **Rob Siegfried, BE81**, of Chadds Ford, Pa., the 27th largest CPA firm in the country. The company also landed on the *Inc.* 5000 list of fastest-growing private companies.

Jeremy Moskowitz, AS94, of Media, Pa., has had his business PolicyPak Software listed in *Inc.* magazine as one of the fastest growing private companies for 2019. He has also published a book, *MDM: Using Intune, Autopilot and Azure to Manage, Deploy and Secure Windows 10*.

Erin Lee Hornyak, BE95, of Longmeadow, Mass., has launched Shopnavybleu.com, an online boutique dedicated to all things navy blue, a color she says represents "sophistication, style and class."

Kristopher Schroeder, EG00, of Falls Church, Va., received a patent for his company, Grey Market Labs, which uses AI models to protect digital security and prevent online breaches.

Brooke Canale Forry, AS02, of Media, Pa., has designed the "Balance Bound" planner through her business Curious & Company to help busy

people create order, set boundaries and prioritize self-care.

Kate Huber, HS11, of Buffalo, N.Y., has founded CloudInsyte, a B2B Smart Vendor Marketplace designed to match companies with tech and security vendors in an effort to modernize the RFP and vendor procurement process.

Suchit Tuli, BE12, AS12, of New York, N.Y., launched his venture Quantime this fall. Based on the philosophy of time blocking, the app helps professionals through automated task scheduling.

Matt Sobel, BE17, Matt Rojas, BE17, and **William Cobb, BE15**, won the Salesforce Partner Innovation Award for Philanthropy for their nonprofit organization, Lazarus Rising, which helped more than 100 homeless people find employment in 2019 and which has expanded into seven U.S. regions, including New York City, Washington, D.C., and Philadelphia.

Morgan Young, AS18, and **Greg Harder, BE18**, of Sayville, N.Y., founders of AndAgain, had their denim designs featured in *Vogue.com*, *Vogue Italia*, *Manrepeller.com*, *Elle France* and *WhoWhatWear*. 🐦

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Jessica Singerman, AS04M, of Lancaster, Pa., celebrated her first solo painting exhibit at the Southeastern Center for Contemporary Art this fall.

Latoya Griffith Watson, BE04, EHD08, 19EdD, of Middletown, Del., has earned her doctoral degree in educational leadership from University of Delaware.

Michael F. Alexitch, EG05, BE11M, of Landenberg, Pa., has been appointed senior director of U.S. respiratory market access at AstraZeneca Pharmaceuticals.

James C. Daniels III, AS07, and **Faythe K. Daniels, EHD07**, of New Castle, Del., celebrated their 10-year wedding anniversary and returned to campus with their children, Jayson and London, for a family photo shoot.

Loren Lee Chiesi, AS08, of Fairview Heights, Ill., has been selected by the U.S. Department of State's English Language Fellow Program. Only 200 fellows are chosen, and she will spend 10 months training teachers and teaching English in Myanmar.

Jennifer Kincaid, AS08, and **Joseph Nyangon, EG17PhD**, of Philadelphia, were

married on Nov. 17, with numerous Blue Hens in attendance.

Brenna Schadegg Kling, EHD09, and **Josh Kling, BE09**, of Tampa, Fla., welcomed Samuel Robert on May 30.

Matthew Stieglitz, AS09, of East Brunswick, N.J., was named associate provost and legal counsel of Rider University.

2010s

Karen Gillen, EHD10, and husband Ryan, of Lodi, N.J., welcomed daughter Cassandra Grace on Feb. 20, 2019. She joins big sister Addison May.

Dan Cole, AS11, of Wilmington, Del., has received numerous accolades since graduating from Temple Law, including the Alford Excellence Award from the Delaware State Bar Association and the Rosenblum Law Student Leader Award from the Philadelphia Bar Association, LGBT Rights Committee.

Cathi M. Fuhrman, EHD11EdD, of Columbia, Pa., has been named president of the Pennsylvania School Librarians Association.

Joseph Natale, EG11, of Newark, Del., has been named 2019 Young Civil Engineer of the Year by the Philadelphia Section of the American Society of Civil Engineers.

Trilce Estrada, EG12, of Albuquerque, N.M., has been named an Emerging Woman Leader in Technical Computing by the Special Interest Group on High Performance Computing of the Association for Computing Machinery.

Jessica Rodio, AS12, of Marlton, N.J., was inducted as a trustee of the Atlantic County Bar Association.

Nicholas Troup, AS12, and **Christen Magee Troup, EG12**, of Salisbury, Md., welcomed daughter Lily on June 24.



James C. Daniels III, AS07, and Faythe K. Daniels, EHD07, with their children Jayson and London



Jennifer Kincaid, AS08, and Joseph Nyangon, EG17PhD, of Philadelphia, were married on Nov. 17, 2018, with numerous Blue Hens in attendance.

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Brooklynn Hitchens, AS13, of Wilmington, Del., has received an American Fellowship from the American Association of University Women.

Charlie Chalkin, AS14, of Leonia, N.J., created a video inspired by the SNL-opening credits for his friends **Roy Kasten, AS13**, and **Rachel Gindoff, EHD15**, of New York, N.Y., who wed May 27, 2019. The video, which played as the bridal party was introduced, became a viral sensation and was even played on the *Today Show*.

Kevin Walsh, AS14, of Clark, N.J., has graduated from Sidney Kimmel Medical College at Jefferson University and started a psychiatry residency at Christiana Care. He attributes his success to the UD Medical Scholars Program.

Brittney Andersen, ANR15, of North Salem, N.Y., and **Andrew Rutter, BE15**, of Laurel, Del., were married on June 1, 2019, with many Blue Hens in attendance.

Peter Sarubbi, AS15, of Haddon Heights, N.J., has joined the law firm



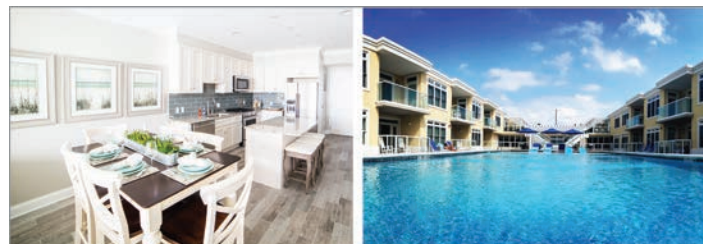
Lily Troup, with parents Nicholas, AS12, and Christen, EG12, and grandparents Michael Magee, BE85, and Sallie Scervo Magee, BE84.

of Hyland Levin Shapiro.

Joseph Mezzatesta, BE18, of Newark, Del., has joined the Peace Corps as an English teacher in Cambodia.

Eric Wroten, ANR17, of Mt. Airy, MD, and **Elizabeth Schofield Wroten, EHD20**, of Newark, Del., were married on June 15, 2019.

Daniel Levinson, AS19, of East Windsor, N.J., was awarded a 2019 Knowles Teaching Fellowship to support his teaching career in high school mathematics. 🐦



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Jeanne Pollock Gochnauer, AS40
Helen Pierson Houchin, AS41
Milton Rubin, AS41
Iris Wakefield Baker, AS43
Anne Chipman Carsey, AS44
Dorothy L. Munroe, AS46M
Horace V. Ginn, ANR48
John R. Harrison, EG49
Eugene Miller, EG49PhD
Joan Marshall Thompson, AS49
W. Murray Campbell, EG50
Phyllis Jones Jacobs, EHD50
John W. Koch, EG51, AS60M
Alonzo L. Mantz, AS51M, 53PhD
Jason L. Campbell, AS52
Margery L. Dann-Fouracre, AS52
James F. Cranston, ANR53
Marcia Mumma Hodges, AS53
Ann Walker Ferguson Jones, AS53
W. Allen Jones, ANR53
Richard R. Paris, AS53
Sterling F. Strause, AS53M, 55PhD
Francis C. Albera, EG54
Barbara Borda Keyes, EHD54

James H. Todd, EG54
Nancy P. Clendaniel, EHD55
Herbert Schaffer, BE55
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Roberta Colman, 14H, the Willis F. Harrington Professor Emerita of Chemistry and Biochemistry, honorary degree recipient, and the first woman to receive UD's highest faculty honor, the Francis Alison Award, Aug. 15, 2019

John Franklin Crampton, sports turf technician, June 29, 2019

Faye M. Duffy, AS80, associate director of admissions, Aug. 9, 2019

Albert Frankel, retired academic adviser, Sept. 24, 2019

Sue Snider, Cooperative Extension food safety and nutrition specialist, March 19, 2019



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A CONVERSATION WITH...

Remarkably, the 100-year-old ACLU has only recently hired its first chief diversity officer. But perhaps less surprising was their choice for the job: Civil rights advocate and former executive director for LGBT Affairs in Philadelphia **AMBER HIKES, ASO6**. Here, she speaks about advocacy, patriotism and the endless pursuit of liberty and justice for all.

How do you define diversity?

To me, diversity is having voices at the table, inclusion is making sure you're hearing those voices, and equity is empowering those voices to affect change. Diversity is important, but we have to move toward a place beyond it. It's not enough to just have people at the table. We need to ask ourselves, "What are we doing with what they're telling us?"

What advice do you give people who want to be better allies—people who recognize a legacy of injustice and want to help, but don't know how?

Be intentional and thoughtful about the appropriate time to move up and the appropriate time to move back. Both of those things are uniquely important, especially in this particular climate.

To move up means to recognize that there will be circumstances when people who share some of your identities (white women talking to other white women, straight men in conversation with straight men, etc.) say things that are harmful and violent to people who don't share your identity. That could be in the boardroom, locker room, dining room, classroom, wherever, and it presents an opportunity to say, "Hate has no harbor here. That is not okay to say in my presence." If more people could do that, we would create safer spaces for marginalized communities.

To move back means to make more room for someone who hasn't had the same level of access. If not physically, then quietly pull back from a space and make sure your voice isn't the loudest in the room.

What about folk who don't see a problem?

People who do not see that we have a problem with racism, sexism, misogyny, homophobia, transphobia, ableism, xenophobia—if they haven't figured it out, then I'm not the person—this black, queer woman—who is going to change their mind.

Because the messenger is vital. The people who need to engage those folks are the ones who share their identity and experiences, who can talk to them in a way that they can hear. Policy and legislation are critical, but so much of that is possible only after we've changed people's hearts and minds and helped connect them to another person's lived experiences. We cannot put the work of changing hearts and minds on the people so deeply affected by it—it's not right, but also, it just doesn't work.

Do you think we will come to a place where jobs like yours won't be necessary?

From your lips to God's ears. Please, please, please let that be the case! I'm in one of those professions where I'm working my hardest to put myself out of a job. I would love for us to be at a place where we don't need to yell, scream, beg and plead to include folks who have historically been left out of leadership and decision making. But judging by our history, and by our very significant institutional challenges, we have a long way to go before we've healed our wounds. 🐦

"I'M IN ONE OF THOSE PROFESSIONS WHERE I'M WORKING MY HARDEST TO PUT MYSELF OUT OF A JOB."



Amber Hikes, ASO6

PHOTO COURTESY OF AMBER HIKES

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WEAVING HEALTH INTO CLOTH

They're doing nothing less than redefining the concept of clothing at UD's Innovation Health & Design Lab, where Prof. Martha Hall and her team of students are churning out an assortment of "wearable technology," all designed to ease the health challenges and enhance the lives of people in our community. Whiteboards and laptops brim with ideas, and high-tech devices aid in their quest: There's a 3D body scanner for getting pinpoint body measurements, 3D printers for producing components of their wearable devices, and even a machine capable of knitting an entire garment. In the brief time since its launch, the lab has attracted students from a range of disciplines, from fashion to health sciences to engineering. For more, turn to p. 26.