



Cyber War Games

Competition teaches students to thwart hack attacks

- STARTUP SCHOOL
- BASKETBALL BAND



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Domain Defenders

Online connectivity has a downside: Hackers want to steal personal data and wreck important infrastructure. KU students called The Jayhackers are learning to fight back.

By Steven Hill

Cover illustration by Susan Younger and Valerie Spicher 30

Fortissimo Fan Fare

With spirit, stamina and game-day traditions, the basketball pep band keeps Allen Field House fans loud, proud and humming along.

By Chris Lazzarino

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Strong Start

Launching new companies from the innovative research and entrepreneurial vision of KU faculty and students is job one for Startup School@KU.

By Heather Biele

Lift the Chorus



Hooray for Huma

I was heartened to see the bright young woman, Shegufta Huma, gracing the cover of the current Kansas Alumni ["Champion for Change," issue No. 1]. Thank you for celebrating her remarkable achievement as a Rhodes Scholar. The timing couldn't have been better to recognize the immeasurable contribution that immigrants make to this country.

Bravo KU!

Steve Angell, c'71 Glenview, Illinois

THANK YOU for a wonderful article about the "Champion for Change." Ms. Huma makes me proud to say I am an alumnus of KU.

I must say that I was embarrassed to read that she had to endure the outrage and stupidity of a part of the KU population that threatened or harassed her and other minorities in the University community. I guess there are racists everywhere, but I have always wanted to believe that KU students were more enlightened.

I am sad to see that Chancel-

lor Gray-Little is leaving. She has been a wonderful leader for the University.

> Jerry W. Johnson, g'62 Topeka

TALK ABOUT TIMELY! Your cover and feature story in the most recent alumni magazine could not have been better. I was most impressed with Ms. Huma, her background, her views and her accomplishments, and I am absolutely delighted that she is getting the attention and admiration she so deserves. She is a shining example of the advantages the U.S. enjoys by engaging and encouraging brilliant students like her.

I wish her the best in England. This is not the last we will hear about her!

> Susan Fischer, d'69 Prairie Village

I REALLY ENJOYED (as I always do) the most recent

Kansas Alumni. It almost always brings tears to my eyes when I read the excellent articles and review alumni happenings.

I must say the article about our most recent Rhodes Scholar was particularly inspiring. As was the article immediately following ["The Few, The Proud"] about the KU winners of the Marine Corps' Leftwich Trophy! Talk about overachievers!

> Steve Dillman, c'81 Kansas City, Missouri

I just finished reading

the lovely article about Shegufta Huma, KU's recent Rhodes Scholar. Her story is so remarkable and inspirational,

and I agree with your assessment of her superb leadership skills. My appreciation to Heather Biele for crafting this story for us alumni to appreciate Ms. Huma's humanitarian traits.

> Jim Bredfeldt, c'70, m'74 Bellevue, Washington

THANK YOU for featuring Shegufta Huma on the cover. I don't know her, and have been away from Kansas for a long time, but I recognize that the decision took courage at this time in America. I felt inspired reading about her, and hope KU continues to support all its students with dignity and compassion.

I also enjoyed the article on the Sacco & Vanzetti book collector ["Radical Lit," Hilltopics]. Rare and intriguing.

> Jane Mack, I'77 Saipan, Northern Mariana Islands

Jayhawk concern

I READ TIMOTHY RAKE'S

letter in the latest Kansas Alumni magazine ["Jayhawk Pride," Lift the Chorus, issue

I spent two years, 1968 to 1970, as a graduate foreign student in the School of Business at KU. These years were some of the most fulfilling and enjoyable of my 40-plus years in the United States.

Unfortunately, substantial changes have occurred at KU and in Kansas, and I regret that they have not been for the better. Having Bernadette



Please email us a note at kualumni@kualumni.org to tell us what you think of your alumni magazine.

Gray-Little at the helm seems to be an inspiration that has been sadly forgotten.

My reading of Timothy's letter is that the school and state are living through a period of great negative social and cultural change. In recent days, two Indian nationals were shot in Olathe, and the shooter's only issue was that these men "should get out of my country." This occurrence is sad, very sad! This is not the country of diversity I came to and that was so accepting to foreign nationals.

I hope we are able to open our minds and hearts and learn from and be more accepting of others. After all, the United States was founded by foreign nationals (immigrants).

> Romesh Daftary, g'70 Providence, Rhode Island



Chancellor Gray-Little

March 2017

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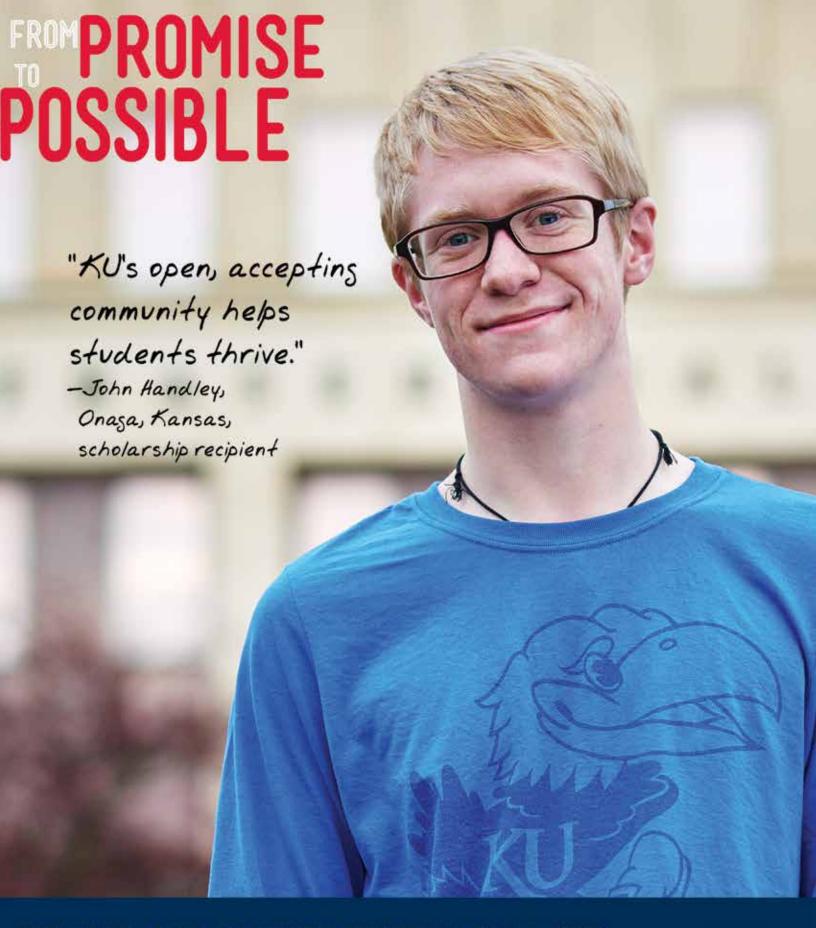
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Scene on campus



SCHOLARSHIPS MAKE A KU EDUCATION POSSIBLE FOR FUTURE LEADERS



by Jennifer Jackson Sanner First Word



Adam Thompson craves screen time, but not for checking Twitter or Snapchat. He hones his craft. As a computer science major, the Topeka senior fine-tunes and finesses intricate code to prepare for cutthroat cyber warfare competitions. Thompson and his fellow members of the KU Information Security Club (aka Jayhackers) are learning to safeguard computer networks against the insidious intrusions of the true hackers, those who seek to steal the secrets, solvency or safety of individuals, corporations and governments. As he compares his classes and weekend competitions, Thompson borrows an analogy from one of his teachers: "You can listen for years to someone talking about how to play an instrument, but you're never going to learn how until you pick it up yourself," he says.

In our cover story, Associate Editor Steven Hill describes how these brilliant computer science and electrical engineering students gain valuable experience—and prospects for scholarships and careers—by braving high-stress contests.

The ingenuity of faculty members and students also infuses Staff Writer Heather Biele's feature on KU Startup School, a new enterprise to help turn promising discoveries and bright ideas into viable commercial ventures. Led by KU Innovation and Collaboration President Julie Nagel, along with colleagues from several academic disciplines, Startup School offers practical guidance for inventors and other budding entrepreneurs. Barely two years old, the program boasts soaring participation, and Nagel is confident

Members of the KU
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individuals, corporations
and governments.

that prospects for new businesses will follow suit.

The Startup School and Information Security Club are only two of countless KU opportunities for "experiential learning," higher education's flowery rendition of Nike's no-nonsense credo. We all learn at a young age that every endeavor demands practice. As computer coder Thompson says, "We can talk about it all day long but ... until you sit down and do it, and do it over and over again. ..."

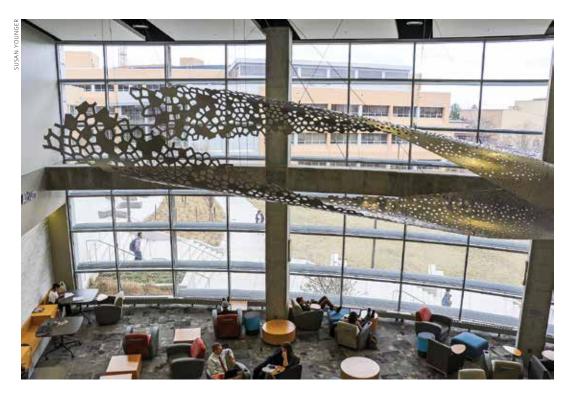
The maxim certainly holds true for KU's basketball band musicians, whose precision and panache add immeasurably to the incomparable home court advantage of Allen Field House. Conductor (and band alumna) Sharon Ramsey Toulouse, f'97, g'05, leads the band through performances that combine spine-tingling tradition with new twists every season. In our third feature story, Associate Editor Chris Lazzarino, j'86, offers the musical play-by-play of game night. Each high-stakes performance results not only from the students' KU classes and rehearsals but also from all the years of lessons and practice that have gone before.

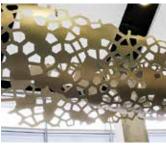
Even if we can't play a note or make our computers behave, we can recall the thrill of

accomplishment, no matter how small. When Adam Thompson and his fellow Jayhackers brace themselves for another round of cyber warfare, they know the rewards will prove worth the risk. "Every time, even if there isn't some grand lesson to be learned," he says, "we're going to be a little faster; we're gonna react a little better."

Practice might not make perfect, but at least it makes progress.

On the Boulevard





Original art abounds on the Lawrence campus, including the School of Engineering's "Structural Evolution," a DNA helix-inspired piece designed by Perry May, a graduate student in the master of architecture program; Capitol Federal Hall's "Calling Home," an oil painting by Norman Akers, associate professor in the department of visual art; and the "Salina Piece," a 35-foot, 30-ton steel sculpture by Dale Eldred at Youngberg Hall on KU's West Campus.

Exhibitions

"Waging Peace: 100 Years of Action," Ecumenical Campus Ministries, through May

"Education: The Mightiest Weapon," Kenneth Spencer Research Library, through May 18

"Engaged: Campus and community scholars working together for the public good," Haricombe Gallery in Watson Library, through Aug. 11

"American Dream," Spencer Museum of Art, through Sept. 3

"Photographs by Thaddeus Holownia," Spencer Museum of Art, April 1 through May 14

"The Power and Pleasure of Possessions in Korean Painted Screens," Spencer Museum of Art, April 15 through June 11

"A Wry Eye: Witty, Sardonic, and Ironic Work by Contemporary Printmakers," Spencer Museum of Art, April 22 through June 11

"The League of Wives: Vietnam's POW/MIA Allies & Advocates," Dole Institute, May through December

Lied Center events

MARCH

- 28 KU Jazz Ensemble I with special guest Kneebody
- 29 SUA Tunes at Night
- **30** The Justice Matters 2017 Nehemiah Assembly
- **31** American Brass Quintet

APRIL

- **1** KU Powwow & Indigenous Dance and Culture Festival
- 2 The Michael W. Smith Spring 2017 Tour
- 7 MOMIX: Opus Cactus
- **9** Erth's "Dinosaur Zoo Live"
- 11 Takács Ouartet
- **18** KU Wind Ensemble
- 19 The Beach Boys
- **25** KU University Band and Jazz Ensembles II, III
- **27** SUA Tunes at Night
- **28** Chris Perondis Stunt Dog Experience

MAY

2 KU Symphonic

- **3** Palos Nuevos: The Jazz Flamenco Project
- **8** An Intimate Evening with Kristin Chenoweth

Bales Organ Recital Hall

MARCH

31 David Baskeyfield, organ, **Bales Artist Series**



APRIL

- **7** Michael Bauer, organ, Faculty Recital Series
- **17, 24** James Higdon, organ, Faculty Recital Series
- 25 KU Choirs: Bales Chorale

MAY

1 Alina Nikitina, organ, Bales Artist Series

University Theatre

MARCH

31, April 1-2, 4-6

"Anon(ymous)," by Naomi Iizuka, William Inge Memorial Theatre

APRIL

April 21, 23, 27, 29

"Don Giovanni," by Lorenzo Da Ponte, Crafton-Preyer Theatre

Murphy Hall

MARCH

30 Kansas City Lyric resident artists, Visiting Artist Series

APRIL

- **4** Composition, Bassoon and Oboe collaboration
- **5** Hannah Collins, cello, Faculty Recital Series
- **7** Langston Hughes Project with Ron McCurdy
- **9** Borromeo String Quartet, Visiting Artist Series
- **10** Tuba-Euphonium Chamber Ensembles
- **11** KU Saxophone Quartets
- **12** KU Percussion Group with guest artist Andy Bliss
- **15** Helianthus Contemporary Ensemble

- **20** KU Jazz Combos
- **20** KU Trombone Chair and Horn Ensemble
- 22 New Music Guild
- **24** Philip Kramp, viola, Faculty Recital Series
- **28** Lawrence Intergenerational Choir
- 28 KU Choirs

MAY

3 Tuba-Euphonium Consort Concert

Performances

APRIL

- **6** The World Percussion Ensembles, Lawrence Arts Center
- **13** KU Faculty Jazz Combo with director Matt Otto, Lawrence Arts Center

Lectures

MARCH

28 "Pursuing Elusive Equity in Higher Education," Jennifer Hammer, The Commons

APRIL

- 11 "Age of Ambition: Chasing Fortune, Truth and Faith in the New China," Evan Osnos, Woodruff Auditorium
- **12** "A Conversation with Evan Osnos," Hall Center conference hall

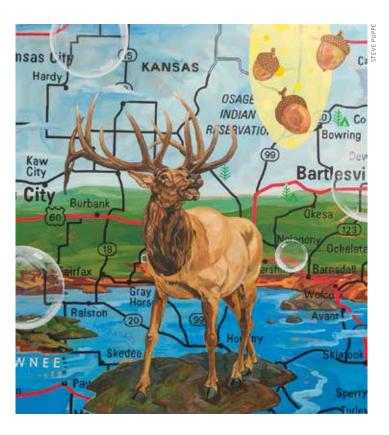
Academic Calendar

MARCH

20-26 Spring break

MAY

4 Last day of classes



- **5** Stop day
- 8-12 Finals week
- **14** Commencement

Alumni Events

MARCH

- **29** Chanute: Kansas Honors Program
- **30** KU in Wichita: Modern American Conservationism in the Age of President Trump

APRIL

- **5** Colby: Kansas Honors Program
- **5** Kingman: Kansas Honors Program
- **6** Kansas City: University Honors Program alumni reception
- **6** Logan: Kansas Honors Program

- **7-8** Alumni Reunion Weekend, Adams Alumni Center
- **10** The Kansas Basketball Legacy featuring Phog Allen; Happy Hour at Revolutionary Brewery, Chicago
- **11** KU Builds KC: Smart Cities Engineering Panel
- **19** Houston: Jayhawks & Java
- **20** KU Alumni online networking
- **29** 22nd annual Rock Chalk Ball, Overland Park Convention Center

MAY

- **17** Houston: Jayhawks & Jaya
- **18** KU Alumni online networking
- **23** KU Night with the New York Yankees, The Bronx, New York

Jayhawk Walk



Gonzalez

Color-coded kickoff

Dlue helmet, blue jersey, blue pants, blue end zone: Such was the palette for a kick-return deception that landed coach David Beaty and special teams coordinator Joe DeForest among five finalists for USA Today Sports' Coach's Play Call of the Year.

DeForest, a 26-year veteran in his first season at KU, devised the scheme as a potential "momentum changer," Beaty explained following KU's 24-31 loss to Iowa State Nov. 12. Beaty gave the OK for fleet returner LaQuvionte Gonzalez to drop prone in the end zone as KU lined up for an ISU kickoff late in the first half in **Memorial Stadium.**

As the kick sailed toward fellow returner Steven Sims Jr., stationed on other side of the end zone, Gonzalez popped to his feet. Once both Sims and Gonzalez were a few yards clear of the end zone, Sims threw a risky lateral across the field to Gonzalez, who ran another 30 vards before being forced out of bounds.

The play didn't put points on the board—Beaty suspected that Gonzalez might have camouflaged himself too soon, giving the Iowa State bench time to call attention to the shenanigans—but it was still a nifty bit of trickery.

"We thought we might be able to get completely out on that one," said Beaty, who lost the Play Call of the Year contest to Houston's Tom Herman, for a 100-yard touchdown return of an Oklahoma field goal attempt that fell short. "I thought it was a really cool design by Joe and I thought our kids executed it pretty well."

Collects Eighteenth-Century French Painting," an exhibition from May 21 to Aug. 20 at the National Gallery of Art in Washington, D.C.

"This work has a lot of personality," says Susan Earle, the Spencer's curator of European and American art. "It's a great way to represent us, to share that Kansas is a place with a lot of interesting culture that people may not be aware of. That might just be a revelation to some people."

As First Painter to Oueen Marie Antoinette, Ducreux feared for his life during the French Revolution and fled for a time to London. Forced afterward to reinvent himself, Ducreux ventured beyond the norms of high-society portraiture by painting self-portraits that depicted expressions then rare in fine art: yawning, laughing, crying, mocking, shushing.

Earle describes the 1791 painting as a sort of 18th-century selfie, which helps explain Ducreux's emergence as an internet superstar. The painter, who died in 1802, has two Twitter accounts and in 2013 won Reddit's Tournament of Memes.

"It hits that chord as a selfie in a way that others don't," Earle says. "This one somehow speaks to people."

As long as they don't speak back. Shush!

Beauty crowned

AFTER A SUCCESSFUL CAREER as outside hitter for KU volleyball, Catherine Carmichael played professionally before returning to campus as assistant director of recruiting for Jayhawk football.

The lifelong athlete also wanted to stoke her competitive flame. Rather than take up golf or rec-league volleyball, she turned to a grueling, high-stakes arena where only the strongest, most cunning competitors thrive: beauty pageants.

OK, maybe pageants aren't as cutthroat as we've been led to believe. (We're lookin' at you, "Miss Congeniality.") Carmichael, c'14, made many friends among the "smart, intelligent, wonderful women" she met in pageants. But there are similarities between catwalk and court.

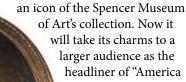
"For me it all kind of relates back to

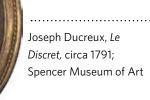
Quiet, please!

Is he shushing noisy children,

warning of dire political dangers, or something else? Even the title of Joseph Ducreux's "Le Discret" hints at ambiguity. Silence? Discretion? Shades of both?

Such range of content within an otherwise uncomplicated image helped establish "Le Discret," which has been on near-continuous display at KU since its 1951 acquisition, as







Carmichael

sports," says Carmichael, who won the Miss Kansas USA 2017 title in November. She was also crowned Miss Kansas World in 2015 and served as grand marshal of the Homecoming parade that year.

Pageants and sports reward coaching, practice and performance under pressure. "The fun is getting to have something I'm

preparing and practicing for and still being able to live that competitive side of my life," she says, noting that muscle memory matters whether spiking a kill or mastering "the walk," the confident stride that varies from a swimsuit strut to an evening gown glide.

The biggest difference, Carmichael says: "In pageants, you get to wear much nicer shoes."

Bull writer

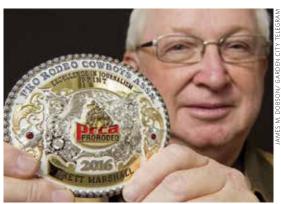
NORMALLY, JOURNALIST Brett Marshall would bristle at being hailed a purveyor of bull. But when the Garden City Telegram sports editor covers the annual Beef Empire Days Rodeo, bull-writing is a badge-err, buckle-of honor.

Marshall, '74, received the Professional Rodeo Cowbovs Association Excellence in Print Journalism Award Nov. 30 in Las Vegas. The prize (an intricately engraved, supersized belt buckle of the sort riders risk life and limb to win) honors a portfolio of some 50 or 60 stories he has written since 2008, including profiles of cowboys and rodeo clowns, event coverage

and—in a piece that bucked convention an interview with a bull.

"I've always wondered, what would it be like if a bull could talk about what they do as an athlete?" Marshall says of the story's genesis. The resulting yarn proved to be a lot like Marshall's experience covering rodeo, which he initially knew little about: "It turned out to be some of the most fun I've had."

Marshall worked eight years to earn a trophy bull riders claim in 8 seconds, capturing rodeo as a sport, a business and a culture. How'd he do it? Like any journalist worth his spurs, we suspect: He didn't settle for stock answers.



Marshall

Critter companions

n case you missed it, Jan. 21

was Squirrel Appreciation Day

on the Hill and, judging from the

popularity of KU's post on Facebook, there's a lot of love on campus for "the most interesting critters in the world." The social media shoutout, which garnered more than 2,000 likes and nearly 200 comments, encouraged students and alumni to reminisce about their most memorable squirrel encounters. Tales rolled in of carefree squirrels that delight in doughnuts, bagels and slices of pizza: greet students after class: wait with them for the bus-and

spook them when they're not paying attention.

"One day I came out of Fraser Hall feeling incredibly down because I thought I'd bombed a sociology exam," recalled one student. "The first thing I saw outside was a squirrel sitting on a trash can, eating a Tater Tot. He completely cheered me up, and later I learned I got a 90 on that test."

These furry campus favorites have become habituated to us because we feed them, explains Bob Timm, professor of ecology and evolutionary biology. "When you get on campus, like in front of the student union, you've got students sitting out, flicking the squirrels a potato chip or a French fry," he says.

Unshakable companionship and a shared love of junk food? No wonder squirrels have stolen students' hearts.

Hilltopics by Steven Hill



A more perfect union?

Student vote will determine fate of renovation for 'KU's nest'

In a campuswide referendum April 12-13, students will vote on whether to raise student fees to fund a \$45 million renovation to the Kansas Union. The ballot initiative requests a \$50 per semester increase in the student union fee, beginning with the start of construction in fall 2019 and sunsetting in 30 years.

The renovation would address style and substance, bringing sweeping changes to the 90-year-old building's studying, dining and gathering spaces as well as much needed upgrades to mechanical systems.

As touted by the "Redo Your U" campaign, the proposal draws heavily on student feedback.

"What students told us is they want more social space, lounge space, hangout space that is unstructured," says David Mucci, director of KU Memorial Union, the nonprofit KU affiliate that runs the Kansas Union, the DeBruce Center and the new student union now under

construction as part of the Central District redevelopment.

"They want more study space, because, particularly in the evenings, the libraries are completely full and people need group gathering spaces. One of the things they told us we don't have, and can achieve in this renovation, is views. They want daylight; they want something where they don't feel like they're locked in a dark box."

Preliminary concepts call for opening up level four to raise the visibility of student leadership offices and improve access between the Union and the adjacent Sabatini Multicultural Resource Center, revamping food service and adding study rooms on level three, and building new space on level two that would create an atrium near the KU Bookstore, bringing more light and air into the area.

The proposal continues the trend to lighten and brighten carried out by upgrades in recent years to the Union's Conceptual drawings illustrate design ideas for a reimagined Kansas Union, including a club space on level one and a more open floor plan on level four. Students will vote on the \$45 million proposal in April.

central staircase, known as Traditions Tower, and the bookstore—both of which feature expansive glass to capture afternoon sunlight and panoramic western views. But the top-to-bottom redo would be much more comprehensive than past projects, Mucci says, improving views to the east and completing less glamorous mechanical upgrades.

For an example of needed repairs, Mucci points to a project three years ago that made improvements to the Kansas Union Ballroom. Contractors advised against disturbing old plumbing, because water used to fight the 1970 ballroom fire had run down the inside of walls, causing extensive rust to pipes.

"We received a great gift from those who built this building and took care of it and handed it on," Mucci says. "I think we're at a point now where we need to do the same thing for future generations."

"The Kansas Union is like KU's nest," says Collin Cox, an Alliance, Nebraska, sophomore in public administration and global & international studies. "It's the place that everyone should be able to come and gather, but currently it faces a lot of internal issues that students don't necessarily see."

Cox is part of Redo Your U, a student group helping KU Memorial Union communicate with students. Talks have been two-way, Cox emphasizes: Redo Your U has worked to educate peers on the maintenance needs of the building while also soliciting ideas for what they'd like to see in a newly reimagined student center.

"From the very beginning, this building has been about students," Cox says, noting the Union's origins as a memorial to students, faculty and staff killed in World



War I. "We want to keep those traditions while also adapting the building to the needs of current students."

Cox gets a reminder of those traditions every time he walks past KU Bookstore, where a glass display case shows off a Baby Jay suit worn by his mother, Tonya Peck Cox, '88, from 1985 to 1986.

"It really means a lot to me to be able to walk by that every day and reflect on some of the traditional values of the Union and what it meant to students back then, today and potentially in the future."

With tuition, room, board, books and other expenses perpetually on the rise,

there's never a perfect time to ask students to shoulder more costs. But Mucci notes that even if the student union fee rises to \$109.70 from the current \$59.70, KU still will have the lowest student union fee (and the second lowest overall student fees) among the six Kansas Board of Regents Universities. And with interest rates low and the need dire, it may be difficult to argue that waiting will make things better.

"If we're going to have a Union that is functional, presentable for students, faculty, staff, alumni and guests, we've got to invest in it," Mucci says. "And now is the time."

A 'remarkable journey'

Academy fellowship honors Peterman's hospital leadership

When Tammy Mauck Peterman joined the University of Kansas Hospital's cardiothoracic surgery intensive care unit in 1981, the hospital employed 2,200 people. Now its nursing team alone numbers 2,500, out of total employment of more than 10,000.

"It's interesting to have watched this organization change over the last number of years," Peterman, n'81, g'97, says from her office at 39th and Rainbow in Kansas City, "but I think the focus has only gotten stronger on each individual patient."

Peterman, University of Kansas Hospital's executive vice president, chief operating officer and chief nursing officer, in January was inducted into the American Academy of Nursing Fellows, an organization her colleague Chris Ruder, c'91, n'93, g'99, vice president of patient care services and assistant chief nursing officer, calls the "hall of fame of nursing."

The hospital's exponential growth traces to its 1998 transition into a public authority, administratively separate from the



Rebecca Rumptz, a senior in global & international studies and journalism from Ubly, Michigan, is one of 24 students nationwide to participate in the U.S. Foreign Service Internship Program with the U.S. Department of State.

The select program, which accepts only about 3 percent of applicants, includes two 10-week internships, one in Washington, D.C., and one in a

U.S. embassy abroad. She completed her Washington internship last summer at the State Department's Bureau of Political-Military Affairs; this summer she will work at the U.S. embassy in Warsaw, Poland.

Rumptz served seven years in the U.S. Army, including a 15-month deployment in Iraq with the 1st Armored Division in 2007. She later deployed to Qatar and worked a year as a civilian contractor in

CLASS CREDIT

Afghanistan, where she was embedded with Polish armed forces.

"It was a very unique international experience, to see how their forces interacted with ours," Rumptz says. "I'm very interested to see how the United States functions on Polish soil."

She will work in the embassy's public affairs office.

"As a journalism and global & international studies double major," she says, "it's almost perfect for me."

Hilltopics

Pro Bono: The School of Law made PreLaw Magazine's Community Service Leaders honor roll, which recognizes "schools with the greatest community impact." During the 2015-'16 academic year, law students completed 18,725 pro bono service hours

(52 hours per student on average) through law school clinics, field placements and other service.



Peterman

University. The change, championed by then-Chancellor Robert E. Hemenway, freed the hospital from constraints inherent in state organizations, and leaders saw it as perhaps the hospital's best hope to make significant changes.

"Nothing was working well then," Peterman says. "Our patient satisfaction was in the 5th percentile, our turnover was at 33 percent, we didn't measure quality so well, we were declining in the market and we were going to lose money. And so it absolutely took purposeful change to make that happen.

"When you look at it over time, it is a pretty remarkable journey."

Working alongside president and CEO

Bob Page, Peterman helped institute a culture of "competency partnered with humility," traits instilled in her as a girl when she watched her father, Harold Mauck, c'50, m'54, a Stockton physician, make his rounds.

"I think I learned a lot about health care from him," Peterman says, "but also about how you interact with people and how you take care of people. When you grow up in a small town, I learned how important it is to take care not just of patients, but their families, as well. That foundation of skill sets is critical to our success."

Says Page, "If you ever got a chance to meet her dad, you would truly understand those roots. She learned health care from him, in the beginning, and she has taken that to a whole different level in her nursing career and, quite frankly, in her operations career. You'd be hard-pressed to find a nursing leader anywhere around who is as talented and as accomplished as Tammy."

Since its 1998 shift to a public authority, the hospital has trained more than 20,000 employees in daylong customer service workshops, and Page and Peterman meet with new hires at every hospital orientation session to remind them of the organization's core principles, including teamwork and a shared pride in accomplishment coupled with a belief that "we can always do better."

"The only reason everyone comes to work, or should be coming to work in our place," Peterman says, "is to provide the

best care and support to our patients and their families. That's just the way it is."

Peterman says her induction in the American Academy of Nursing Fellows carries with it a service mission to improve health care across the country, which mirrors her expectation of all hospital employees: devoting their time, energy and knowledge to serve their profession, the organization, the city, region, state, and, ultimately, patients and families.

Toward that end, she is helping direct the hospital toward a goal of "zero harm," meaning that rather than rely on standard benchmarks to judge its quality of health care delivery, the hospital now examines "raw numbers of events" to assess its performance.

"We know there is harm in health care. Patients fall. Patients get infections. It happens. Our goal is to continue on our journey of zero harm, and I think that can become somewhat transformational in health care."

When she leaves the hospital at the end of her long and harried days, Peterman occasionally allows herself a "wow" moment of reflection. She'll notice the helicopter landing, watch patients and families coming and going, and swell with pride in seeing night-shift staff who are happy, engaged and professional.

"I think I'm pretty fortunate, because we have an amazing team," Peterman says. "It's happened over time, but it's happened relatively quickly when you think about it. There's not one silver bullet that made it happen. It happened step by step and person by person, putting the team together and supporting them to do good work."

—Chris Lazzarino

Fair-weather find

Shallow clouds may hold key to deeper understanding of climate

The low-altitude clouds that drift across Midwestern skies on sunny spring and summer days don't set off alarms. For daydreaming skywatchers,



Mechem

these cottony puffballs bring to mind bunny tails and bounding lambs—the definition of harmless.

But for researchers interested in predicting short-term weather patterns and long-term climate trends, shallow cumulus clouds are more problematic. The mathematical models that meteorologists use for storm prediction and the ones climate scientists use to predict the potential impact of global warming "really struggle with these clouds," says David Mechem, associate professor of geography and atmospheric science. "It's something that's been demonstrated time and time again over the last 10 to 15 years."

With a three-year, \$525,000 grant from the U.S. Department of Energy, Mechem is trying to understand better how these clouds form, develop and dissipate. He and his research team will study entrainment, the process by which dry air from outside the cloud mixes with moist air inside it.

"It's that interaction between the cloud and the environment that we're trying to understand better," Mechem says. "And once we understand the fundamentals of how these clouds work better, we want to try to formulate better ways to represent them in the forecast and climate models."

Improving the mathematical formulas these models use to represent shallow clouds (which usually top out two to three kilometers above ground) can reap obvious benefits for storm forecasters: The harmless clouds that start forming as the sun rises and the air heats transport moisture upward, basically preconditioning the atmosphere for afternoon thunderstorms, Mechem explains. "You've got to get these clouds right in your forecast model if you're going to get the timing correct of when the storms fire off in the afternoon."

While Mechem counts himself as "generally on the side of scientific community consensus" that climate change is real and that human activity plays a big role in it, he sees his project which will use high-frequency cloud radars from Department of Energy laboratories to attempt to quantify entrainment—as an example of good basic science rather than an attempt to weigh in on an issue that tends to be highly politicized.

"There's some disagreement across the different climate models that has been traced to these low clouds and how they are represented in the models, and if you want to know about the future climate. ideally you try to hammer down that uncertainty as much as possible," Mechem says. "It's what good scientists do: We try to quantify uncertainty and we try to be skeptical but in a very healthy way. The intent is to just keep science being pushed in the right direction, toward improving the projections for both weather and climate."

Milestones, money and other matters



- KU Debate will host the National Debate Tournament for the first time in the competition's 71-year history. Two KU teams—freshman Kyndall Delph and junior Quaram Robinson, and sophomores Jacob Hegna and Henry Walterwill compete as automatic at-large qualifiers in the tournament, held March 24-27 at KU's Edwards Campus. This is the 50th consecutive time KU has qualified for the tournament. KU has advanced to the final four 15 times. and won five times.
- Gale Sayers, d'75, g'77, was named a Kansan of the Year in January by the Native Sons and Daughters of Kansas. "The Kansas Comet," as he was known during his playing days, rushed for 2,675 yards in three seasons for the Jayhawks and was a first-round draft

choice by the Chicago Bears, where he played from 1965 to 1971. Sayers and his wife, Ardythe, founded the Gale Savers Center, an after-school program for children on Chicago's west side.



■ Raghunath Chaudhari, the Deane E. **Ackers Distinguished Professor of** Chemical and Petroleum Engineering, was named a Fellow of the National Academy of Inventors for his innovative work in catalysis, reaction engineering, multiphase reactors and kinetic modeling. Chaudhari is one of 757 fellows from 229 research universities and research institutes to receive the high professional distinction, and he is KU's third NAI Fellow.

Hilltopics



HONORS

Team Rubicon founder to receive honorary degree

A FORMER MARINE who recruited a humanitarian army made up largely of military veterans will receive a Doctor of Humane Letters from KU at Commencement May 14.

William McNulty, c'01, co-founded Team Rubicon with a fellow Marine in 2010, when the two organized a "medical militia" to respond quickly to the massive earthquake that hit Haiti that January.

As reported in a Kansas Alumni cover story ["Mission: Rescue," issue No. 2, 2016], McNulty and the other veterans who joined him in Haiti found their military training prepared them well for the chaotic earthquake zone, where severely wounded people languished without treatment while aid supplies piled up in airports, awaiting distribution. McNulty soon realized that not only could military veterans bring valuable skills to the recovery effort in Haiti and elsewhere, but they could also benefit from the sense of purpose, community and identity that their continued service—now in a non-military role—gave them.

"We have a model here," McNulty told his co-founder, Jake Wood. "No one else is engaging veterans in this type of service, but it makes so much sense because of the skills we have."

Since then, Team Rubicon has grown into a volunteer army of more than 35,000, about 75 percent of whom are military veterans. In 2016, Team Rubicon USA organized nearly 50 disaster response missions in the United States and in Ecuador, Greece, and Sierra Leone (where they provided humanitarian relief in an Ebola epidemic). McNulty also founded Team Rubicon Global, which focuses on

exporting the Team Rubicon model of disaster relief service and veteran reintegration to countries around the world.

McNulty will receive his Doctor of Humane Letters for outstanding contributions to global humanitarian and relief efforts.

"William McNulty has turned his experience in war-torn areas of the world into a global effort to aid similar communities, while at the same time easing the transition of military veterans to civilian life by offering a sense of community, identity and purpose," Chancellor Bernadette Gray-Little says. "His innovative and meaningful work is making our world a better place, and for that, he is an inspiration to the entire KU community."

MEDICINE

Hospital changes name to better reflect scope

THE UNIVERSITY OF KANSAS Hospital announced in January that it will adopt a new name, The University of Kansas Health System, that more fully reflects the breadth of services it offers and its mission to reach beyond its home campus.

VISITOR

Student of the game

Sports sociologist Harry Edwards delivered the keynote address at "The Power of Sport: A Conversation on Business, Race and Sports," which also featured a panel discussion with Olympic gold medalist Billy Mills, d'62, and retired WNBA player Tamecka Dixon, c'99.

SPONSORS: The School of Business, the Langston Hughes Center and KU Athletics

WHEN: Feb. 2

WHERE: Kansas Union

Ballroom

BACKGROUND: Fdwards' experiences as a scholarship athlete and his study of sociology led him to focus on issues of race and sports as a scholar. He urged black athletes to boycott the 1968 Olympics and consulted on diversity issues for Major League Baseball, the National Basketball Association and the National Football League. The

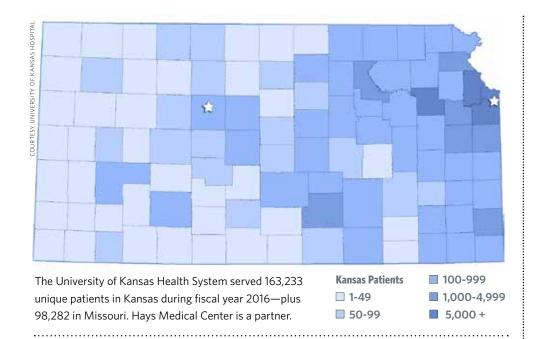


author of four books, including The Revolt of the Black Athlete, he is considered a pioneer in the development of the sociology of sport as an academic discipline.

ANECDOTE: After meeting Muhammad Ali (then Cassius

Clay) on a recruiting visit to San Jose State, Edwards said he thought the boxer was "nuts," but later came to see him as the "godfather" of socially aware black athletes who followed.

QUOTES: "Ali broke all the rules. He was loud. He was braggadocious. You couldn't shut him up. I thought he was literally insane. It turns out he was simply a brilliant, beautiful, gifted athlete who stood astride the world of athletics and social issues like a colossus."



In a statement, officials said the new name represents the hospital's recent consolidation with the physicians and clinics of The University of Kansas Physicians and better describes the inpatient and ambulatory services offered in the past few years.

"We are much more than the facilities off 39th in Kansas City, Kansas," said Bob Page, president and chief executive officer. "We reach across the state line and throughout Kansas. All of this is part of our mission to give people throughout Kansas and the Midwest access to advanced medicine."

The name change and a new logo are part of a rebranding effort that will be phased in over the next two to three years. The University of Kansas Hospital will remain the name of the primary hospital building at 39th and Cambridge streets in Kansas City, and the University of Kansas Health System represents the clinical care provided at all inpatient and outpatient locations.

STUDENT LIFE

Rates to rise for housing, dining and health insurance in 2017

Housing and dining rates will go up more than 4 percent and health insurance premiums increases will top 5 percent for the 2017-'18 academic year under separate proposals approved by the Kansas Board of Regents.

The cost for a "typical" double room in a renovated residence hall with a 14-meal dining plan will rise to \$10,060 this fall, a 4.9 percent hike from the current rate of \$9,586. A similar plan cost \$9,324 in 2015-'16.

Student health insurance premiums will increase 5.2 percent. A student-only plan will cost \$1,464 for year. According to a statement from the Board of Regents' health plan consulting firm, the increase was "lower than trend and not unreasonable given no rate increases in the past two years."

"You can't have a racist society and a non-racist sports institution any more than you can have a chicken lay a duck egg. It's just impossible."

—Harry Edwards

Milestones, money and other matters



- David K. Johnson, associate professor of clinical psychology, is leading a two-year, \$500,000 clinical trial supported by the U.S. Department of Defense that studies the effectiveness of cardiorespiratory exercise in helping wounded combat veterans recover from mild traumatic brain injury. Johnson's partners in the research include Jeffrey Burns, m'98, g'09, co-director of the KU Alzheimer's Disease Center; retired Col. Mike Denning, c'83, director of the Office of Graduate Military Programs; retired Lt. Col. Randy Masten, g'03, assistant director of KU's Graduate Military Program; and Col. John Melton, commander of the Irwin Army Community Hospital at Fort Riley.
- A \$1.3 million grant from the **National Science Foundation will fund** fieldwork and laboratory research at the **KU Biodiversity Institute to document** biodiversity in the islands of the southwest Pacific. Led by researchers Rob Moyle and Rafe Brown, expeditions will collect museum specimens, record bioacoustics and sequence the DNA of birds, reptiles, amphibians and mammals in Vanuatu, the Solomon Islands and New Guinea.
- Ngondi Kamatuka has been named the first executive director of diversity and equity initiatives for the School of Education. Kamatuka, g'83, PhD'87, will play a major role in directing and overseeing the school's diversity agenda over the next two years while continuing his responsibilities as director of the KU Center for Educational Opportunity Programs.

Sports by Chris Lazzarino

Hero Zero

Mason closes field house career as player of the year favorite

Devonte' Graham is all alpha. He is not, and never will be, a follower. With one important exception:

Frank Mason III.

"When I first got here, he kind of took me under his wing," says the junior guard from Raleigh, North Carolina. "I got a lot of my competitive spirit from him."

As momentum in early February began to build for Mason's candidacy for national player of the year, Graham made clear his biased vote—"He definitely deserves it" then explained why.

"He's put in a lot of hard work to be where he is right now. I've been with him for three years. I know his work ethic, and he's a great person to be around, on the court, off the court. Y'all don't get to see him smile like I do."

No, we don't, because when he's in uniform, Frank Mason III is all business.

A 5-foot-11 guard from Petersburg, Virginia, Mason in 2013 arrived on Mount Oread as the least-heralded member of a recruiting class that included Andrew Wiggins, Wayne Selden Jr., Joel Embiid, Brannen Green and Conner Frankamp. All are now gone and, in one case, forgotten.

Except Mason.

Heading into the final regular-season game, March 4 at Oklahoma State, Mason led the Big 12 in scoring at 20.3 points per game and had scored 20 or more points in four of the previous five games. After making 32.7 percent of his three-point attempts as a freshman, Mason as a senior is shooting 50 percent from the arc, best in the Big 12.

Mason and freshman teammate Josh Jackson are two of 10 semifinalists for the James A. Naismith Trophy, honoring college basketball's most outstanding player. When ESPN polled 18 of the 20 John R. Wooden Award finalists for their player of the year vote, seven named Mason; the poll's runners-up, Kentucky's Malik Monk and Purdue's Caleb Swanigan, combined for six.

> "I don't know if there's been a player tougher than Frank Mason to wear the crimson and the blue," coach Bill Self told the Allen Field House crowd when he introduced Mason at Senior Night, a 73-63 victory over Oklahoma made possible thanks to Mason scoring 11 of his game-high 23 points during a 31-9 run that reversed a 12-point deficit. "He's the best guard I have ever coached." Says Jackson,

KU

"Frank's got a lot of

heart. For a guy his size, I've never seen anybody finish around the basket as well as he does."

Mason says he developed his fearlessness in traffic as a highschool football player—"I try to throw my body into them, so I can have control before they hit me and knock me off my balance"-but adds that hoops contact presents a unique challenge: "I seem to hit the floor a lot." He prepared for his final season at KU with tireless workouts with strength and

conditioning coach Andrea Hudy, determined to improve his ball handling, shooting, quickness and strength.

"Other than that," Mason adds, flashing the wit his teammates say is ever-present behind closed doors, "not much."

After tying UCLA's record with their 13th-consecutive league championship, won with three regularseason games yet to be

played, the Jayhawks ended the regular season as the country's top-ranked team and will be favored to advance to this year's Final Four, April 1-3 in Phoenix. It's a trip KU has not made since

2012, when Mason was still in high school, and the Jayhawks are painfully aware that conference titles do nothing to advance a

team to its ultimate goal.

"Like coach told us in the locker room," Jackson said after KU won the Big 12, Feb. 22 against TCU, "we don't think we've done anything yet that we weren't supposed to do."

Asked whether he might be around to help KU win No. 14, Jackson, an all-butcertain one-and-done, smiled and replied, "Possibly. I think so. Maybe."

Mason, whose No. 0 jersey will one day adorn the south rafters, has never been asked whether he'd return because there was never any place he'd rather be. With his 5-year-old son, Amari, watching from



the stands for the first time in Mason's career at Kansas, the heart and soul of KU's top-ranked team closed his Senior Night speech by telling his fans he wished he didn't have to leave.

"If I had the chance to play four more years here," Mason said, "I swear I would."

"He's the best guard I have ever coached."

-coach Bill Self, on Frank Mason III

Vaulters soar

Two 'Hawks join outdoor champ on Big 12's indoor podium

Tom Hays, in his 13th year as track and field's vertical jumps coach and a former KU pole vaulter himself, long ago received an important bit of advice that guides his coaching philosophy.

"My dad said my goal as a coach was to take limitations off a kid," says Hays, d'90, who also is assistant head coach. "So I don't try to talk about numbers too much. I try to talk about the process. If you get caught up in the marks, you never make them, but if you work on a process, then good things happen."

So when defending Big 12 outdoor pole vault champion Jake Albright on Jan. 21 soared to a career-best 18 feet, 2 inches at a University of Kentucky indoor meet—Albright's second 18-foot mark in as many weeks—neither Hays nor Albright gave the mark itself too much consideration.

What it meant—along with a meet victory—was that Albright, a senior from Bucyrus, was back on track after getting derailed for much of December by mononucleosis. Hays says his champion vaulter returned mentally refreshed, and Albright confirms that his training was quickly back to speed.

"If I'm not confident in what I'm about to do, it's most likely not going to turn out the best. But when I have confident decisions and moments, I go jump 18-2 in Kentucky," Albright says. "I knew I had it coming, and it all came together."

As Albright began focusing his training toward the Big 12 Indoor Championships, Feb. 24-25 at Iowa State, Hays cautioned against penciling him in as the favorite.



Albright and Hays

Along with a talented vaulter from Texas, sophomore Barrett Poth, the league meet would also include formidable Jayhawks Nick Meyer, of Kingman, a senior with junior eligiblity indoors; sophomore Paulo Benavides, of El Paso, Texas; senior Nick Maestretti, of Minden, Nevada; and sophomore Hussain Al Hizam, of Jubail, Saudi Arabia.

All five had posted career-best marks among the 20 best NCAA jumps of the season.

"We want to sweep the conference," Albright said. The Jayhawks did exactly that—and then some. Benavides claimed KU's seventh Big 12 pole vault title in 11 years with a career-best 17 feet, 11 1/4 inches. Maestretti finished second, Albright was third and Meyer tied Poth for fourth.

"It definitely makes us better," Albright says of the deep vaulting roster. "They push me in practice, they push me in meets, I push them in meets. Sometimes they outdo my expectations of them."

The vaulters amassed 28.5 points for the

men's team, pushing the Jayhawks (110.5 points) to their best Big 12 Indoor performance, a second-place finish behind Texas (123.5).

Also winning titles were Belarus freshman Gleb Dudarev, who capped his dominant weight-throw season by throwing 3 feet farther than the competition; Moldova junior Nicolai Ceban, who gave KU a sweep of the men's throwing events with shot put gold; and Brooklyn senior Strymar Livingston, who kicked home for a thrilling victory in the 800 meters.

Women's team highlights included Kirkwood, Missouri, senior Hannah Richardson setting a school record time of 9 minutes, 16.02 seconds while running second in the 3,000 meters, one day after running the anchor leg in KU's runner-up finish in the distance medley relay; and Fayetteville, Arkansas, senior Sydney Conley claiming silver in her second long-jump competition of the season after missing six weeks to injury.

Sports

The \$9 million Jayhawk Tennis Center at Rock Chalk Park opened Jan. 20 with a 6-1 KU victory over Intercollegiate Tennis Association-Central Region rival Saint Louis. KU's new home features six indoor and six outdoor courts, stadium seating, scoreboards for each court and outdoor lighting. "It's kind of surreal to talk about it," coach Todd Chapman said the day before its debut. KU will host the ITA Central Regional Oct. 19-23.



two years, joined KU

football to replace

Je'Ney Jackson. ...

For the second-

consecutive season,

diving placed second

Texas. "Next year we

will have swimmers in

KU swimming and

at the Big 12 meet,

Feb. 26 in Austin.

UPDATES

unior guard Jessica J Washington, who sat out last season after transferring from North Carolina, was named Big 12 Newcomer of the Year. She averaged 19.3 points in Big 12 games, the best mark in the league. "She doesn't take plays off and she's very aggressive in how she plays the game," said coach Brandon Schneider. Washington scored 20 points or more 11 times and twice topped 30. ...

Sophomore pitcher **Alexis** Reid on Feb. 25 threw her fourth shutout, topping Lamar at the Cardinal Classic in Beaumont, Texas, Reid was named Big 12 Pitcher of the Week after KU opened the season 5-0, and senior infielder



Washington

Taylor Dodson was the league's Player of the Week. Freshman Ania Williams threw a onehitter against South Carolina State, Feb. 18 in Jacksonville, Florida. ... Football coach David **Beaty** made a splash by hiring Doug Meacham, who had spent three seasons as co-offensive coordinator at TCU, as his new offensive coordinator. Zac **Woodfin**, who oversaw strength training at Southern Miss for



Reid

the NCAA Championships," said coach Clark Campbell, d'93. "We have a solid foundation to accomplish more each year." ... Volleyball's Ainise Havili,

Kelsie Payne, Jada Burse and Madison Rigdon traveled to Colorado Springs for the March 3-5 U.S. Women's National Team's open tryouts. ... **Hannah** Angell (swimming & diving), Grace Pickell (track & field),

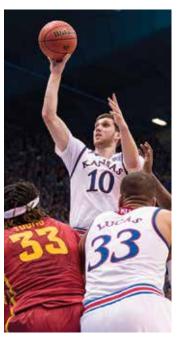
Chris Melgares (track & field), Zach Kirby (men's golf), Mallory Miller (rowing), Cameron Rosser (football) and Ashley Pankey (soccer) were among the 58 Big 12 athletes awarded the Dr. Gerald Lage Academic Achievement Award, the league's highest academic honor. Honorees, who can win the award only once, must carry a minimum 3.8 GPA and 100 course credits. ...

KU on Feb. 21 entered the Intercollegiate Tennis Association's rankings at No. 14, the highest spot for KU since the weekly rankings began in 2000. Three days later, the 'Hawks beat UNLV, 4-1 in Las Vegas. "We are excited about the direction the program is going," said coach Todd Chapman.

Sports Photographs by Steve Puppe









With thrilling moves by Devonte' Graham (4), Frank Mason III (0), Josh Jackson (11), and Landen Lucas (33) and Svi Mykhailiuk (10), the men's basketball team thundered to its 13th-consecutive Big 12 title. Brandon Rush, '09, described his Feb. 22 jersey ceremony as "the biggest day of my life," and seniors Mason; Lucas, c'16; and Tyler Self, d'16, savored their Feb. 27 Allen Field House finale.





STRAIGHT BIG 12 CHAMPIONSHIPS







Photographs by Steve Puppe











Domain Defenders

Students look beyond the classroom to study the art of cyber war

ith a good-natured gibe, the January meeting of the KU Information Security Club will now come to order.

"Anybody know Ben?" asks senior Jay Offerdahl, club president. Scattered murmurs confirm that yes, Ben is indeed a known entity to the 15 or so computer science students gathered in a School of Engineering classroom.

"Well, he had a World of Warcraft raid he had to attend online," Offerdahl quips, "so he can't be here. Be sure to give him crap."

The Jayhackers, as the club is more familiarly known, have convened to plot

strategy for the upcoming National Cyber Defense Competition (NCDC) hosted by Iowa State University. The NCDC is one of many cyber defense tournaments across the nation that create real-world scenarios to allow teams of college students in the field of information assurance test their skills at protecting computer networks against hackers. The contests are like war games for the information technology crowd: Blue Teams of students must defend their networks from attacks by a Red Team, staffed mostly by information security professionals and penetration testers happy to take a break from protecting their employers' computer domains

against myriad disasters and spend a Saturday gleefully bombarding Blue Team defenses. Blue Team's goal is to keep its assigned services (email, websites, backup capabilities and the like) up and running and collecting points. Red Team's goal is to hack Blue Team networks into a pile of rubble, reducing their young understudies to a quivering, bawling pile of demoralized human wreckage-all in the name of good fun and collaborative, hands-on learning, of course.

To the uninitiated, it's a mysterious realm of honey pots and tar pits, security onions and Easter eggs, fire drills and firewalls and social-engineering attacks that involve more trickery than a reverse flea-flicker. The contests mix elements of spycraft, combat simulation and the cerebral jousting of online role-playing games. So, yeah, fluency in World of Warcraft might indeed be a valuable skill to cultivate, but maybe just not tonight, two weeks into a three-week setup period, when much work remains to harden the vulnerable virtual networks that tourney organizers have given the team to defend.

Former club president Chris Seasholtz, of Overland Park, mans a white board, and Offerdahl, of Columbia, Missouri, projects onto the monitors mounted on every classroom table a web page that details NCDC's official scenario, which outlines the role the Jayhackers will act out during the tournament.

"Basically, the way it's set up, all the Blue Teams are different branches of the same health care company," Offerdahl explains. "We need to communicate with all the other Blue Teams, right? There's patient migration between all the Blue Teams."

"What? No way!"

"All the Blue Teams connect to each other," Offerdahl confirms.

It's a new wrinkle that the White Team (the competition organizer and host) has thrown into the mix. Usually Blue Teams need only worry about correcting their own system vulnerabilities and oversights. Connectivity among Blue Teams introduces another potential pitfall.

"Pretty much what's going to happen," says Topeka senior Adam Thompson, "is we're going to do everything just fine, we're going to be A-OK, servers up and running, and some other Blue Team is going to get boned, and from their boned network we're gonna get DDOSed in the form of infinite patients being directly transferred from a legitimate source to our network."

Around the room, heads nod.

"So should we ..."

"Have to find some way to rate limit," Seasholtz offers.

"Yeah, rate limiting."

"Wouldn't we lose points if we cut another group off?"

You don't have to know that DDOS is shorthand for Distributed Denial of Service, a favorite gambit among hackers (one used to quite dramatic effect in the attacks on domain name system manager Dyn that slowed massive portions of the internet to a crawl in October), or that rate limiting is a means of hamstringing hackers by restricting the bandwidth they can use to target a site. During the course of their hourlong strategy session, the Jayhackers toss around more alphabet soup than a kindergarten food fight, but the abundant acronyms and inscrutable jargon can't obscure one obvious fact, which is as clear as the air of no-big-deal brilliance that permeates the room as the students assign roles and brainstorm tactics with the quiet assurance of a combat platoon about to embark on its umpteenth patrol: These dudes know their stuff.

hough KU's computer science program doesn't offer a degree in cyber security, it does give students many ways to gain experience in the rapidly burgeoning field while they are in school, according to Bo Luo, associate professor of electrical engineering and computer science.

The program is built on "four foundations," Luo says: research, education, outreach and practice. Students can work with the dozen or so faculty members who conduct cyber security research, choose from several elective courses on the topic while earning a cyber security certification, and take advantage of extracurricular opportunities that give students hands-on

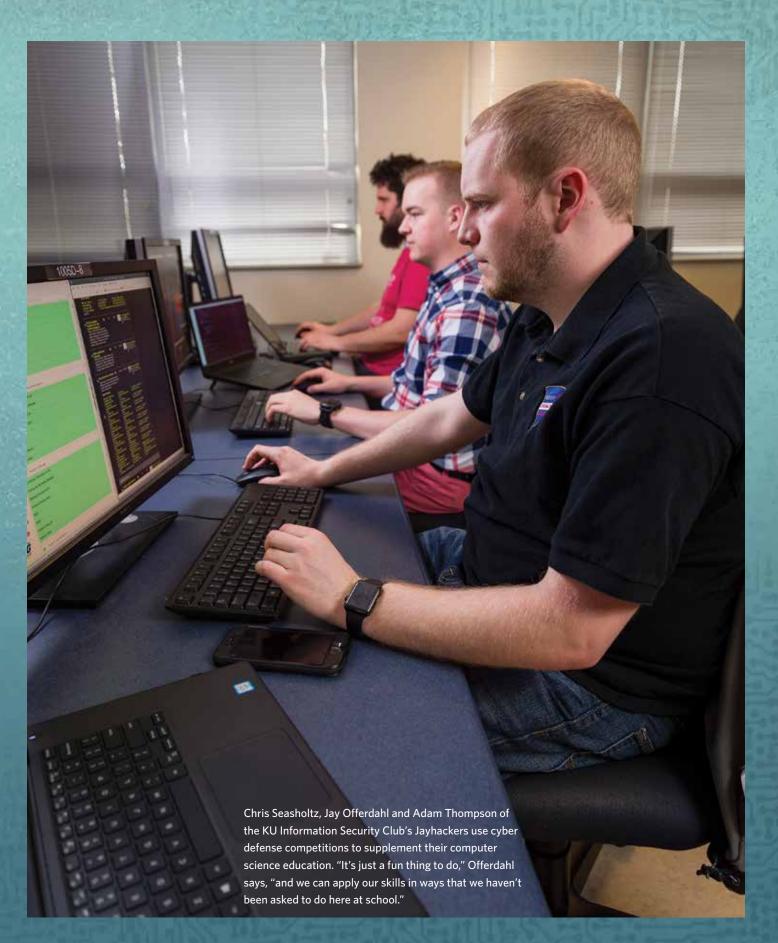
experience in the field. Chief among those opportunities—and a key element in the practice foundation, according to Luo-is the KU Information Security Club.

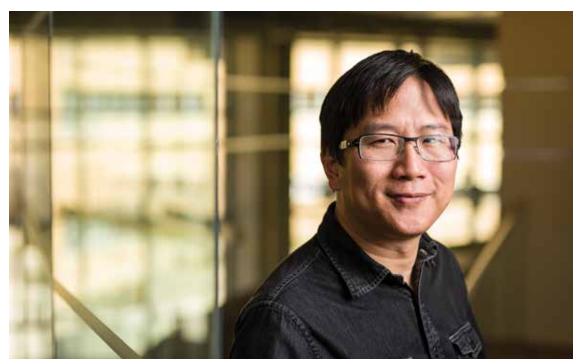
The club hosts speakers from industry, organizes practical lab sessions for students and periodically organizes "cyber blitz" events like the one in March that brought together local high school students, soldiers from the U.S. Army's 1st Infantry Division at Fort Riley and the Jayhackers in mixed-team contests. But the highlight of the club's activities is the series of cyber defense competitions that culminates in the crowning of a national champion each spring. Held at roughly the same time as that other famous surviveand-advance tournament, the National Collegiate Cyber Defense Competition (NCCDC) pits winning teams from 10 regionals in a national final, this year in San Antonio April 13-15. The Jayhackers will compete in the At Large Regional March 24-26.

"On the Lawrence campus, we don't really have classes that teach what we do in the club," says Seasholtz, e'14, g'16. Now working on his PhD in computer science after completing bachelor's and master's in computer engineering, Seasholtz has logged time on both Blue and Red teams. "We use the club to talk to students about what's really going on: People are getting hacked; how are they doing it? The competitions are a great time. They're our version of intramurals. We travel and get to know people from other schools. But we also come out of each one having learned something new."

"When they go to work, this is what they'll do, basically," Luo says of the tournament experience. Most work days are not as intense as the crisis situations cyber defense competitions simulate. Small companies may see one or two attacks per day, while large corporations may fend off hundreds, most of which are handled by automated software defenses, he says. "But when suddenly you're under organized attack, the experiences you learn at these competitions really help you get out of that."

Seasholtz, already working part time in the field, concurs. "Every time someone





Bo Luo, who leads a team of KU researchers working on the federal effort to train more cyber security experts, says the battle between hackers and defenders is escalating. "People are becoming aware of the danger and are starting to protect themselves," Luo says. "But our enemies are probably growing faster than the defense side, and that's why we do need more people."

asks what a competition is like, I say, 'It's like a system administrator's day from hell.' But if you can make it through, you're going to learn a lot, you're going to gain a lot of experience, and you're going to know how to deal with things at a slower pace in the real world."

Employers seem to agree. A few years ago, Luo took the Jayhackers to Denver to compete in the NCCDC Rocky Mountain Regional. "Recruiters were there, but they weren't successful, because most students I brought already had very good job offers," Luo says. "Facebook, Apple, Google. They were all taken."

In fact, research suggests there are not enough workers with cyber security skills to meet job demand in government and private industry. A 2016 study by chipmaker Intel and the Center for Strategic and International Studies identified a shortage of cyber security skills in the United States and seven other countries, noting that in 2015, 209,000 cyber security jobs went unfilled in the U.S. alone. That survey of IT professionals found that 71

percent believe the cyber security skills gap has a direct negative effect on their organization, and one in four said their organization has lost proprietary data as a result. A look at the headlines confirms that the need for domain defenders is only increasing: 2016 saw a surge of attacks on targets such as the U.S. Department of Justice, the Internal Revenue Service, Snapchat, Verizon, the Philippine Commission on Elections, the San Francisco Municipal Transportation Agency and, most famously, the Democratic National Committee. The year closed with the announcement of what is likely the largest data breach in history: the recently discovered 2013 compromise of personal information from 1 billion Yahoo accounts.

In January 2016, Luo landed a \$4.7 million, five-year grant from the National Science Foundation that's part of a nationwide effort to bolster the federal government's information security defenses. The grant supports a new initiative called CyberCorps: New Scholar-

ship for Service Program at the University of Kansas—Jayhawk SFS. The grant will eventually support around 36 students, providing full scholarships plus generous stipends (ranging from \$22,500 for undergrads to \$34,000 for doctoral students) for two to three years; recipients agree to take jobs after graduation for an equal number of years defending critical national infrastructure at the Central Intelligence Agency, National Security Agency, Department of Defense, National Laboratories and other federal, state and local agencies. In conjunction with the grant, the computer science program is adding another faculty

member and doubling the number of core cyber security classes.

Luo says the Information Security Club is a vital part of the scholarship, which goes to the top computer science students. "We try to recruit [scholarship applicants] from the club and we use the club to attract more students to security as a profession," Luo says. "We also ask that scholarship students join the club. It's mutually beneficial."

Top students tend to be drawn to the club anyway.

"Security is something I've been interested in, and it's going to be valuable in my career," says Offerdahl, who believes a working knowledge of hackers' tactics will make him a better software engineer. "But more than that, part of the reason for me joining the club was there's a lot of smart people in it, and that's just an environment I like to be in."

Katelyn Dean, an Olathe junior in the bachelor of science in information technology program at the KU Edwards Campus, is one of the first Jayhawk SFS

recipients. She says the scholarship was her introduction to the Jayhackers and to figuring out, "Hey, there are these competitions and there are people who do this kind of stuff, and it could be fun." The competitions have shown her that there are more women in the field, a realization she finds reassuring. The scholarship allows her to pursue a degree that she would have found too demanding if she'd had to work her way through school. And it also enables her to fulfill a long-held desire.

"I've always wanted to try to give back to my country, but I'm not very athletic, so I knew I could never be part of the military or something like that," Dean says. "But I did realize I could fight with my mind, in a way, through the CyberCorps program."

t ISEAGE, the Internet-Scale Event and Attack Generation Environment research laboratory at Iowa State, the Jayhackers arrive at 7 a.m. Saturday, Feb. 4, to finish some last-minute setup. Since Thursday night, when they carpooled from Lawrence to Ames, the team's eight members have worked to fine-tune their virtual networks as they gird for the attack phase, which kicks off in an hour. Since they first gained access to the machines, back in January, they've run tons of software updates and scanned oodles of code looking for hidden vulnerabilities placed there by the White Team to trip them up. Among their finds: A bit of Unix time code was set to blow a gaping hole in their defenses right at the opening horn.

"If some team didn't find that, they would be testing their software and the authentication would work every time—until 8 a.m., the beginning of the attack phase," Offerdahl says, delighted to have sniffed out the buried time bomb. "It's the funnest thing, to go in there and see the little Easter eggs they've hidden for us and know that some teams are going to get screwed."

Finding and fixing vulnerabilities ahead of time is just one of the challenges they'll face today, explains Jeff Neel, a graduate research assistant in ISU's department of

electrical and computer engineering.

As a member of the White Team, Neel helps run the competition. The White Team recruits IT pros for the attacking Red Team, manages the computer hardware and software that create the simulation and score the Blue Teams, and writes the scenario that gives the exercise its real-world feel. For today's health care-themed competition, Neel and his cohorts have recruited student volunteers to play the role of doctors, nurses and others who daily use the computer networks of a hospital; they form the Green Team, and their job is to use the Blue Team systems and periodically call on them for help solving problems. So not only do the Jayhackers and the 15 other Blue Teams have to fend off malevolent hackers, they also have to deal with the business and tech-support tasks of a busy, multi-city health care company, which might include training a new doctor to access patients' electronic medical records or tactfully handling the clueless CEO who insists on writing down all passwords.

"We try to make sure there's always something going on during the competition," Neel says. "That's where anomalies come in."

Anomalies—sometimes business tasks, sometimes puz-

talk to students about

what's really going on:

People are getting hacked;

-Chris Seasholtz

how are they doing it?

zles—present
another hurdle
for Blue Teams
to clear. "Every
so often something happens
and they have to
respond. The Red
Team is constantly
attacking, so they're
monitoring user logs,

making sure nobody is getting into their systems where they shouldn't, and figuring out how to respond if somebody has accessed info they shouldn't."

If teams have prepared really well, Neel says, they may have automated systems that help identify intruders. But on some level, protecting a computer network sounds a lot like minding a toddler. "A lot

of it," Neel says, "is people watching things to make sure nobody is getting into anything they shouldn't." You can babyproof your house, but there's no substitute for vigilance.

There are also less conventional challenges: In cyber tournament lingo they're called social-engineering attacks, and they tend toward the gonzo, indulging the kind of inspired skullduggery and sly subterfuge one would associate with John le Carré novels more than heady computer competitions. In a nutshell, social-engineering attacks are dirty tricks employed by the Red Team to exploit the weakest link in any computer system: the human being.

At the Rocky Mountain Regional, a Red Teamer dressed in a White Team polo shirt commandeered the Jayhackers' papers, purportedly for contest organizers—who had told students before the competition that there would be no social-engineering attacks. At another competition, the Red Team created a dummy scoring site, so that Blue Teams who thought they were checking their scores were actually feeding passwords to

the hackers. Every event includes a "fire drill" or two: Blue Teams are

cleared from the room, usually under the pretense of a T-shirt distribution or a talk by one of the technology companies sponsoring the event, and while the students are locked out, Red

A frequent Red Team tactic is to send a team member with a camera to tag along with the inevitable student newspaper reporter who shows up to cover the tournament. "You'll see them getting in

these weird vantage points, standing on tables with a telephoto lens, just nailing every open computer screen down the row," Adam Thompson says. "There's not a lot vou can do about it sometimes."

And sometimes there is. Luo recalls a competition where a Blue Team was headquartered in a glassed-in conference room. Noticing that Red Team members kept cruising past, spying on their white boards, students papered over the windows. Undeterred, a Red Team member posing as a White Teamer knocked on the Blue Team's door.

"I heard a big noise, went outside and found two people on the ground," Luo says, laughing. "I'm like, 'What? You're fighting?' The Blue Team had literally tackled the Red Team member to the ground."

Seasholtz knows firsthand the thrill of playing the heavy; he served on the Red Team at a tournament last year in St. Louis. "The thing is, technically we have rules, but that doesn't mean we have to listen to them," he says. "We get to do things that otherwise, if we did it to a school or business, they'd have their lawyers on us in a day."

During the setup day at ISU, before they even started working on their virtual systems' defenses, the Jayhackers' first task was to make sure that all eight team members' computers locked screens after idling one minute, to be reopened only with a password. That precaution proves crucial. After the first fire drill of the attack phase, Blue Teams returning to the competition room are greeted with a musical interlude: A Red Teamer playing an accordion at a Blue Team's station.

"He was just sitting at somebody's table with a laptop open and all their stuff open," Thompson says, "and he's playing some sort of slow Russian music and smiling, just like, 'We did it. You're nailed and everybody knows it."

Competing in their first tournament today is the newly formed KU Edwards Campus Information Security Club, led by Katelyn Dean. Forewarned about fire drills, she leaves her tablet computer unlocked as a decoy, hoping the Red Team will waste time examining it rather than

more important machines. But when she returns to the room, she finds the Red Team has still managed to surprise her.

"I'm pretty sure they stole my crackers," Dean says, bemused. "It's annoying, but also totally hilarious. That's something I was totally not expecting."

s the day passes, it's clear that the Jayhackers have prepared well. Teams are scored on service uptime—basically how long their systems stay online despite the Red Team's best efforts to bring them down—as well as how many "flags" they defend on their machines and how many anomalies they successfully complete. The Jayhackers' score takes a few dings in the morning with a couple of minor setbacks (including a bit of bad luck when they have to leave a task undone as they're called away for a fire drill), but after noon they are locked in. When the attack phase ends at 4 p.m., they have an availability score of 97.4 percent and a total score of 755.4—good for fourth place.

"We're really happy with fourth," Adam Thompson says. "It's a huge feeling of accomplishment. It's just nice to get out of the whole thing still with a few shreds of dignity, because usually you're beaten and muddied by the end. This is one of the first ones for me where we came out with everything still running. We had some hiccups here and there, but we kept it alive."

The attacks on this day were not subtle, the Jayhackers say. Rather than a stealthy SEAL Team Six assault, this Red Team came at them like a barbarian horde rushing the gate.

"I was watching the access logs, and I could just see Red Team hammering it," Thompson says. In the moment, when you're under attack and not sure if your defenses are strong, he says, "It's like hearing people trying to break into your house. Is it gonna hold, is it gonna hold? You just gotta stand there and wait for them to kick the door down."

Not only did the team avoid

getting suckered by any social-engineering attacks, but they also managed to steal a page from the Red Team playbook and foist a swindle of their own.

"I don't think we ever had anyone in our network, did we?" Jay Offerdahl asks.

"Not that I could tell," says Cyrus Duong, an Overland Park senior competing in his fourth tournament with the club.

"They thought they were in," Thompson says.

"We kind of tricked the Red Team," Offerdahl explains, chuckling.

The servers presented to all Blue Teams at the beginning of the setup phase, the Jayhackers explain, were in disarray. They functioned, but hackers could break them easily. The team fixed these weaknesses, but as part of their strategy, they also copied these machines in their original state, and, using a technique called reverse proxying, set up a "honey network" of weak systems that they could use to lure bad actors. It's basically a matter of offering what appears to be low-hanging fruit (or in this case, an unguarded honey pot) that's too tempting for the hackers to pass up. While the Red Team was busy trashing the decoy, the real network hummed along smoothly.

That lesson, were it introduced in a class and reinforced in a lab, might conceivably be as effective as trying it yourself on a team of crack white-hat hackers and system administrators hell-bent on making someone else feel their pain—but it probably wouldn't be half as fun. And fun is a big part of the draw in these

tournaments. Fun, after all, is a big reason club members got into computers in the first place.

"Naively, at the beginning, everyone just wants to be able to hack into someone's computer," Thompson says. "Even if you just put your face up on the projection screen during class. It's a huge show of skill, to show you're creative and maybe sometimes smarter than the average bear."

For Offerdahl, who ditched a planned career in graphic design after taking an elective class in programming, video games were the entree



into the field. For Duong, learning how his own home computer worked "inside and out" led to a gig programming for his high school robotics team. In middle school, Thompson shares, he once made the computers in the school lab stop working for a couple of days. Were there any repercussions, his teammates ask?

"I got moved out of computer science to home ec," he says with a grin.

Dean says she caught the bug after finding she had a knack for helping friends protect their computers from viruses. "I've always just loved solving problems and fixing things," she says. "I guess putting puzzles back together is just what makes me happy."

Whatever their reasons for playing, these tech warriors and their compatriots at the roughly 70 other schools that have received the NSF grant represent a potential frontline defense in what promises to be a growing cyber war.

Back in January 2016, when KU's grant was announced. Bo Luo warned that the need to safeguard our networks isn't a

concern only for corporations and government agencies. Technology now touches us all.

Cars, TVs, DVRs, home thermostats, even refrigerators have online capability. "In a few years, everything we do will be connected to the internet," Luo said, "and everything connected to the internet is subject to cyber attacks."

Nine months later, the Dyn hack showed how right he was. The attack was carried out using a very simple script, Luo says, harnessing the computing power of home devices—the so-called Internet of Things (IOT)—that are typically not secured as rigorously as computers.

"That was the largest attack in history, and we still don't know how many IOT devices are controlled by the hackers," Luo says. Speculation is that only a fraction of devices they control were used. More severe attacks could be on the way.

"How good our enemies are, we don't know. They are in the dark. We only see them when they cause damage, and then we can only speculate how much of their Justin Walberg, Daniel Ogran and Jayhawk SFS scholarship winner Katelyn Dean are launching a cyber defense team at KU's Edwards Campus. "You can have somebody tell you about this stuff, but you don't realize what you need to know until you've done it yourself," Dean says of the competitions. "You get to work as a team, and that's something you can't really learn just working on assignments for a class."

power they used," Luo says. But one thing is clear: The battle between hackers and cyber defenders will continue to escalate, an intellectual arms race in which the stakes are much higher than before.

In the old days, Luo explains, it was hackers who were out for fun. "They did it just to show the world they could." Now they do it for money.

"It's a very serious business, and the hackers are probably growing faster than the defense side," Luo says. "We need more people."









Moderato

In precisely one hour, minus one second, the pregame clock for the Jan. 14 basketball game against Oklahoma State will tick down to 0:00, and, if all goes as planned, the horn will sound exactly as the men's basketball band hits the final note of its rollicking rendition of "I'm a Jayhawk," a tradition known within the band as "Beat the Clock."

Sharon Ramsey Toulouse, f'97, g'05, a proud member of the men's basketball band and Marching Jayhawks during her student days, is in her fifth year as director of the men's basketball band and assistant director of bands in the School of Music, after five and a half years as a U.S. Army officer and conductor at Fort Monroe, Virginia, and Fort Meade, Maryland. Perched in a tiny triangle of space facing the band's 10 rows of prime real estate in the southeast corner of Allen Field House, she greets her arriving musicians with an attitude and warm smile that radiate enthusiam for the task ahead.

"She is 100-percent having fun," says piccolo player Andrea Coleman, a sophomore music education major from Lawrence. "I don't think she would consider this a job."

A glance at her watch and, with the pregame clock reading 59:59, Toulouse dons a headset—one of the few modern

breaks in tradition for a band that prides itself on eternally honoring its roots—so she can communicate with the Rock Chalk Video control booth, where director Mike Lickert orchestrates the show that's about to unfold.

"I call him the voice of God," Toulouse says of Lickert. "He's the voice on the headset that tells me what to do."

Lickert's play-calling will be vital to a seamlessly choreographed basketball-and-more experience for the next three hours and 24 minutes, but for now it's not necessary. Toulouse knows exactly what her first move will be, as do her musicians.

With 45:20 on the clock, 41 of the 42 musicians—all but the drummer—stand and raise their instruments. Twenty seconds later, at precisely 45:00, their director raises her hands and announces, "'Sounds'! One, two, a one two three four!"

Allegretto

"Sounds of Summer" is the first song played at every men's basketball home game and, by most insider estimations, the best. The 5-minute medley begins with The Beach Boys' "Fun, Fun, Fun" and rolls through upbeat pop standards while the band swings and sways.

"It has loads of horn moves," Toulouse says, "and is very visual."

"Sounds" was arranged for the Marching Jayhawks sometime in the late 1980s by band member Jay Stutler, '92, who had spent the previous summer as a Disney musician. (He is now a Disney vice president for music.) The upbeat number was an instant hit with the marching band, and Ron McCurdy, g'78, PhD'83, then director of the men's basketball band and now professor of music at the University of Southern California, brought it from Memorial Stadium to the field house. It has been the opening number ever since.

"That's our kickoff," Toulouse says. "Our kids look forward to it and they love it. It's one of the biggest traditions we have."

Other schools have asked for permission to play "Sounds of Summer," but KU guards it zealously and denies all requests. The song is a treasured refrain, but when the band travels to NCAA Tournament games, restrictions imposed by the unique setting—two bands sharing performance time already limited by scoreboard marketing and announcements—the long medley is rarely played.

The students' reaction? "They get mad at me," Toulouse says.

Also popular are "Africano," played when the team takes the court 28 minutes before game time; a swing version of "I'm a Jayhawk," played only by the men's basketball band, called "Jazzy Jay"; and a mashup of Led Zeppelin's "Black Dog" and



"Kashmir" that greets coach Bill Self when he first appears on the video board and then steps out from the tunnel with 1:35 on the pregame clock.

"I'm biased because there's a trumpet solo I get to play in that one," says prephysical therapy major Jeffrey Doolittle, of Ottawa, "but that's probably my favorite."

How cool would it be to stand up in a packed field house, already rippling with pregame energy, and belt out a Led Zeppelin trumpet solo?

"The crowd is going crazy when Bill Self is walking out, so a lot of the time I think the crowd doesn't hear me," Doolittle concedes. "But it's still a fun time."

Another popular tune that fills the field house with jazzy brass joy is "Birdland," written in 1977 by Weather Report's Joe Zawinul. While many of the band's game-day traditions are hard to pin down, "Birdland" is the exception.

All credit goes to the Cookie Lady.

"One of the band kids walked past me and asked if she could have one," Habluetzel says. "I said sure, and it just kind of snowballed from there."

The chance encounter with a hungry student gave Habluetzel the idea of baking for the band. Because fans can't bring food into the field house, the band designates one member to serve as what Habluetzel calls her "cookie picker-upper"—known as "CPU." Habluetzel tracks the number of years she has supplied cookies to KU musicians by counting her CPUs.

"I'm currently on No. 8, and there have been at least three of them who have done it two years. So, at least 10-plus years."

Using her sister-in-law's recipe for the big chocolate chip cookies she baked for family gatherings, Habluetzel spends more than four hours baking and wrapping seven dozen cookies for the band, plus an extra dozen for her CPU. Band members feast on two cookies apiece at halftime and serenade their benefactor with "Birdland."

"They're really good," Doolittle says. "I don't know when that started, but it's been

Andante

Becky Habluetzel was born in Clay Center, hours before daybreak on a KU football game day.

"My mom's doctor thanked her for having me at 2:30-something in the morning," Habluetzel says from her Lawrence home, "so he could come down to watch the game."

She did not attend KU, but always felt an affinity for Lawrence. When offered the opportunity by her employer, AT&T, to move here in 1994, she and her husband, Lynn, gladly accepted. More than a decade ago, Habluetzel found her way into the field house by signing on as an unpaid usher for men's basketball games, and one day she brought home-baked cookies to snack on at her post.

Sharon Toulouse (right) encourages her musicians—including (p. 32, l-r) Ellenor Hanna, Josh Bush and Justin Kline—to revel in the game-day experience: "It's their way to kind of let loose, get their minds off their studies and have some fun."





going on as long as I've been here and I don't complain."

(Another fan, affectionately known as the Coke Lady, for decades donated money for the band to buy soft drinks, and she was thanked every game with "It Had to be You." That tradition sadly ended with the Coke Lady's death last fall.)

Habluetzel says the first time professor emeritus and former director Tom Stidham left her tickets for a game, she found them in an envelope labeled "Becky the Cookie Lady," and she's been the Cookie Lady ever since. She also recalls that it was CPU No. 5 who had the idea of

No. 5 who had the idea of thanking her with a song, and Matthew Smith, then director of the men's basketball band, offered a list of options.

"Birdland' was at the top," Habluetzel says. "I listened to it and I said, 'That's it."

Because it was one of her favorites? "No. I'd never heard it before."

Instead, she found meaning in the name. Her late husband, who died of cancer in 2010, had carried the nickname "Chirp," and her son, Phillip, whom she lost to a motorcycle accident eight months later, was called "Big Bird" by his friends after one day pairing a yellow ball cap and yellow shirt.

"And of course," she adds, "there's the Jayhawk."

When she stopped working as an usher, Habluetzel watched games at home with her husband. Sort of. Lynn preferred to hear the TV commentators while Becky wanted to listen to Bob Davis and Max Falkenstien, c'47, on the radio, so she donned headphones and watched games on a muted TV in another room.

When they heard that the ESPN

Becky Habluetzel greets this season's "CPU," senior trombone player Tim Aspleaf, of Overland Park, with a satchel of her prized chocolate chip cookies. "The recipe I use came from a sister-in-law who used to bring these big chocolate chip cookies to family gatherings," Habluetzel says. "It's a good one."

GameDay crew would be in town, Lynn suggested she bake them cookies. She'd already heard that ESPN's Scott Van Pelt had once sampled one of her chocolate chip masterpieces during a previous visit, and Habluetzel says she was "thinking and hoping that he would be one of the crew." At one point during the game, she saw her husband gesturing frantically. When she removed her headphones, he shouted, "Dick Vitale has your cookie!"

"Van Pelt was in the studio," Habluetzel recalls, "and when they cut back to him he said, 'Dick, the band gave you my cookies."

She enjoys laughing at the memories. Connecting with vibrant young people has helped her deal with painful losses and prevents her from shutting herself off from the world. When basketball season rolled around again after she'd

lost both her husband and son, Habluetzel finally bought herself season tickets (and joined the Alumni Association as an associate Life Member), and she can be found perched in Section 10, directly behind the band, at every game.

Now when they wrap "Birdland," the musicians turn and wave.

And she smiles and waves back.
"I'm dedicated," Habluetzel says.
"Once somebody has my loyalty, they have it for life."

Allegro

community."

Toulouse sees a shared purpose for both military and athletics bands. "The Army's mission is to foster a goodwill with the community and the military, and it's kind of the same thing with the University's athletics bands," says Toulouse, who remains in the Army Reserve and commands the 451st Army Band, based in Minneapolis. "Both are very outreach oriented and focused on the

The privilege of joining the men's basketball band is hard-earned. Participation in the Marching Jayhawks is required, and musicians also must shine in blind auditions. (Faculty judges listen to the music without knowing the performer's





The basketball band watches the action (above) at a 1953 game in Hoch Auditorium. More than six decades later the tradition roars stronger than ever, thanks to enthusiastic musicians (p. 37, I-r) such as mellophone player Josh Bush and alto saxophonists Noah Zoller, Bennett Johnson and Andre Womack.

identity.) Those with the top scores are invited to join the men's basketball band, and the next group forms the women's basketball band.

Unlike marching band, which endures two-hour practices three days a week and a full day of rehearsal and performance on game days, the basketball band has one short rehearsal a week.

"We keep pretty much the same book, so it's the same music every year," Toulouse says. "Once they get it, they've got it for their whole career in the basketball bands, which is helpful."

Toulouse occasionally adds popular new tunes, "and some of them can be pretty tricky. We don't have a lot of rehearsals, so they have to be spot-on the first time they're reading this music. But they're great musicians, so they're able to learn it quickly."

The band's history is so murky that even after being a member for six years and directing the band for five, Toulouse is uncertain of its origins. The confusion is likely due to the slow evolution of campus bands across the decades, says Robert Foster, professor emeritus and longtime KU bands director.

University Archives has photographs of uniformed band members playing at men's basketball games in Hoch Auditorium in the 1950s, and Foster's guess is that, given Hoch's design, with the court flanking the stage, a band was probably intended for games in Hoch since it opened in 1927.

Foster suspects the basketball band likely evolved from a subset of the marching band and gradually moved toward the sport-specific corps that was already thriving when he arrived in 1971.

"It became a defined band way earlier

here than at many schools," Foster says, "and it became a high-priority band, where you wanted the best students in there and the best students wanted to be in there. It was a band with a special mission, clearly defined as supporting basketball."

With the team aiming for its 13thconsecutive Big 12 crown and perhaps a long dance through March Madness, it's a mission these musicians take seriously.

"We get told all the time that whenever it starts to die a little bit, it's our job to keep the crowd energy going," says junior baritone player Kellie Simerly, a secondgeneration KU band musician from Omaha. "We're dedicated to school spirit, and we want to be a part of that in the best way we can, as musicians."

With great seats close to the action, the musicians (and their director) follow every second of the game, celebrate three-point field goals with three-fingered high fives and cheer madly for their hoops 'Hawks.

"We're playing during timeouts, pregame and everything, but during the game we're KU students," Doolittle says. "We're passionate about KU basketball,

and we're just as hyped as everyone else."

Says junior alto sax player Andre Womack, "We're part of the student section. The only difference is that we have instruments."

Spiritoso

Their opening 45-minute set, from "Sounds of Summer" to the national anthem, is a grueling challenge, especially for brass players. The use of facial muscles to properly push air through a mouthpiece is called "embouchere," and it requires training to develop and maintain.

"I tell kids all the time, 'You're an athlete. You have to work out those muscles to make them stronger. You have to condition," Toulouse says. "Last year, that three-overtime game with Oklahoma? They all needed ice after that game. Their faces were about to fall off."

Musical performance majors and professional musicians practice many hours a day; musicians in athletics bands also perform for long stretches, but do so in short, loud bursts.

"It's like a sprinter versus a marathon runner," Toulouse says. "The athletics band type of playing really trains you how to use and control your air, which is 90 percent of playing your instrument and getting a good tone quality and range."

Toulouse and her faculty colleagues watch for one particular bad habit that can tempt exhausted horn players: generating the necessary sound by pushing the horn hard against their lips.

"You're really pushing it into your face to keep that buzz happening, when you need to be using air instead of pressure," she says. "And I do remind them that we have to play musically. Not all dynamics are *fortissimo*. There is some *mezzo piano* in there, too, and that makes a song more interesting."

When the clock hits 0:00 at the Jan. 14 game against OSU, the Jayhawks' 49th-consecutive victory in Allen Field House, Toulouse strikes up the band for yet another round of "I'm a Jayhawk," then calls out, "'All I Do Is Win'! 'All I Do,' one two three four!"

After standing the entire game, band members finally take a seat. They're not quite done, though.

In keeping with many years of tradition, they play "The Stars and Stripes Forever"—"Nice entertainment as the crowd is exiting the field house," Toulouse says—and, with many fans still in their seats just to hear the band and perhaps take comfort in the familiar ritual, the band ends its performance, as always, with "Home on the Range."

Their fans applaud, and Toulouse,

Whenever it starts
 to die a little bit, it's our
 job to keep the crowd
 energy going.
 We're dedicated to
 school spirit, and we
 want to be a part
 of that in the best way
 we can, as musicians.

—Kellie Simerly

wearing a broad, happy smile, shouts, "What kind of day is it?!?"

The band members reply in unison: "It's a great day to be a Jayhawk!"

D.C. al Coda



Videographer Dan Storey's coverage of the men's basketball band, including an interview with Sharon Toulouse, can be seen at kualumni.org/basketballband.















University empowers student and faculty innovators to create their own companies with Startup School@KU

welve years ago, Julie Nagel got the phone call she was dreading: "They know what's wrong," her father said. He had just been diagnosed with multiple myeloma, a cancer that forms in the body's plasma cells. Fortunately, a new drug had recently been approved to combat the disease, and Nagel's father started treatment immediately.

At the time, Nagel was managing director of the Oncological Sciences Center in Discovery Park at Purdue University. "It became very personal for me," she recalls. "I knew that the people really moving the ball in cancer research were in the universities. That's where the new ideas were coming from."

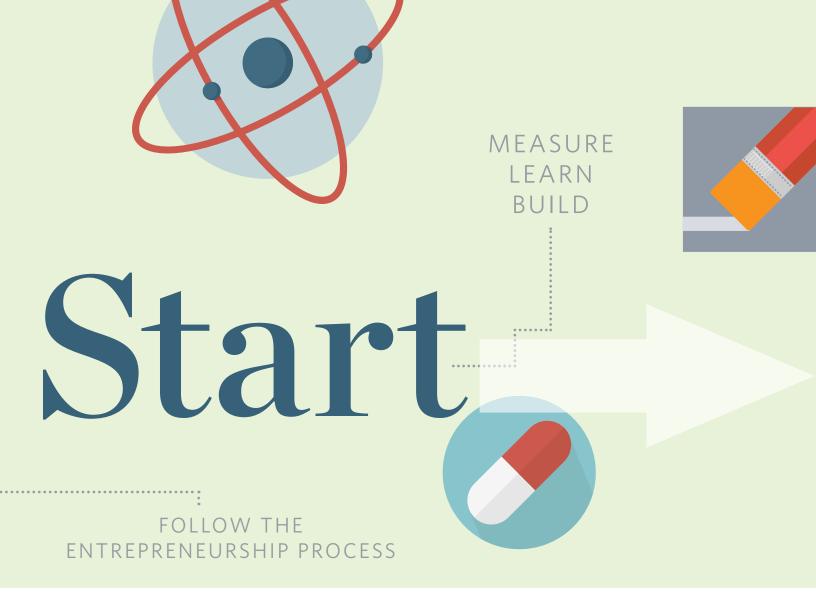
What Nagel didn't know was that Val

Stella, PhD'71, retired distinguished professor of pharmaceutical chemistry at the University of Kansas and founder of three pharmaceutical companies, helped formulate Velcade, the novel, lifesaving drug used to treat her father's cancer.

"Velcade is the reason he is still here today," she says.

Since 1991, KU has launched 40 new companies, including Stella's, all of which stem from innovative University research in therapeutics, drug delivery, software and other technologies. Nagel has witnessed the creation of more than half of them.

The Indiana transplant, who has a PhD in environmental toxicology from the University of Tennessee-Knoxville, came to KU in August 2011 to develop the University's office of corporate partner-



ships. She had launched her career as the 13th employee at a University of Michigan startup company and later worked at a biotechnology business consulting firm before joining Purdue, where she collaborated with the state's two designated cancer centers and created programs to translate the university's technology into commercialized products.

"I learned how to set up projects, how to write grants, how to run IRBs [institutional review boards], how to get money to do that, how to set up clinical trials, all that stuff," she says. "I was getting good at coming in and building something with not a lot of money."

A few years later, when Nagel agreed to lead the expansion of technology commercialization and entrepreneurship at KU, she noticed an unusual and unsettling trend: Several faculty members had poured years into researching and developing new products and technologies—just like Velcade—and had started their own companies, but never licensed their discoveries.

"The University creates two startups a year, and here we have 12 that are teed up and nobody's doing anything," she says. "They're not taking the next steps."

Determined to get to the root of the problem, Nagel, president of KU Innovation and Collaboration and associate vice chancellor for innovation and entrepreneurship, started asking questions. The answers were revealing: Some faculty didn't have the funds or the knowledge to commercialize their product; others needed more time to conduct research

inside the University before making a commitment.

To assist with the financial burden of technological development, Nagel adapted KU's competitive proof-of-concept funding so that faculty who make a compelling case for their projects are eligible for the award, which typically ranges from \$15,000 to \$40,000. But she still needed to address the issue of providing educational resources and tools for researchers to take their inventions to the marketplace.

by Heather Biele

Photographs by Steve Puppe



Nagel approached Wally Meyer, director of entrepreneurship programs at the School of Business, to see whether he could help. "The business school does that really well for undergrads," she says, noting the school's use of the lean startup methodology developed at the University of California, Berkeley. "They have an outstanding program. They do it right and they do it well."

"It was exactly the partnership we needed to be able to bring what we already have for students to faculty and staff. So we got our heads together and Wally developed a curriculum for what we called Startup School@KU."

eyer entered academia to give back to the business community. The former senior marketing and management executive, who successfully led brand and business development for The Gillette

Company, Nabisco and Sprint before launching four companies of his own, wanted to share his experience with KU's future business leaders.

"When you're on the industry side, you tend to execute on the basis of the wisdom or the experience acquired," he says. "But here you explain the execution and what's behind it. When you're in the classroom and you see the light bulb above a student's head go on, as MasterCard says, that's priceless."

In addition to directing the business school's entrepreneurial programs, which include Red Tire and Javhawk Consulting, and teaching two courses for business students, Meyer also conducts an introductory course in entrepreneurship for

students in other disciplines on campus, which he says is "its own challenge of trying to get non-business people to understand business concepts."

Developing Startup School was no different. "We're blessed here in that we have a lot of faculty who are really, really good at research and some of that research has commercial potential," Meyer says. "But the faculty, being as good as they are at their particular discipline, don't know or recognize the commercial potential of

> the inventions, of the technologies they're creating."

Led by Nagel and Meyer, KU launched its first Startup School in fall 2015. Twenty-five faculty members from Lawrence and Kansas City campuses attended four free, two-hour lectures and learned the basics of how to start their own

companies, which included developing business models, identifying customers and their needs, and other startup fundamentals. Participants in the inaugural class also were eligible for KU's Swift Startup license agreement, a new initiative that allowed startup businesses to avoid upfront payments, past patent costs and other fees, and instead invest in their company first, rather than paying the University.

"Instead of requiring it up front, we say put that in your company," says Nagel. "And then when you make money, you'll give a little bit of that back to the University."

Wendy Tiemann Picking, c'85, PhD'90, a professor of pharmaceutical chemistry, was one of the first faculty participants in Startup School. She signed up at Nagel's urging.

'Since I am a true academic I don't know anything about a startup," Picking admits. "I don't know how to ask for money. They go through and teach you those types of things. They tell you how to put a business plan together."

Picking and her husband, William, PhD'90, a Foundation Distinguished Professor of Pharmaceutical Chemistry, have spent years researching pathogens and developing vaccines for several diseases. One of their current projects is a vaccine for shigellosis, an endemic disease in developing countries that causes severe diarrhea and even death if left untreated. Picking initially partnered with a global health organization to develop the protein components of the vaccine but found herself frustrated after years of unexplained delays.

"I had no control over it anymore," she says. "So I decided that even if I failed, I would fail by myself."

After attending Startup School, Picking

Since 1991, the University has launched 40 new companies, several of which were developed after Julie Nagel and Wally Meyer (p. 40) created Startup School@KU in 2015. Wendy Picking (right) was one of 25 faculty members to participate in the first class. "It gave me the confidence that I'm able to do this," she says.

"There's a support system here that's really, truly unbelievable." -Wendy Picking

successfully launched her own research company, Hafion LLC, and continues to pursue clinical development of the shigellosis vaccine, which is now ready to enter Phase I trials. She also secured proof-of-concept funding from the University for a salmonellosis vaccine and has several other projects in the works.

"You just can't do this by yourself," Picking says. "It's too costly and the mistakes are terrible. There's a support system here that's really, truly unbelievable."

ueled by the success of the first Startup School, Nagel and Meyer decided to extend the program's reach the following spring to include students. With assistance from Michael Branicky, dean of the School of Engineering and professor of electrical engineering and computer science, and Brian McClendon, e'86, the innovator behind Google Earth and current vice president of advanced technologies at Uber, they identified videos from "How to Start a Startup," Stanford University's free online series of lectures delivered by an



expert panel of Silicon Valley entrepreneurs, to guide the course's structure. Students were asked to watch the videos before attending Startup School and be ready with questions for entrepreneurs Nagel and Meyer brought in to speak on related topics.

"We hired some of KU's very successful entrepreneurs from around the country, flew them in and had just an absolutely fantastic series of six evenings," Meyer says. "Students came prepared, they actually had watched the videos, then they heard from a whole roster of people on a variety of different startup topics. [The speakers] would talk about their own circumstances and challenges, their own lessons learned, and then stay for questions. The questions often doubled the length of the evening because the students were so into it."

Eighty-five individuals, mostly students in electrical engineering and computer science, signed up for the spring Startup School. Nagel notes that not only did the program benefit students and faculty by providing access to an invaluable network of entrepreneurs, but it also gave the University an opportunity to engage alumni. Wilton Risenhoover, c'93, founder of Fintel, a startup company that provides online investment tools, and a member of the investment committee for the UCLA Venture Capital Fund, returned to the Hill for the first time since graduation.

"I had such a great experience at KU," he says, "that when the opportunity came for me to give back to that community, I wanted to participate."

Risenhoover believes a program like Startup School is critical. "I think that a large portion of job creation these days comes from new ventures and starting new companies," he says. "So having the skills to understand how to create a company successfully, whether it's a startup or whatever, is important for anybody."

Branicky was thrilled that so many engineering students embraced the opportunity to learn about entrepreneurship. "Innovation and problem-solving are inherent to engineering," he says. "So even if somebody ends up not forming a



"Entrepreneurship is one of those things—it's a full-contact sport."

-Wally Meyer





company and they go work for a large industry, they will benefit from having to formulate their idea, sell their idea, think about the customers' needs and think about what it really means to solve the problem in an efficient way that others can get excited about."

The popularity of Startup School has grown, and last fall the program lured a whopping 175 participants—nearly 98

percent of whom were students from a variety of disciplines across campus. "We kept having to get a bigger room, and a bigger room, because there was such a demand from the student population," Nagel says. "We saw more of a mix—we had kids from architecture, business, engineering, pharmacy. It was interesting how distributed and even it was."

Now that Startup School has widespread appeal across campus, Meyer ensures that the discussions resonate with everyone including those who have just discovered an interest in entrepreneurship. He now includes two lectures that cover the basics to consider before starting a company.

"It provides an opportunity for students who know very little about entrepreneurship to get their feet wet, to say, 'Is this for me or not?" he says. "Entrepreneurship is one of those things—it's a full-contact sport. If this isn't right for you, knowing that it's not right for you is a great decision. If this is good for you, we've got other opportunities for you in terms of academic work, certificates, concentrations, minors, a dozen different courses you can take both here and at a variety of schools across campus. If you are successful or you like it, then we can go on from there."

or Austin Barone, attending Startup School last fall was a no-brainer—but not because he needed help starting his own company. On the contrary, Barone, b'16, a former KU football player, had already signed nearly 40 clients to his startup, Just Play Sports Solutions, a software-to-service platform that combines digital coaching tools with a player learning app for basketball and football programs across the country. Barone developed the concept with a friend during his sophomore year at KU.

"We offer something that connects coaches to players," he explains. "We just wanted to create a better learning opportunity for the athlete."

Just Play does that by delivering game plans, scouting reports, quizzes and more to athletes on devices they're already using, like smartphones, tablets and computers. The company's football and

basketball clients range from high school programs to collegiate athletic teams and include KU, UCLA, Villanova and Oral Roberts. Just Play also has signed a professional WNBA team.

Barone first connected with Meyer during independent study and continued to seek his advice as his company grew. Meyer, who now sits on Just Play's advisory board, discussed Startup School with the young entrepreneur.

"They were getting a tremendous group of speakers to come through," says Barone. "A lot of the speakers I had heard of before or had an opportunity to speak with, but it very much benefits somebody to hear things multiple times, because as we continue to grow, things hit us a little differently. Advice that we get at one point in time we may take completely different when we hear it another time, or we may be in a different position to be able to take that advice and utilize it much more effectively."

A year after attending Startup School, Barone continues a successful trajectory with his Kansas City-based company, which has grown to include 10 employees and contractors. In November, Just Play signed a three-year partnership with the National Association of Intercollegiate Athletics, making it the NAIA's official playbook and scouting report platform.

Barone, who in January was named to the 2017 fellowship class at Pipeline, an elite organization of entrepreneurs in the Midwest, credits opportunities like Startup School and the Catalyst, KU's student business accelerator, for much of his success.

"We would not be where we are today without it," he says.

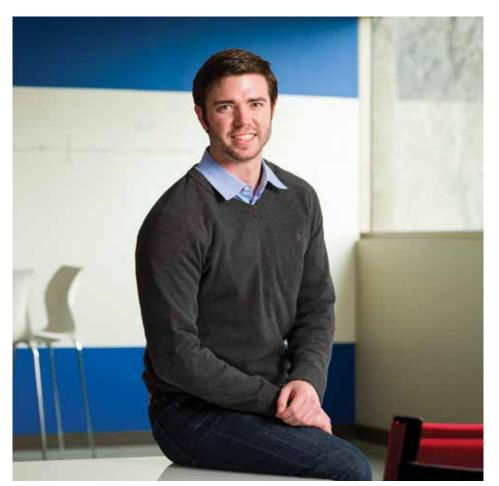
tartup School will return in the fall, and both Nagel and Meyer expect enthusiastic turnouts. "The interest in entrepreneurship is up substantially," says Meyer, "and I've got to believe Startup School was a contributor."

Nagel tracks the number of faculty startups the University produces and keeps a close tab on researchers who want to start their own companies, ensuring that they know about the resources KU provides. Since the launch of Startup School in 2015, she has noticed a surge in entrepreneurial development. "We had four [companies] last year and we've already done four this year and we're halfway through the fiscal year," Nagel says.

Student startups are harder to track, she says, unless they apply for the Catalyst, which is housed in the Bioscience and Technology Business Center on KU's West Campus. Currently there are 12 student companies in that program, which provides additional services and resources, including legal support, mentorship opportunities and tax and accounting assistance.

Nagel aims to expand Startup School to fit the changing needs of the University's students, faculty and staff, and she looks forward to developing programs designed specifically for various disciplines across campus. This, she says, will benefit not only the faculty and students who participate in the courses, but it will also better serve the University and beyond.

"Our office's goal is to get the research on campus translated to the market to help people," she says. "That's why we come to work every day. If we can create companies that are going to hire students, that are going to hire other people, and that are going to grow and live in Kansas, that's something we need to be doing."



Austin Barone packed 21 credit hours into his last semester at KU to focus on his startup company, Just Play Sports Solutions, in the spring. "If you are prudent with classes and the way you lay things out," he says, "you can potentially start a company while you're in college."

Association



Danny Woods and Nick Kallail

New strategy

Changes to network branding streamline alumni participation

Then Nick Kallail and Danny Woods joined the Alumni Association as staff members in August 2016, their mission was simple: Grow the Association's 59 national networks and connect more alumni with KU. Less than a year into their new roles, the two Jayhawks

have found a distinct way to accomplish

Kallail, d'04, l'07, assistant vice president of alumni and career programs, and Woods, j'12, assistant director of legacy and alumni programs, developed a new volunteer support strategy that makes it easier for Jayhawks to volunteer their time and service and participate in alumni events across the country.

"We took everything that was already in place and put a brand on it," says Woods.

That meant funneling popular alumni

events like watch parties, networking breakfasts and community service projects into clear, concise categories, or "buckets." They are:

- Crimson & Blue Views, which unite alumni and friends to watch televised KU games:
- Hawk Happenings, which gather Jayhawks to enjoy live sports and entertainment events:
- Rock Chalk Cultivate, which gives alumni the opportunity to learn a new skill—often from other Jayhawks;
- KU Cares, which rally Jayhawks to give their time and service to a community cause; and
- Rock Chalk Connect, which provides networking opportunities for alumni.

A few of the more memorable events Kallail and Woods have organized in the past year include a KU vs. Iowa State men's basketball watch party for 180 Jayhawks at the top of the Space Needle in Seattle and a toy drive in Tampa, Florida, that raised more than \$2,000 in gifts for foster families.

The two also created new designations for alumni volunteers who serve their networks. Instead of assigning traditional titles like president, vice president, treasurer and secretary, Kallail and Woods developed roles based on the volunteers' primary responsibilities in their respective Jayhawk communities, including social media and event coordinators and admissions and legislative liaisons.

"We wanted to empower more people within the network," says Woods.

Each alumni network maintains its own Facebook page to promote local events





A NOTE FROM HEATH

Student Alumni Association develops alumni leaders

uture alumni leaders and donors are critical to the University's long-term success. Each generation is different, meaning there is no guarantee current students and young alumni will follow in the footsteps of Jayhawks who preceded them in terms of service and giving. We must be more proactive and intentional as we think of current students as alumni in training—and consider prospective students as prospective alumni leaders and donors.

These concepts were the driving force behind making all fall 2016 freshmen four-year members of the Student Alumni Association (SAA). And, thanks to a partnership with KU Endowment, we began providing gift memberships to all incoming freshman beginning in fall 2016.

Before last fall, students paid \$25 annual dues (or \$75 for four-year memberships)

to join SAA. But because we had only 1,500 paid members, most undergraduates who walked down the Hill each May had never set foot in the Adams Alumni Center. They had little understanding of the Association's mission or impact on KU, so trying to connect with new graduates after they had moved to cities worldwide wasn't an effective or sustainable model. Now that the

Association and KU Endowment will provide four-year SAA memberships as gifts, we will have the opportunity to build relationships with more than 24,000 KU students before they leave KU.

With the Association's help, more students can connect with alumni as SAA members to build their own Javhawk networks and begin shaping their career paths. At the same time, the Association can share with them the powerful stories of alumni achievements, volunteer service to



Peterson

KU and the impact of alumni gifts.

Students can appreciate the lifelong commitment of being a Jayhawk, and we can increase communitywide understanding that KU is special because generations of Jayhawks have given their time, talents and treasures to make KU a special place.

The cost of doing business this way is high, but we believe the short-

and long-term benefits for KU will soar even higher. Our new SAA model will enhance Jayhawks' dedication to KU throughout their years as alumni positioning us to more effectively build on the legacy of extraordinary Jayhawk loyalty that has helped KU become a world-class university.

Rock Chalk!

—Heath Peterson, d'04, g'09 KU Alumni Association president

and share photos and updates. Network leaders also share a private Facebook page, which Kallail notes is a great way for networks to learn what other Jayhawks are doing across the country and discuss best practices for alumni engagement.

"I look at our network leaders as a family," Kallail says. "They need to know each other and see what others are doing."

Also important to Kallail and Woods is preparing current KU students to become active alumni when they leave the Hill. The two meet regularly with the Student Alumni Leadership Board and other student groups in KU Admissions, Endowment and Athletics. They also are planning an event to introduce students to the Lawrence alumni network.

As evidenced by the enthusiastic turnouts and strong alumni response to events in the past few months, Kallail and Woods are confident they're on the right track.

"This isn't a new plan," Kallail says. "The house was already built; we're just tricking it out."





Eddie Ham, c'05, and his fiancee, Julie Jung, joined nearly 180 Jayhawks Jan. 15 at the KU vs. Iowa State men's basketball watch party at the Space Needle in Seattle (p. 44). The watch party included the KU Libraries' exhibit, "The Kansas Basketball Legacy featuring Phog Allen," and a food and drink buffet.



Show the love

Member appreciation promo fits Jayhawks to a tee

The Alumni Association showed its appreciation for members in February by offering an exclusive KU game day T-shirt from Charlie Hustle, the Kansas City-based T-shirt company founded by Life Member Chase McAnulty.

Existing or new members had the opportunity to purchase the vintage-style T-shirt from Jan. 16 to Feb. 28 through the Alumni Association app for the discounted price of \$20.

Not only did loyal Jayhawks jump at the chance to support their alma mater and sport a cool, one-of-a-kind KU tee, but the Alumni Association also benefitted from a boost in membership and record-setting app downloads and member registrations during the promotion.

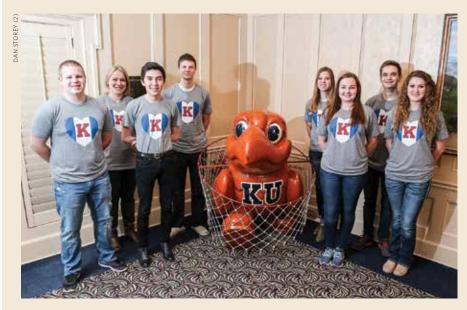
Here are the results:

- App downloads: 4,015 from Jan. 16 to Feb. 28 (compared with 3,712 total downloads from May 1 to Jan. 15)
- Memberships sold in the app: 254 from Jan. 16 to Feb. 28 (compared with 56 memberships from May 1 to Jan. 15)

195 Annual 50 Jayhawk Society 9 Life

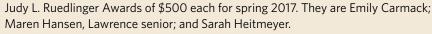
• T-shirts distributed: 6,047

Student Stars



he Student Alumni Leadership Board (SALB) selected eight new executive board members in January (above). They are (I-r) Ripken Fraley, vice president of student programs and Douglass sophomore; Abby Stuke, president and Lenexa senior; Justin Kim, vice president of membership and Derby junior; A.J. Ware, vice president of alumni relations and Lawrence junior; Sarah Heitmeyer, vice president of legacy recruitment and Littleton, Massachusetts, sophomore; Emily Carmack, vice president of administration and Lone Jack, Missouri, junior; Kyle Paddock, vice president of communications and Claremore, Oklahoma, freshman; and Sydney Brown, vice president of outreach and Syracuse sophomore.

The Association presented three outstanding SALB members with



The award honors the memory of former Association staff member Ruedlinger, who in 1987 founded the Student Alumni Association, which now includes more than 1,800 members and is the largest student group on campus.



Life Members

The Association thanks these Jayhawks, who began their Life memberships Jan. 1 through Feb. 28. For information, visit kualumni.org or call 800-584-2957.

Ronaldo L. & Flizabeth Peterson Barron Steven E. & Lonni Steele Bell Erich J. & Mary Coombe Bloxdorf Michael J. Bordy Ronald R. & Danette L. Boyle Sarah E. Brake Elizabeth Biere Clarke Randall B. & Mary Bray Cordill Karen S. Cox Timothy J. & Michelle L. Dehaemers I. Wesley Gapp & Alejandra M. Rodriguez Delgado Christina Kainz Demetree Maggie Doll Tiffany Ehrlich John P. Flores Jr. Jordan H. Gill Joe L. Grav Daniel T. & Rachel Kaegi Green Casey S. Halsey Virginia Hammersmith Thad D. & Lisa McCue Hardin Ronald J. Mihordin & Carrie A. Heinen-Mihordin Chris N. Helmle Douglas E. Horn Mandee Schaaf Hovey Michael R. & Alissa S. Jackson Dean R. & Joyce Hastert Jordan Briana Kems MacKenzie R. Lahar

Kevin L. Landers Christopher P. & Jennifer DeVos Loucks Donna M. Maize Julia R. Mayden Paige E. Mazour Abby Montgomery Daniel H. & Brooke Karch Mudd John J. Murphy Amanda B. Nipps Joel D. & Teresa Greene Pavelonis David Poisner Jarrod L. Ramer Todd E. & Debra Rasmussen Todd S. Reiser Kent A. & Susan K. Richardson Jason R. Royer Scott A. & Kristin Schudy Russell Drew S. D. Scott Donna L. Shank Hayley E. Shanks Bill D. & Patricia Goering Smith Michael F. Sobek Matthew J. Swaback Charles H. & Debra Farmer Tickles Christopher J. & Katherine Knighton Toy Robert F. Vickers Jr. Valerie Haag Woodard Audra Henderson Worrich



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Class Notes by Heather Biele

52 William Turner, b'52, l'60, wrote a children's book, *The Adventures of* Bob and Babe, which was published in November by Dorrance Publishing Company. He lives in Los Angeles.

Jerome Goss, c'57, lives in Corrales, Jerome Goss, c 5/, lives in Corra New Mexico, where he's a bookbinder. He retired in 2004 as a cardiologist.

James Marsh Jr., e'58, retired from the practice of intellectual property law. He and his wife, Susan, live in Tucson, Arizona.

School Codes Letters that follow names indicate the school from which alumni earned degrees Numbers show their class years

degrees. Numbers show their class years.		
а	School of Architecture,	
	Design and Planning	
b	School of Business	
С	College of Liberal Arts	
	and Sciences	
d	School of Education	
е	School of Engineering	
f	School of Fine Arts	
g	Master's Degree	
h	School of Health Professions	
j	School of Journalism	
- 1	School of Law	
m	School of Medicine	
n	School of Nursing	
р	School of Pharmacy	
PharmD	School of Pharmacy	
S	School of Social Welfare	
u	School of Music	
AUD	Doctor of Audiology	
DE	Doctor of Engineering	
DMA	Doctor of Musical Arts	
DNP	Doctor of Nursing Practice	
DPT	Doctor of Physical Therapy	
EdD	Doctor of Education	
OTD	Doctor of Occupational Therapy	
PhD	Doctor of Philosophy	
SJD	Doctor of Juridical Science	
(no letter)	Former student	
assoc	Associate member of the Alumni Association	

Gerald Elliott, c'60, l'64, retired after more than 25 years as a Johnson County District Court judge. He makes his home in Overland Park.

Jerry Nossaman, d'60, lives in Lawrence, where he's a retired dentist and Navy reservist.

63 Robert Donatelli, l'63, is an attorney and member at Norris McLaughlin & Marcus in Allentown, Pennsylvania. He also serves on the board of directors of the Bar Association of Lehigh County.

65 Don Dale, c'65, finished his fifth book, *The Final Years at Coronado* Cays. He is a financial adviser and lives in Coronado, California, with Karen Love **Dale,** c'65, former president of Coronado Republican Women, Federated.

Roy Swift, f'65, lives in Clifton, Virginia, where he's executive director of Workcred.

67 Cynthia Brown Munzer, f'67, received the Ramo Music Faculty Award from the Thornton School of Music at the University of Southern California. She and her husband, Gary Glaze, were honored last year at the school's 61stannual honor's convocation ceremony.

Robert Wallace, g'68, co-wrote *Spy* 68 Sites of Washington, D.C., which was published in February by Georgetown University Press. Bob was former director of the Central Intelligence Agency's Office of Technical Service.

69 Harrison Long Jr., *c*'69, a real estate broker and attorney, received the Realtor of the Year Award from the Orange County Association of Realtors. He and his wife, Christi, live in Irvine, California.

F. Ronald Seglie, m'69, practices family medicine at Via Christi Mercy Clinic in Pittsburg, where he makes his home.

Ronald Yates, j'69, wrote The Improbable Journeys of Billy Battles, his second book in the Finding Billy Battles trilogy, which

won the New Apple Literary Award in the action/adventure category in 2016. His third book in the series will be published this year.

Raymond Hagerman, f'71, is an artist in Sheboygan, Wisconsin. He retired from a career in sales management at Bemis Manufacturing.

Denise Dotson Low-Weso, c'71, g'74, PhD'98, teaches at Baker University's School of Professional and Graduate Studies in Baldwin City and also leads independent creative writing workshops. She was Poet Laureate of Kansas from 2007 to 2009. Denise lives in Lawrence with **Thomas Weso**, c'97, g'05, who teaches at Kansas City Kansas Community College.

Valentino Stella, PhD'71, retired last year as distinguished professor of pharmaceutical chemistry at KU. During his 43-year career he invented several life-saving drugs and founded three pharmaceutical companies. He lives in Lawrence.

73 Tonda Rush, j'73, l'79, is public policy director and general counsel at the National Newspaper Association. She co-founded American Pressworks in Falls Church, Virginia. This year, she will launch Six Ideas, which provides consulting and special project services for nonprofit organizations.

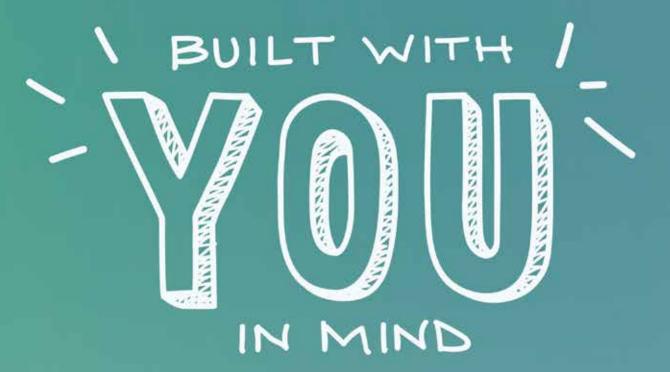
Dennis Schapker, e'74, l'79, is senior vice president at Black & Veatch in Overland Park. He and Merrill Harris **Schapker,** d'77, live in Prairie Village.

75 David Elkouri, b'75, l'78, is executive vice president and chief legal officer at Halcón Resources Corporation. He makes his home in Wichita.

Ronald Kimble, b'75, retired as deputy city manager of Charlotte, North Carolina.

Steven Martens, c'75, is a commercial real estate broker and CEO of the Martens Companies in Wichita. He was named 2016 Developer of the Year for Best Western Hotels and Resorts.

Gale Sayers, d'75, g'77, was honored in January as a 2017 Kansan of the Year. He





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played football at KU in the early '60s and went on to a Hall of Fame career with the Chicago Bears. Gale lives in Chicago, where he founded the Gale Sayers Center for children.

76 Richard Wilson Jr., g'76, is a contributing writer to Governing magazine. He's former city manager of Santa Cruz, California.

77 Joseph Algaier, c'77, g'82, PhD'87, lives in Belton, Missouri, where he's a senior consultant at Algaier.

Joyce Carr Pulley, *c*'77, is a travel planner at the TravelStore. She makes her home in Rocklin, California.

Mary Catalano Zweifel, f'77, g'83, is president and CEO of Sheltering Arms in Glen Allen, Virginia.

79 Karen Arnold-Burger, c'79, l'82, is a judge in the Kansas Court of Appeals. She lives in Overland Park.

Carol Hunter, j'79, is executive editor of the Des Moines Register and a regional director for seven other newspapers. She makes her home in Des Moines, Iowa.

Annette Ward Price, h'79, is an occupational therapist at Scripps Memorial Hospital in Encinitas, California.

Jacalyn Wright Weissenburger, g'79, is interim provost and vice chancellor of academic affairs at the University of Wisconsin-Superior.

80 Jay Hinrichs, c'80, g'83, directs development for Johnson County Park & Recreation District. He makes his home in Overland Park.

Steven Merdinger, b'80, is partner at

PROFILE by Kim Gronniger

Gillespie's spins span from KJHK to Domino Records

When he started at KJHK in 1989, Kris Gillespie found KU's nationally renowned "musical clubhouse" a raucous setting for discovery, from the songs he played on his deejay shifts to the colleague he married and the career he cultivated.

Gillespie, j'97, U.S. general manager for Domino Records, met his wife, Julie Underwood Gillespie, c'92, an independent music publicist, when he subbed for her at KJHK so she could attend a concert in Denver. Their first date was spent at the Bottleneck listening to The Melsons, Eleventh Dream Day and Too Much Joy, a happy omen for a New York City lifestyle that includes two kids and a dog, all of whom pile into the car for regular road trips back to Kansas.

Once in Lawrence, Gillespie sometimes gathers friends at the retro-funky Frank's North Star Tavern on Locust Street to spin 45s and reminisce, or he settles in at the Bottleneck to scope out bands that might become the label's next Franz Ferdinand or Arctic Monkeys.

He notes, however, that today's musicians no longer have to wait "for the gods on high to say you're good enough and give you \$25,000 to make a record. Now

everyone has access to a laptop recording studio at their fingertips."

Domino, Gillespie says, seeks "creatively impressive versus commercially viable bands" that will win fans in both the United States and the United Kingdom, and he has been in the industry long enough to have completed a 20-year music cycle during which "artists who may have once been verboten to admit listening to are now accepted and influencing new musicians."

That loop also brought unfettered access through MP3 players and smartphones, enabling Domino to "come up with the right platform to encourage people to pay for music at the right price point," he says. "Back in the day, a person's first purchase would be a record, a CD or tape, but now it's often the last piece. They may buy a ticket to hear a band instead."

Fans are finding performers through new entry points, including music apps like Shazam and even Urban Outfitters stores, where shoppers listen to playlists provided through a partnership with Domino Records. The label collaborates with numerous companies that want to include its artists in commercials, films and video games.

Gillespie, who joined Domino Records in 2003, strives to replicate the chemistry he enjoyed at KJHK with his staff, which



Kris Gillespie puts his KU journalism training to good use as the last set of eyes for Domino Records' marketing materials: "I'm a whiz at copy editing and really good at catching typos."

includes KU alumni. Weekly deliveries of La Colombe coffee and a communal turntable keep the energy level high.

"I get to work with intelligent, talented people who blow my mind constantly," he says. "I've been lucky to make a living doing what I love."

—Gronniger, g'83, is a freelance writer in Topeka.

EVE PUPPE

Class Notes

Private Vista, a wealth management firm in Chicago.

Judith Alphson Nelson, l'80, wrote *Intentional Leadership: Using Strategy in* Everything You Do and Say, which was published in January. She's a certified professional coach in Redondo Beach, California.

Steve Young, j'80, l'84, received Sigma Phi Epsilon's 2017 Exemplary Service Award. He's president of the alumni and volunteer corporation for the fraternity's California-Berkeley chapter. Steve lives in San Francisco, where he's senior vice president and general counsel at the Independent Insurance Agents and Brokers of California.

■ Tammy Mauck Peterman, n'81, g'97, was selected as a 2016 American Academy of Nursing Fellow. She's executive vice president, chief operating officer and chief nursing officer at the University of Kansas Hospital.

82 Kevin Helliker, *c*'82, a 2004 Pulitzer Prize winner, is an editor at the Brunswick Group.

Judy McNeal, b'82, lives in Topeka, where she's chief fiscal officer at the Kansas Public Employees Retirement System.

83 Sandy Clark, j'83, is vice president for news and civic dialogue at WHYY, a public radio network in Philadelphia.

Jena Hoffman, b'83, received the Patricia G. Spira Lifetime Achievement Award from the International Ticketing Association, where she served as president and CEO for seven years before retiring last year. She makes her home in Burbank, California.

Michael McGrew, b'83, is chairman and CEO of McGrew Real Estate in Lawrence. He recently concluded a three-year term on the National Association of Realtors' leadership team.

Marie-Bernarde Miller, l'83, is deputy city attorney in North Little Rock, Arkansas.

Max Cripe, f'84, performed Jan. 20 with "The President's Own" United



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States Marine Band at the inauguration of the president of the United States. He is a master gunnery sergeant and plays the French horn.

Sandra Patchen, '84, is an administrative associate in the public safety office at KU. She lives in Lawrence.

Scott Ruland, e'84, is vice president of engineering at Intoxalock. He makes his home in Kansas City.

Alan Stetson, l'84, lives in Overland Park, where he's an estate-planning attorney and consultant.

85 Jay Craig, b'85, g'87, lives in Fox Point, Wisconsin, where he owns Oread.

Kimberly Petri Hackman, d'85, was one of 100 St. Louis-area educators to receive the Emerson Excellence in Teaching Award last year. She teaches at Living Water Academy in Glencoe, Missouri.

John Killen, j'85, is president and CEO of WinCraft Inc. in Winona, Minnesota, where he makes his home.

Melany Michael Sutherland, d'85, is a registered veterinary technician at Winchester Place Pet Care Center in Olathe. She recently participated in Miami University's earth expeditions global field course in Namibia, Africa.

Steven Bloom, *c*'86, is chief people officer at QTS Realty Trust in Overland Park.

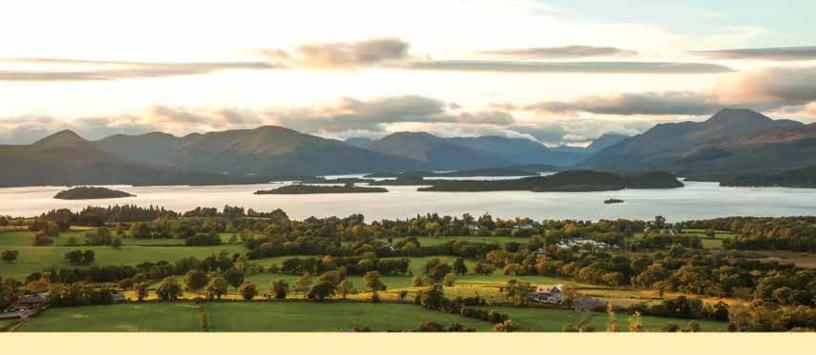
David Edell, c'86, is president of Sober Living Community in Houston, where he makes his home.

Connie Patton, c'86, lives in Carlsbad, California, where she's lead integration engineer at Becton Dickinson.

David Poisner, e'86, is an independent consultant in Sacramento, California.

William Purinton, c'86, lives in Seoul, South Korea, where he's an associate professor at Seoul Theological University.

Pamela Swedlund, c'86, directs human resources and organizational development at Wescon Controls in Wichita, where she resides.



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Class Notes



Brian Johnston, b'87, l'90, is an attorney and principal at Jackson Lewis in Overland Park. He makes his home in Leawood.

Kimberly Wolfe Nolte, p'87, is a pharmacist at the Apothecary Pharmacy in St. Joseph, Missouri.

88 Steve Bradt, *c*'88, works at Micro Matic, where he provides sales and technical service support in the packaging division. He previously directed brewing operations for nearly 30 years at Free State Brewing Company in Lawrence.

Mary Schuler Miller, c'88, lives in Kansas City, where she owns Gobo Marketing Services.

and partner at Tzangas Plakas **David Dingwell,** c'89, an attorney Mannos in Canton, Ohio, chairs the Supreme Court of Ohio's Board of Professional Conduct.

Timothy Trainor, PhD'89, received the Distinguished Faculty Award from

Muskegon Community College in Muskegon, Michigan, where he taught computer information systems and psychology for more than 33 years before retiring in 2010.

Amber Lauderdale Bateman, '90, teaches at Manassas Park city schools in Virginia. She lives in Nokesville.

W. Ashley Cozine, c'90, is serving a one-year term as president of the National Funeral Directors Association. He's a third-generation funeral director and president of Cozine Memorial Group in Wichita, where he lives with Carolyn Farber Cozine, c'96, n'96.

Zachary Kauk, e'90, works at Caterpillar Inc., where he's vice president of the excavation division. He makes his home in Dunlap, Illinois.

Rodney Lehnertz, a'90, is senior vice president of finance and operations and university architect at the University of Iowa in Iowa City. He co-wrote the second edition of The University of Iowa Guide to

Campus Architecture, which was published last year by the University of Iowa Press.

Lindsay Bjorseth Serrano, c'90, l'93, is a senior wealth consultant at Mariner Wealth Advisors in Leawood. She makes her home in Mission Hills.

Kelly Crigger, c'91, wrote *The* lished last year. It is his first novel.

Elliott Hammer, c'91, is professor of psychology and faculty athletics representative at Xavier University in New Orleans, where he makes his home.

Donnalyn Jo Kuck, s'91, lives in Clinton, Missouri, where she's a licensed social worker and regional vice president of operations at Pathways Community Health.

Stephen Szewczyk, c'91, is assistant vice president and general manager of Sun Life Financial in Dallas. He and Monica Harris Szewczyk, c'92, live in McKinney, Texas, where she's a real estate agent and cofounder of Texas Property Sisters.

Brendan Wiechert, b'91, c'92, directs commercial lending at the Spokane Teachers Credit Union in Liberty Lake, Washington.

92 John Allen Jr., g'92, is editor of Crux, a Catholic news site, and senior Vatican analyst for CNN. He lives in Denver.

Michael Byrn, d'92, works for the Lawrence Police Department. He lives in Lawrence with **Amy Kocourek Byrn,** '89, a controller at Sunflower Paving Inc.

Vanessa Fuhrmans, j'92, c'93, lives in

New York City, where she covers corporate management and executive leadership issues for The Wall Street Journal. She has been a staff reporter at the newspaper since 1999.

93 Mauricio Rios, j'93, '94, makes his home in Washington, D.C., where he's a communications officer for sustainable development at the World Bank.

94 Jennifer Shoulberg Lyon, b'94, is vice president of business development at Japan Communications. She

resides in Overland Park with her husband, Steve, and their four children.

Chris Wareham, c'94, lives in Alpine, Utah, where he's senior director of product management at Adobe.

95 Amy Reeve Kennedy, d'95, is a real estate agent at Crown Realty in Overland Park. She lives in Olathe.

Jennifer Pratt McDonald, c'95, l'98, is a strategic adviser at Bluewolf in Atlanta, where she makes her home.

Nathan Muyskens, l'95, is an attorney and shareholder in the white collar defense

PROFILE by Chris Lazzarino

Former White House aide lives her 'wildest dreams'

The day she turned 21, Johanna Maska, then a student senator and now a former director of press advance for President Obama's White House, was invited to attend a dinner to welcome Gloria Steinem to campus. Afterward, Maska asked the legendary writer and activist whether she might consider joining Maska, her mother and aunt for a small birthday celebration at the Eldridge Hotel. Steinem agreed.

"I picked her brain for an hour," Maska, c'04, j'04, says from her Los Angeles home. "At some point I said, 'I want to be Gloria Steinem.' And she said, 'No, you don't. You want to be the best version of yourself.""

Inspired, Maska became an "activist journalist" at KU, then joined the office of then-Gov. Kathleen Sebelius, g'80, as assistant to the press secretary. She and her husband, Henry "C.J." Jackson, j'04, now an editor and reporter for Politico, in 2005 moved to Des Moines, Iowa, where he joined the Associated Press.

Maska found work in state government, but her heart wasn't in it. She had already admired a young Illinois senator for more than a year, and when Barack Obama announced his presidential candidacy, Maska knew she wanted in.

Obama's state director, Paul Tewes, happened to move into an apartment down the hall from Maska's. He had no idea what would await him every time he stepped off the elevator.

"I harassed him until he conceded and gave me a job," Maska recalls with a laugh.

Maska is from a Republican family in Galesburg, Illinois, so her decision to work for a Democratic candidate, even a longshot like Obama, was not popular, and although she was steadfast in her belief in her candidate, "I never thought we were going to win."

As Obama's director of press advance, Maska traveled to 40 countries, was with Obama when he toured Nelson Mandela's prison cell on Robben Island, flew over Buckingham Palace in U.S. Marine Corps helicopters, and she was on a plane for Afghanistan seven weeks after giving birth to her son, Hugh.

"I'm so lucky that I managed to balance it all. But it definitely puts into perspective all of your goals for life, especially when Hugh started saying to me, 'Mommy, I miss you.' That's when it started to be heartbreaking."



Johanna Maska heeded advice from a diplomat she met in Italy: "'If you want to ride a bike, you must pedal.' Whatever it is you want in life, you have to take the steps to get there."

Maska left the White House in 2015 to join the Los Angeles Times as vice president of marketing and communications, but left after four months when the publisher who hired her, Austin Beutner, was fired in a power struggle with Tribune Publishing. She now works as a communications consultant with a varied portfolio of companies and nonprofits, and in January Maska signed on as a fellow at KU's Dole Institute of Politics.

"I held firm on my beliefs," Maska says, "and I got to live beyond my wildest dreams."

Class Notes



and special investigations practice at Greenberg Traurig in Washington, D.C.

William Wolff, l'95, is a member and recruiter at William Andrew Executive Search. He lives in Overland Park.

MARRIED

David Zeeck, c'95, to Leslie Blair, Dec. 10 in Frederick, Oklahoma, David is a real estate broker and property manager at Spectrum Management Services in Oklahoma City.

Nettie Collins-Hart, EdD'96, is 96 superindendent of the Hazelwood school district in Missouri.

Susan Anderson Leonard, d'96, PhD'08, is associate principal at Shawnee Mission East High School in Prairie Village. She makes her home in Fairway.

Jody Neff, c'96, m'00, is a general surgeon at the Robert J. Dole VA Medical Center in Wichita. He has served 14 years in the U.S. Army Reserves and will begin his sixth deployment in July.

Jeffrey Peterson, c'96, '97, is a pediatrician and secretary of the board of directors at Intermed in Portland, Maine, where he lives with his wife, Sarah, and their two daughters, Farris and Mabel.

Lynaia South, l'96, resides in Steamboat Springs, Colorado, where she's Routt County's assistant county attorney.

Kendall Van Keuren-Jensen, g'96, is a neurobiologist at Translational Genomics Research Institute in Phoenix.

Bradley Woods, e'96, works for Dimensional Innovations in Shawnee, where he's a practice director. Brad makes his home in Overland Park.

97 Nathan Berman, c'97, is an attorney and partner of 7. and partner at Zuckerman Spaeder in Tampa, Florida, where he lives.



Philip Ciesielski, e'97, g'16, is assistant director of utilities for the City of Lawrence.

Jodi Lissauer Shroba, d'97, n'99, is a nurse practitioner at Children's Mercy Hospital in Kansas City. She makes her home in Olathe.

Ruben Sigala, b'97, lives in Las Vegas, where he's chief marketing officer for Caesars Entertainment Corporation.

Joshua Steinlage, c'97, is justice of the peace pro tempore for the Flagstaff Justice Court in Arizona.

Megan Lowdermilk Wall, d'97, owns Four-Walls Industries in St. Louis, where she makes her home.

98 Kelly Cannon Boeckman, j'98, is senior partner and development manager for Amazon Web Services. She and Matthew, '97, make their home in Arvada, Colorado, with their children, Ian, 6, and Cora, 4.

Sarah Fertig, c'98, l'02, works at the Kansas Attorney General's Office

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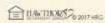
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BORN TO:

Bradley, '98, and Kelli Deuth Calhoon, e'01, daughter, Linden Kay, June 14 in Shawnee, where she joins a brother, Cooper, who's nearly 3.

99 Tamecka Dixon, c'99, a former KU and WNBA basketball player, serves on the Union County College Board of Trustees and Governors in Cranford, New Jersey. She owns Avis Car Rentals in

Westfield, where she makes her home.

Justin Law, b'99, g'04, is chief fiscal officer for the Kansas Department of Agriculture. He lives in Manhattan with his wife, Kelly, and their daughter, Kherington.

Linda Elkins, c'00, is a reproductive endocrinologist at Aspire Fertility in Addison, Texas. She resides in Southlake.

Kerrie Crites Greenfelder, e'00, is a department manager at Burns & McDonnell in Kansas City. She lives in Olathe.

Zora Mulligan, g'00, l'03, is commissioner of higher education for the Missouri Department of Higher Education in Jefferson City, where she makes her home.

E. Spencer Schubert, f'00, '01, lives in Prairie Village, where he's a sculptor. He recently completed the Sacred Heart of Jesus sculpture at Benedictine College in Atchison.

Maggie Thompson Doll, j'01, g'08, is a strategic consultant at Burns & McDonnell in Kansas City. She resides in Topeka.

PROFILE by Heather Biele

Design teacher dreams big with tiny house project

Ever since tiny houses hit Steve Eaton's radar, he knew he wanted to build one. When the young architect moved to Glenwood Springs, Colorado, he saw the perfect opportunity to make his dream a reality.

Eaton, who received his master's degree in architecture from KU, moved to the small town near Aspen two years ago after accepting a job as a design-build instructor at Glenwood Springs High School. One of the first things he noticed was how little the teachers in his district were paid—and how expensive the houses were.

"The starting salary for a teacher in this district is around \$36,000, and the median house price is around \$435,000," he says. "It's really tough to survive here on a teacher's salary."

To address that problem, Eaton, g'15, devised a plan to build affordable, tiny houses as part of his advanced designbuild curriculum. "I was really looking for a sustainable project that we could do year after year where we wouldn't be dependent on the state of Colorado," he explains. "We don't need to raise taxes to increase teachers' salaries to be able to make this place a little more affordable."

Eaton received financial support from

the school district to construct the first tiny house, which will be auctioned to a teacher upon completion. Proceeds from that sale will be used to build another home. Eaton estimates that each tiny house will cost about \$40,000, depending on the quality of the materials. He hopes to reduce that cost by gathering donations for construction supplies from local companies and individuals.

Eaton anticipates that his class will begin construction on the project in March. The nearly 300-square-foot home, which will be built on a donated 40-foot trailer, features a spacious galley kitchen, an outdoor deck and grilling station, a lounge area with a drop-down projection screen, a queen-sized loft bed and an aquaponics window for cultivating fresh plants and herbs. Eaton designed the home to be fully mobile and use solar energy, battery power and propane, giving the owner the option to live off-grid.

Not only does Eaton see this project as a way to give back to his community, but he also views it as an invaluable learning experience for his students. "It's a really cool opportunity to let the kids under-



"If it works out like I hope it will, it will benefit the district, the teachers and the kids," Steve Eaton says of the tiny house project he created. "It's really win-win-win."

stand more about the general contractor, the architect, the client and all of those relationships," he says, "because not every owner of a tiny house is going to have the same wants and needs."

If response to the first tiny house is strong, Eaton hopes to construct a new tiny house each year-and ultimately, he'd like to build one for himself. "This is a way that people like me can actually afford to own a house, even if it's on a trailer," he says. "We're creating a solution to a real and distinct problem where we can't keep teachers, and we're doing it all without begging for wage increases."

Visit highschooltinyhouse.com for more information.

Class Notes



Steven Maggio, b'01, lives in Dallas, where he's partner at PwC.

Martin Mulcahy, c'01, manages national accounts at Spectrum Brands. He lives in Kansas City.

Kristin Tate Rennells, c'01, is an office manager for the department of physics and astronomy at KU. She makes her home in Lawrence.

Laura Schons, s'01, is a legal social worker at the Law Office of Teresa Meagher in Overland Park. She resides in Prairie Village.

Jayme Uden, c'01, EdD'12, is associate vice president and dean of students at Park University in Parkville, Missouri. He lives in Olathe.

Praveen Vadlamudi, g'01, makes his home in Plano, Texas, where he's a senior information technology manager at Afni.

Kristopher Koenig, c'02, is a financial adviser at Lawing Financial in Leawood. He and his wife, Caycee, live in Lee's Summit with their daughter, Olivia.

Alex Richard, c'02, serves as Kansas state director for U.S. Sen. Jerry Moran, c'76, l'82, in Washington, D.C.

Jasmin Steven Rupp, c'02, '03, is a dentist at Riverside Dental in Wichita. where she makes her home.

BORN TO:

Bryce, c'02, '11, and Amanda Denning Holt, j'03, g'14, daughter, Frida, Oct. 20 in Lenexa. Bryce is an author and vice president at U Inc., and Amanda directs communications and member engagement at the Patient-Centered Primary Care Collaborative.

O3 Douglas Donahoo, j'03, directs creative services at KCTV in Mission. He makes his home in Overland Park.

Beau Jackson, c'03, l'09, is an attorney and partner at Adduci, Mastriani &

Schaumberg in Washington, D.C. He lives in Fairway with Laura Sutton Jackson, b'08, assistant vice president at Venn Strategies, and their son, Hank, who turns 1 in July.

Amir Nasir, m'03, is a plastic surgeon at Charlotte Hungerford Hospital in Torrington, Connecticut.

104 Jesse Beier, *c*'04, is an associate attorney at Lommen Abdo in Minneapolis, Minnesota, where he lives.

Joshua DeDonder, e'04, is an engineer specialist at Textron Aviation in Wichita, where he lives with his wife, Melissa, and their two sons, Benjamin and Damon.

Joshua Keepes, c'04, l'07, is regional director of state affairs at America's Health Insurance Plans in Washington, D.C. He makes his home in Silver Spring, Maryland.

Briana Kems, c'04, is director of customer experience at Home Credit U.S. in Overland Park. She commutes from Lawrence.

Takafumi Komatsubara, c'04, l'07, is

legal counsel for the Coca-Cola Company in Tokyo, where he makes his home.

Lucas Steinbeck, c'04, and Davina Dell-Steinbeck, PharmD'05, live in Eureka, Missouri, with their children, Quinn, 7, and Eliza, 1.

Anita Gilpin Strohm, j'04, directs accounts at Crossroads in Kansas City.

Jesse Bobbett, d'05, directs the Malibu Parks and Recreation Department in Malibu, California. He makes his home in Redondo Beach.

Monica Delaorra, j'05, g'10, lives in Gainesville, Florida, where she manages graduate education marketing for health sciences at the University of Florida.

Andrew Ek, b'05, g'11, lives in Wichita, where he manages talent acquisition at Koch Industries.

Eric Kelting, j'05, owns Complete Legal Services in Kansas City. He lives in Leawood.

Marty Mroz, c'05, is vice president of human resources at Bardayon Health Innovations in Mission.





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Jennifer Zeikle Myer, f'05, c'06, is site supervisor at the Lansing Historical Museum. She lives in Fort Leavenworth.

Margaret Perkins-McGuiness, s'05, g'11, is associate director for development and engagement at the Charlotte Street Foundation in Kansas City.

Remy Ayesh, j'06, c'06, is executive chef at The Oliver in Kansas City. **Joshua Barta,** c'06, is an orthodonist at Holzhauer, Hewett & Barta in Hartland, Wisconsin. He and Margaret Groner **Barta**, c'06, live in Wauwatosa.

Eric Eickhorst, g'06, g'14, lives in Overland Park, where he's a software quality assurance analyst at the Federal Reserve Bank of Kansas City.

Fletcher Hamel, f'06, is director of interiors at Atmosphere Studios in Salt Lake City. He lives in Holladay, Utah.

Haley Harrison, j'06, is a news anchor for KMBC 9 News in Kansas City. She lives in Prairie Village.

Stacy Sippel Kanaga, e'06, b'06, is a civil engineer at Coastal Engineering Company in Orleans, Massachusetts, where she lives with **John**, c'06, l'10, an attorney at Laraja & Kanaga.

Lee McMullen, c'06, is vice president of Northern Trust in San Diego, where he makes his home.

Amber Oliver, '06, a warranty supervisor and quality control technician for Regional Transportation District in Denver, was recognized as a Pinnacle Professional by Continental Who's Who.

Brooke Weidenbaker, b'06, lives in Dallas, where she owns LMB Art Glass gallery in Dallas. The gallery, which was originally founded in Topeka by Brooke's late mother, has been in the family for 20 years.

BORN TO:

Jeremy, b'06, g'12, and Rebecca Mann Allen, f'08, son, Leo, Nov. 11 in Kansas City. Jeremy is a trainer at iModules Software.

William, c'06, and Kimberly Norton Tuley, n'10, son, Chase, Dec. 13 in Prairie Village. William is vice president at

Agforce Transport Services in Leawood, and Kimberly is a nurse anesthetist at Midwest Anesthesia Associates in Overland Park.

Justin Ballinger, d'07, lives in Dallas, where he's senior vice president at the Medicus Firm.

Andrea Brown Kleekamp, g'07, directs health and wellness for Phi Kappa Psi fraternity. She and her husband, Dustin, live in Gardner.

Ryan Patton, b'07, is managing director at EVP Capital Advisors in Mission. He makes his home in Fairway.

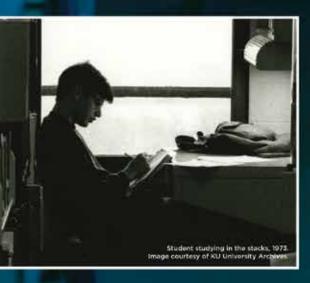
Anne Sims Werner, c'07, manages marketing communications at Stryker in Greenwood Village, Colorado. She resides in Larkspur.

O John, '08, and Lydia Krug Benda, j'10, '16, live in Lawrence with their son, Dean, who's nearly 1.

Rachel Smith Karwas, j'08, is assistant director of special events for the University of Arizona Foundation in Tucson,



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where she lives with Alex, e'10, PhD'15, a senior systems engineer at Raytheon Missile Systems.

Lexy Kohake Kelley, j'08, is a video producer at Brit Media Inc. in San Francisco, where she makes her home with Rhodes, b'08, playlist lead and product manager at Pandora Radio.

Carev Krovatin, c'08, coordinates claims

at DH Pace in Olathe. She resides in Overland Park.

Matthew Meyer, c'08, l'12, is assistant vice president of JLT Specialty USA in Denver, where he lives.

Summer Shiflett, c'08, l'12, lives in Chicago, where she's a solution sales specialist at IBM.

Daniel Yoza, l'08, works in Olathe,

where he's assistant city attorney. He commutes from Lawrence.

O9 Amy Tajchman Avant, n'09, g'16, is a family nurse practitioner at Herington Area Health Clinic. She lives in Marion.

Krystal Wright Bourget, c'09, makes her home in Honolulu, where she coordinates

PROFILE by Heather Biele

Movie buff brings new life to hometown theatre

Then grain farmers want to diversify, they often invest in livestock. Brian Mitchell took a different approach: He invested in movie theatres.

Mitchell, a third-generation farmer and Elkhart native, co-owns Mitchell Farms and manages 34,000 sprawling acres of corn, wheat and milo. He also operates 14 movie theatres in Kansas, Arizona, Colorado, Missouri, New Mexico and Oklahoma.

More than a decade ago, Mitchell, b'86, got into the theatre business "sort of by accident." He purchased a struggling shopping center in Guymon, Oklahoma, and decided to build a new, five-screen movie theatre to boost business. "I figured we'd just have that one theatre," he says with a laugh.

But the self-described movie junkie, who also admittedly has a weakness for real estate, soon set his sights on another shopping center just outside of Wichita.

Over the next several years, he acquired 11 more theatres, most of which required considerable renovation.

As his family's theatre business expanded, Mitchell decided to invest in a project closer to home: the Doric Theatre, a nearly century-old cinema house on Elkhart's main street. Mitchell's grandfather had purchased the building in 1941 and leased it to theatre operators, asking only that his family watch movies at no charge. He sold the Doric in the mid-'70s, and by 1981, the theatre closed.

"It hadn't shown a movie in over 30 years," Mitchell says. "The coolest thing we could do for the town was to rebuild that theatre."

After purchasing the Doric in 2015, Mitchell gutted the interior, ripping out plaster in the old projection room and balcony and exposing the building's original brick walls and charred open-

> beam ceilings, which were damaged after a fire consumed part of the theatre in 1956. He converted that space into Oscar's Lounge, a cozy, full-service bar with hardwood floors. English-style pub tables and chairs, a fireplace and big-screen TVs.



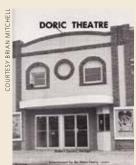
"There's absolutely no rhyme or reason to this business model," Brian Mitchell says of his family's venture into movie theatres. "You just do it because it's a labor of love."

Other improvements to

the building included a new stage, dressing rooms, lighting and sound systems for live performances and upgraded stadium seating and décor in the theatre.

Mitchell was equally meticulous about the Doric's movie selections. On Wednesdays and Thursdays he showcases independent art house films and documentaries, including Oscar-nominated and limited-release movies that often don't make it beyond major metropolitan areas. On the weekends, he schedules mainstream movies.

The theatre's reopening has helped launch a revival in the small Morton County town, and Mitchell is proud to be a part of that. "A theatre is a quality of life issue for a town," he says. "We've improved the quality of life in a lot of communities, but this is by far the most gratifying and satisfying one, because we've done it for our family and friends."





The Doric Theatre in 1959 and today.

Class Notes



sales at Starwood Hotels & Resorts.

Dylan Briggs, c'09, manages projects at Cleveland Construction in Mentor, Ohio. He and his wife, Sneha, live in Cleveland.

Leah Cole, b'09, g'11, is a senior tax associate at CBIZ MHM in Overland Park. She makes her home in Leawood.

Scott Perlmutter, b'09, is consulting manager of corporate finance and strategy at Fresenius Medical Care in Downers Grove, Illinois. He lives in Chicago.

Cory Sims, j'09, is a client partner at Spotlight Analyst Relations in Kansas City. He and Jennifer Doerr, b'08, live in Prairie Village.

Francesca Chambers, c'10, j'10, is a White House correspondent for the Daily Mail, an international news publication based in Britain. She lives in Washington, D.C.

Kathleen Redman Gdowski, b'10, lives in Englewood, Colorado, where she and her father own three Dunkin' Donuts

Kate Bird Kilbourne, b'10, is a senior

international tax analyst at Itron Inc. in Liberty Lake, Washington, where she makes her home with her husband, Matt.

Steven Kilgore, c'10, is an associate sales executive at Cerner. He and Lyndsey Orpin **Kilgore,** *c*'09, m'14, a general surgery resident at KU Medical Center, live in Roeland Park.

Jessica Sain-Baird, c'10, j'10, manages content at Central Park Conservancy in New York City.

Adam Sparks, b'10, makes his home in Chicago, where he's director of expansion at OfficeLuv.

Whitney Worthington, j'10, manages accounts at YETI Coolers in Austin, Texas, where she lives.

MARRIED

Tyler Curry, e'10, to Abigail Eden, Nov. 26 in Kansas City. Tyler is a civil engineer at Burns & McDonnell.

Brooks Morgan, b'10, to Searcy Milam, Dec. 16 in Dripping Springs, Texas. Brooks is chief revenue officer at the Princeton Review. The couple reside in Austin.

Lauren Oberzan, c'10, and Devin Byrne, b'12, Oct. 15 in Lawrence, where they live. She's an associate attorney at Barber Emerson, and he's an analyst at Sprint in Overland Park.

Meredith Bowhay Collins, c'11, l'15, is an associate attorney at Stilley Law Office in Independence, Missouri. She resides in Overland Park.

Amanda Kerley Dulaney, s'11, is a permanency specialist at Our Children's Homestead in Naperville, Illinois. She lives in Winfield with her husband, Steve.

Dustin Glessner, b'11, is a system administrator at Jack Henry and Associates. He makes his home in Lawrence.

Michaela Jacobson, c'11, lives in Kansas City, where she's a senior talent acquisition specialist at Water.org.

Christopher Paradies, c'11, '12, is a regional recruiter for KU in Chicago, where he makes his home with Mariah Whitmore, e'12, a research assistant at the Rehabilitation Institute of Chicago.

Corinn Rotter Reinhard, c'11, works in

corporate communications at Amazon in Seattle, where she lives with Alex, j'10.

Rachael Rost, c'11, an education specialist at the Topeka Zoological Park, recently participated in Miami University's earth expeditions global field course in Costa Rica.

Zachery Wiggins, l'11, is an attorney and partner at Martin Pringle in Wichita, where he makes his home.

William Burke, g'12, is senior buyer of pharmacy merchandising at Walmart in Bentonville, Arkansas, where he resides.

Samantha Clark, l'12, lives in Washington, D.C., where she's deputy general counsel for the U.S. Senate Committee on Armed Services.

Patrick Eland, j'12, manages accounts at Kroenke Sports & Entertainment in Denver. He makes his home in Lone Tree, Colorado.

Kelsie Froebe, b'12, resides in New York City, where she's a business coordinator for the United States Tennis Association.

Caleb Hall, c'12, l'15, is a legislative analyst at the Missouri House of Representatives in Jefferson City. He and Nicole **Niehues**, c'12, make their home in Columbia, where she's a research scientist at the University of Missouri.

Katie James, j'12, is an associate content specialist at UBM Life Sciences in Lenexa. She lives in Olathe.

Patrick Johnson, c'12, is a loan officer at UMB Bank. He lives in Prairie Village with Elizabeth Kinney Johnson, f'05, a furniture manager at Bailey Design House.

James Kuntzsch, c'12, makes his home in Topeka, where he's a program specialist for the Veterans Health Association.

Elizabeth Miller, c'12, lives in Golf, Illinois, where she teaches in the Park Ridge school district.

Lindsay Moffitt Naughton, d'12, co-owns Patterns & Pops, a mobile and online fashion boutique in Denver.

Pearce Ramsey, c'12, makes his home in Wichita, where he's shift lead at Great Harvest Bread Company.

Barbie Daymude Reinard, l'12, works at Amazon, where she's corporate counsel of real estate. She and Rick, l'07, who leads

the digital analytics team at Analytics Pros, live in Seattle.

Lindsey Richardson, n'12, resides in Overland Park, where she's a pediatric registered nurse at Children's Mercy

Amanda Roberts, j'12, is a senior account executive at TRISECT in Chicago, where she lives.

Emily Sis, d'12, DPT'15, makes her home in Kansas City, where she's a physical therapist at Reliant Rehabilitation.

Kelsey Thomas Waite, b'12, g'13, is a senior auditor at Deloitte. She lives in Harrisonville, Missouri.

MARRIED

Alicia Stum, c'12, to Weston Pohl, Dec. 10 in Hutchinson, where they make their home. Alicia is a dental hygienist.

Mary Adkins, *c*'13, makes her home in Hudson, Massachusetts, where she teaches at the New England Center for Children.

Elli Bowen, b'13, directs business

development and retention for the Shawnee Economic Development Council.

Jeffrey Hammons II, c'13, lives in Chicago, where he's an associate attorney at the Environmental Law & Policy Center.

Elaine Harber, g'13, makes her home in Dallas, where she manages communications at Jacobs.

Clarissa Howley Mills, l'13, is an attorney for the Environmental Protection Agency. She and her husband, Edward, live in Kansas City.

Douglas Mowery, s'13, is a permanency case manager at KVC Health Systems. He lives in Overland Park.

Jordan Sparrow, c'13, makes his home in Denver, where he directs Walking Tree

Christopher Teters, e'13, l'16, is a research attorney for the Kansas Court of Appeals in Topeka. He commutes from Lawrence.

Victoria Baldwin, j'14, is a senior strategist at Octagon Sports Marketing in the greater New York City area.



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Class Notes



Erin Donnell, b'14, is an office manager at Acoustical Stretched Fabric Systems in Lenexa. She lives in Olathe.

Stephen Jones, l'14, is an attorney at Rausch, Sturm, Israel, Enerson & Hornik in Dallas, where he makes his home.

Nicolas Sizemore, c'14, resides in Memphis, Tennessee, where he supervises transportation at Saddle Creek Logistics Services.

Nikki Wentling, j'14, lives in Washington, D.C., where she's the veterans reporter at Stars and Stripes.

15 Cristina Brown, *c*'15, lives in Lawrence, where she directs human resources and supply chain management at Free State Brewing Company.

Brittney Durslag, j'15, is an account executive at Gunn Jerkens Marketing Communications in Long Beach, California. She lives in Manhattan Beach.

Daniel Faught, b'15, makes his home in Kansas City, where he's a senior project planner at DST Technologies.

Kenzie Jay, j'15, works at the Sports Turf Managers Association, where she manages sales and marketing.

Todd Miles, g'15, is director of Kansas City Kansas Community College. He commutes from Lawrence.

Julia Huxman Ronnebaum, l'15, is a prosecutor for the Johnson County District Attorney in Olathe. She lives in

Jamie Wilt, b'15, is a staff accountant at Ryan Transportation in Overland Park. She makes her home in Lenexa.

Marlio Avalos, h'16, lives in Mission, where he's a RevCycle consultant at

Molly Dougan, b'16, is a consultant at Cerner in Kansas City. She lives in Overland Park.

Zachary Jones, e'16, makes his home in Leavenworth, where he's an application system analyst at ScriptPro.

Jason Kane, b'16, lives in Overland Park, where he's a paraplanner at

Summit Wealth Advisors.

Jacob Marshall, s'16, is the whole family project coordinator at the Whole Person in Kansas City. He lives in Prairie Village.

Chanin Naudin, d'16, is assistant softball coach at Harding University in Searcy, Arkansas.

Eric Pahls, j'16, is press secretary for U.S. Rep. Roger Marshall in Washington, D.C., where he makes his home.

Sarah Snow, c'16, lives in Dodge City, where she's an advertising representative at the Dodge City Daily Globe.

Nicole Seier Sullivan, DPT'16, is a physical therapist at the University of Kansas Health Systems in Kansas City. She and her husband, Adam, live in Mission.

Christopher Waggoner, l'16, is an assistant revisor at the Kansas Office of Revisor of Statutes in Topeka. He resides in Leawood.

ASSOCIATES

Zack Odell, assoc., lives in Colby, where he's CEO of S&T Communications.



The Greater Kansas City Network and the KU Alumni Association cordially invite you to particpate in Rock Chalk Ball Two Thousand and Seventeen

Masters of Tradition

to be held at Overland Park Convention Center on the twenty-ninth of April



Of Masters of Tradition



Event Chairs

Chancellor Bernadette Gray-Little and Shade Keys Little

The evening will include a tribute to the Chancellor and Shade for their extraordinary leadership since 2009.





Registration

- Please make reservations no later than Friday, April 14, 2017.
- Respond online at rockchalkball.org or call 785-864-9769.
- Valet Parking will be available at the Sheraton Overland Park Hotel.
- For special dietary requests, please call 785-864-9769.

Hotel

Room rates starting at \$109 per night are available through March 29, 2017.

Sheraton Overland Park Hotel 6100 College Boulevard Overland Park, KS 66211 866-837-4214

(Specify group code KU Alumni Rock Chalk Ball)

Proceeds from the Rock Chalk Ball will benefit legacy student recruitment and student programs.

Order of Events

Saturday, April 29, 2017

Overland Park Convention Center 6000 College Boulevard Overland Park, KS

4-5:00 p.m.

Presidents Party (Presidents Club members, benefactors and their table guests only) Hors d'oeuvres and Cocktails Attendees may bid on the silent auction

5-6:30 p.m.

Silent Auction, Hors d'oeuvres and Cocktails

6:30 p.m.

Silent Auction Closes Rock Chalk Chant with the KU Band and Spirit Squad Live Auction and Dinner

8:00 p.m.

Dancing to the music of The Karen Davis Project

Black tie optional

Creative golf apparel applauded!

Open Bar



In Memory

30 Olive Hare Stanford, c'38, 100, Jan. 7 in Lawrence, where she led projects to preserve historic buildings. A daughter, Mary Stanford Anderson, c'76, and two grandsons survive.

40s Herbert Anderson Jr., b'49, 88, Jan. 10 in Saginaw, Michigan, where he had a 35-year career as an industrial engineer at Saginaw Steering Gear. Surviving are his wife, Catharine; three sons; three daughters; a brother, Clayton, e'54; 15 grandchildren; and 10 great-grandchildren.

Margaret Meeks Anderson, d'49, 89, Oct. 8 in Tucson, Arizona, where she was a homemaker. She is survived by two daughters, Kathleen, f'76, and Jill Anderson Page, j'78; and a grandson.

Beverly Stucker Bennett, c'46, 91, Nov. 9 in Portsmouth, Rhode Island. She served on several boards and was a member of P.E.O. Sisterhood. Survivors include two sons, one of whom is Davis, l'80; a daughter; two grandsons; and three great-grandchildren.

Harold Keith Bradley, d'49, 89, Dec. 17 in Olathe. He managed benefit planning at Hallmark Cards in Kansas City. Surviving are his wife, Mary Jane During Bradley, n'49; two daughters, one of whom is Jane Bradley Hofmeister, '81; two sons, Stephen, m'82, and James, m'83; a brother, Aubrey, c'47, l'49; 10 grandchildren; and two great-granddaughters.

Helen Stormont Browne, b'45, 93, Jan. 18 in Duluth, Minnesota, where she was a homemaker and volunteer. A son, two daughters, four grandchildren and seven great-grandchildren survive.

Charles Caler, c'48, 94, Oct. 3 in Overland Park. He had a longtime career in the petroleum industry. Surviving are three sons, two of whom are Dennis, '77, and William, '81; five grandchildren; and six great-grandchildren.

Cleda Haight Dalton, '42, 95, Dec. 2 in Lawrence, where she was a homemaker. Two daughters, six grandchildren and 11 great-grandchildren survive.

Donald Dorge, c'48, 90, Dec. 17 in Lake Forest, Illinois. He owned Climate Control Corporation. Surviving are two daughters, one of whom is Patricia Dorge Schmidt, d'82, g'85; a sister; and five grandchildren.

Cordelia Murphy Ennis, c'43, 94, Jan. 1 in Pasadena, California. She was a counselor at California State University and later directed the local YWCA. A son, a daughter, two grandchildren and two great-grandchildren survive.

Frankie Freeman Greene, p'48, 91, Nov. 24 in Santa Fe, New Mexico, where she was a pharmacist and homemaker. She is survived by two daughters; a son; a sister, Sally Freeman Asbury, f'53; three grandchildren; and three great-grandchildren.

James Ham Jr., e'42, 96, Dec. 25 in Indianapolis, where he worked at Bell Telephone Laboratories for 42 years. A daughter, two sons, four grandchildren and five great-grandchildren survive.

Edelbert "Dusty" Irish, e'45, 93, Dec. 21 in Hillsboro, Ohio, where he retired as captain after 30 years of service in the U.S. Navy. He is survived by his wife, JoAnn, a son, a daughter, two stepsons, two stepdaughters, a brother, eight grandchildren, two great-grandchildren, six step-grandchildren and four step-greatgrandchildren.

Donald Jarboe, '49, 88, Dec. 14 in Lawrence. He had a 42-year career with the Kansas Department of Transportation. Survivors include his wife, Doris; two sons, Alan, c'74, and Mark, d'78, g'89; a brother; four grandchildren; and seven great-grandchildren.

Robert Jones Jr., b'47, 92, Dec. 20 in Leawood. He appraised real estate and owned Robinette's dress store. His wife, Penelope Boxmeyer Jones, f'46, survives.

Kathryn Krehbiel, c'45, 93, Nov. 10 in Moundridge, where she was a librarian. A KU scholarship hall is named for her and her late husband, Floyd. She is survived by a daughter, Celia Krehbiel Mater, f'69; three grandchildren; and four great-grandchildren.

Don Learned, e'45, 91, Jan. 21 in

Bradenton, Florida. He worked at the Ford Motor Company for more than 30 years and retired as director of general services. Surviving are his wife, Helen, two sons, a daughter, a stepson, a stepdaughter, eight grandchildren and two great-grandchildren.

Orville Matthies, a'49, 95, Nov. 11 in Prairie Village. He was a project engineer at Hercules Powder Company. Two sons, two daughters and several grandchildren and great-grandchildren survive.

Fred Mitchelson, b'46, l'49, 94, Nov. 30 in Pittsburg, where he was an attorney at Wheeler & Mitchelson. Survivors include two sons, Kevin, b'79, l'82, and John, b'80, l'83; a daughter, Kathleen Mitchelson Colebank, n'82; and seven grandchildren.

Jeanne Sunderland Perkins, f'42, 96, Jan. 2 in Atherton, California, where she volunteered in her community. She is survived by two sons, one of whom is John, c'66; three grandchildren; and two great-grandchildren.

Virginia Rodriguez Radford, c'40, 98, Sept. 13 in Seneca. She taught Spanish, French and English for more than 30 years at Horton High School. Three daughters, two grandsons and four great-grandchildren survive.

Richard Rogers, I'47, 94, Nov. 25 in Topeka. He was an attorney in Manhattan, where he taught business law at Kansas State University and served two terms as mayor. He also was a member of the Kansas House of Representatives and the Kansas Senate. In 1975, he was appointed to the U.S. District Court, where he served as a judge for 40 years. Survivors include his wife, Cindy; two daughters, one of whom is Letitia, '72; a son; a stepdaughter, Katherine Burenheide, g'99; and a stepson, Kenneth Conklin III, g'03.

Fred Smith, b'42, 96, Nov. 30 in Atchison, where he retired as a loan officer at Valley State Bank. Surviving are a son, Charles, '77; and two grandchildren.

Jane Miller Smull, c'46, 92, Jan. 3 in Overland Park. She taught at the Kansas State School for the Blind and served as executive director of the Children's Center for the Visually Impaired in Kansas City. A memorial has been established with KU Endowment. Survivors include a daughter,

Sarah Smull Hatfield, b'81, g'83; two granddaughters; and a great-granddaughter.

Eugene Thompson, g'48, 94, March 24, 2016, in Bozeman, Montana, where he was a retired teacher and school administrator. He is survived by four sons, six grandchildren, eight great-grandchildren and a great-great-granddaughter.

Charles Wright, f'41, 97, Dec. 27 in Topeka, where he served two years as mayor. He also owned Edgewood Tree Farm and published Christmas Trees Magazine. Surviving are a daughter, Catherine Wright Howard, '12; a son; a sister, Ruth Wright Hupe, '46; six grandchildren; and three great-grandchildren.

50sRobert Abbott, e'57, 87, Jan. 19 in Olathe, where he was a retired electrical engineer. Survivors include his wife, JoNell "Jody" Ward Abbott, '57; a son; three stepsons, two of whom are Charles Cain, '81, and Steven Cain, b'84; two stepdaughters; 19 grandchildren; and nine great-grandchildren.

Richard Arnold, b'58, 83, Dec. 9 in Prairie Village, where he owned his family's business, Graham Ship-By-Truck Company, for more than 50 years. He is survived by two daughters, one of whom is Carolyn Arnold Moore, b'80; two sons, one of whom is George, '82; 12 grandchildren; and several great-grandchildren.

J. Ralph Brown, d'51, 90, Dec. 13 in Salina. He played football at KU and coached at Washburn University in Topeka from 1958 to '61. He retired as an insurance agent. Surviving are two daughters, a son, a sister, a brother, 14 grandchildren and 12 great-grandchildren.

Katharine Hoag Burns, '50, 88, Jan. 5 in Wichita, where she was a homemaker. Survivors include a son, Don, '79; a daughter; and two grandchildren.

Joseph Cheesebrough, a'58, 83, Dec. 15 in Lee's Summit, Missouri. He was an architect and owned a Kansas City architectural firm for more than 40 years. Two sons, a sister and four grandchildren survive.

The Rev. Margaret Beltz Guenther, c'50, g'52, 87, Dec. 11 in Washington, D.C.,

where she was associate rector at St. Columba's Episcopal Church. She also was professor emerita of ascetical theology at the General Theological Seminary in New York City. Surviving are her husband, Jack, two daughters, a son and five grandchildren.

Marie Fairchild Henson, d'59, 79, Jan. 15 in Oklahoma City, where she was an elementary school teacher. She is survived by her husband, Warren Jr., e'62; two sons; a daughter; a stepdaughter; and a brother, Bertram Fairchild III, c'64, g'68.

Alvin Herrington, c'55, l'57, 86, Dec. 23 in Derby. He practiced law for more than 50 years at McDonald, Tinker, Skaer, Quinn & Herrington. Survivors include a son, Daniel Taylor, c'78; a daughter; a brother; four grandchildren; and four great-grandchildren.

Charles Hoffhaus, c'50, 89, Jan. 8 in Prairie Village, where he was an attorney and partner at Hillix, Brewer, Hoffhaus, Whittaker & Wright. His wife, Veda, two daughters and a grandson survive.

Leo Kruger, PhD'55, 93, May 6, 2016, in Cocoa Beach, Florida. He was a research chemist at National Starch and Chemical Company. Survivors include his wife, Anne Longsworth Kruger, c'53; three daughters; and two grandchildren.

Richard Lockhart, e'57, 87, Nov. 14 in Newton. He was president and founder of Lockhart Geophysical. His wife, Rollande, two daughters, three grandsons and two great-granddaughters survive.

Ivy Flora Marsh, '50, 88, Jan. 15 in Salina, where she served on several boards and was a founding member of the Salina Human Relations Commission. She is survived by two sons, Charles Jr., c'77, g'80, g'83, PhD'85, and Clay, c'81; three daughters, one of whom is Martha Marsh Snyder, l'82; two sisters, one of whom is Mary Flora Stinson, '58; 14 grandchildren; and four great-grandchildren.

Mary Joanne "Josie" Myers Nettels, **'50,** 90, Jan. 24 in Pittsburg, where she was a volunteer and homemaker. Survivors include her husband, George Ir., e'50; a son, Christopher, c'79; three daughters, Meg Nettels Lindsey, j'80, Katherine Nettels Faerber, f'83, and Becky Nettels Sloan, '85; 11 grandchildren; and several

great-grandchildren.

Harlan Peterson, e'51, 92, Sept. 27 in Midland, Michigan. He was vice president of Gerace Construction Company. Surviving are his wife, Lois, three daughters, two stepchildren, a sister, four grandchildren, two great-grandchildren, 16 step-grandchildren, and 13 step-greatgrandchildren.

Mildred Gulnik Randell, j'50, 88, Dec. 23 in Shawnee. She worked for the State of Kansas. Survivors include three daughters, two of whom are Deborah Randell Willis, c'78, and Myra Randell Harold, '80; three grandchildren; three step-grandsons; and three step-great-grandchildren.

Robert Riegle, a'50, 92, Nov. 18 in Wichita, where he was an architect and partner in the Wichita Gallery of Fine Art. Several nieces and nephews survive.

Ronald Roberts, d'50, 89, Dec. 7 in Knoxville, Tennessee, where he had a longtime career as a sales manager at Procter & Gamble. He is survived by three sons; two daughters; a sister, Barbara, c'47, c'48; 11 grandchildren; and 10 greatgrandchildren.

Haraldean Murray Salerno, f'54, g'56, 85, Jan. 9 in Paola. She directed audiovisual services at Barry University in Miami for several years before moving to Lawrence, where she retired at Dobski and Associates. Two daughters, one of whom is Heather Salerno George, f'91; and two grandchildren survive.

Alvis Stallard, c'55, 83, Nov. 29 in Grand Junction, Colorado. He retired as an environmental geologist at the Kansas Department of Transportation. He also was an adjunct professor of geology at Washburn University in Topeka. Surviving are his wife, Lou; two sons, one of whom is Timothy, d'88; a daughter; a brother; 10 grandchildren; and two great-grandchildren.

Douglas Wall, d'51, l'55, 89, Nov. 8 in Prescott Valley, Arizona, where he was an attorney and partner at Mangum, Wall, Stoops & Warden. He is survived by his wife, Marilyn, four daughters, two sons, 10 grandchildren and 12 great-grandchildren.

Gordon Walrod, e'56, 86, July 27 in Montgomery, Alabama. He was a retired mining engineer. Surviving are a daughter,

In Memory

two sons, a sister, six grandchildren and two great-grandchildren.

John Wurst, b'51, 86, Nov. 23 in Kansas City, where he was president and chairman of Henry Wurst Inc. He is survived by his wife, Margaret; two daughters, one of whom is Amy, '85; two sons; a sister; a brother; seven grandchildren; and three great-grandchildren.

60S in Overland Park, where she was a member of P.E.O. Sisterhood. She is survived by a son, Brad, b'84; a daughter, Kristen, b'88; and three grandsons.

Mary Lanning Benson, c'66, 72, Oct. 6 in Potomac, Maryland. She was a community volunteer and museum docent. Surviving are her husband, George, c'65; two daughters, one of whom is Anne Benson Weishaar, d'95, g'00, g'04; a son; two sisters, Martha Lanning McMillen Gemmell, d'67, and Doris Lanning Avalos, d'69; a brother, Edward, c'73, l'76, g'76; and seven grandchildren.

James Bishop, c'67, 71, March 24, 2016, in Grand Rapids, Michigan, where he worked for several years at WZZM 13. Survivors include a sister, Jananne Bishop Hall, c'72; and a brother, Ronald, j'77.

Elizabeth Rae Landolt Cochrane, c'63, 75, Dec. 25 in Montgomery, Ohio, where she was an artist and photographer. She is survived by her husband, W. Winston, e'63; a son; a daughter; and two grandchildren.

Stephanie Ridgway Deere, c'67, 71, Nov. 13 in Kansas City, where she was a homemaker. Surviving are her husband, Dale; three sons; two brothers, Stephen, c'69, and David, c'85, g'92; a sister, Catherine Ridgway Johnson, d'76; and four grandchildren.

Ronald Friesen, g'62, 77, Dec. 3 in Bluffton, Ohio, where he taught economics and statistics for 35 years at Bluffton University. Survivors include his wife, Phyllis; two daughters, one of whom is Julie, g'97; a son; and seven grandchildren.

Roy Gallagher Jr., d'61, 78, Sept. 3 in Asheville, North Carolina. He was a program analyst.

Susan Kliewer Gallagher, c'60, 77, Aug. 8 in Asheville, North Carolina. She was a

human resources officer at the U.S. Naval Academy. A brother, Richard, e'63, survives.

Carol Keeler Handly, '62, 76, Oct. 8 in Kansas City. She is survived by her husband, John, e'60; a son, Michael, j'88; a daughter; a brother, Stephen, c'69; a sister; and two grandchildren.

Alan Kubik, d'65, 76, Nov. 19 in Escondido, California, where he was a teacher. A memorial has been established with KU Endowment. He is survived by a sister, Shirley Kubik Deterding, d'57.

Kirsten Krueger La Montagne, c'62, 76, Ian. 14 in Denver, where she was a volunteer and owned several small businesses. She is survived by a son, Evan, c'94; a daughter; and six grandchildren.

Roberta Banyard Luehrs, p'68, 71, June 17 in Hickory, North Carolina. She had a 47-year career as a pharmacist. Surviving are her husband, Jim; a son; a daughter; a sister, Rebecca Banyard White, d'74; and five grandchildren.

Mary Kay Zettl Myers, d'61, 78, Nov. 2 in Wayne, Pennsylvania. She taught history and English and also wrote several books and poems. Two daughters, three sons and six grandchildren survive.

John Neuenschwander, c'68, m'72, 69, Dec. 14 in Hays. He practiced family medicine for 33 years in Hoxie. Survivors include his wife, Sylvia; two daughters, Cindy, '04, and Lori Neuenschwander Santona, f'06; his father; two brothers, James, e'76, g'79, and Karl, c'78; and two sisters, Daren Neuenschwander Archer, n'74, and Ronna, f'76.

John Pro, c'69, m'73, 69, Dec. 8 in Roach, Missouri. He was a psychiatrist and founded Midwest Psychiatric Consultants in Kansas City. A memorial has been established with KU Endowment, Surviving are his wife, Marilyn West Pro, n'72, g'74; three sons, two of whom are John, e'10, and George, g'12; a daughter; two brothers, George, f'66, and C. Scott, e'77; and five grandchildren.

James Redding, '61, 78, Nov. 21 in Aberdeen, Maryland, where he was a retired Army contract administrator. Two brothers survive.

George Ryan Jr., b'60, 78, Dec. 17 in Overland Park, where he ran his family's business, G.W. Ryan Distributing Company. He is survived by his wife, Patricia; two daughters, Kathleen Ryan Willnauer, c'84, and Laura, '89; a son, George III, e'89, g'92; a sister; and three grandchildren.

Donald Seyb, e'69, e'74, 69, Dec. 6 in Franklin, Tennessee. He was a retired civil engineer and project manager. Surviving are his wife, Patricia; a daughter, Kathleen, g'04, PhD'06; a son; two sisters; three stepbrothers; and four grandchildren.

Karen Thiele Somers, d'69, 72, July 13 in Minneapolis, Minnesota, where she was a retired elementary school teacher. Survivors include her husband, John, l'68; a son; a daughter; six siblings; and six grandchildren.

70Sri Ram Bakshi, PhD'70, 83, Dec. 4 in Brockport, New York, where he taught in the theatre department at the State University of New York. A daughter, a son, a sister, two brothers and three grandchildren survive.

Louis Cronin, p'70, 69, Nov. 23 in Dwight, Illinois. He practiced veterinary medicine for 40 years. Surviving are his wife, Alice Lynne Andrews Cronin, p'71; two sons; a daughter; three brothers; a sister; and six grandchildren.

Stephen Dickerson, c'71, 68, Dec. 26 in Olathe, where he was an attorney and past president of the Kansas Trial Lawyers Association. He is survived by his wife, Linda; two sons, one of whom is Colin, b'13; a daughter, Callee, '15; his parents; and two sisters, one of whom is Julee Dickerson Oppici, n'81.

Mukhtiar "Steve" Grewal, g'72, 73, Nov. 25 in Leawood, where he was a real estate developer, contractor and investor. Survivors include his wife, Deepi, '91; two daughters, Sangeeta, m'03, and Monica Grewal Hardwick, d'06; and three grandchildren.

David Hiebert, I'73, 71, Dec. 15 in Wichita, where he was an attorney at Gragert, Hiebert & Gray. He is survived by his wife, Sheridan Dirks Hiebert, d'71; a daughter, Stephanie, c'00, l'03; and a brother.

William Klein, b'77, 62, Dec. 10 in Dallas. He was a senior solution architect at HCL Technologies. Surviving are his

wife, Karen; three daughters, one of whom is Emily, '08; his father; and a sister, Ann Klein Brasher, '80.

Carl Krehbiel, c'70, 68, Dec. 12 in San Francisco. He served in the U.S. Army for more than 20 years and later was president of his family's business, Moundridge Telephone. From 1999 to 2006, he served four terms in the Kansas House of Representatives. He funded construction of the Floyd H. and Kathryn Krehbiel Scholarship Hall at KU, and in 2015 was named an honorary life trustee of KU Endowment. His wife, Debra Marko, and a sister, Celia Krehbiel Mater, f'69, survive.

James Thompson, b'76, 62, Nov. 5 in Plano, Texas, where he was vice president of Serv-Mart Inc. for nearly 30 years. He is survived by his wife, Kim; a brother, Thomas, c'64; a sister; and four stepbrothers.

Kimberly Teel Turner, c'75, 63, Oct. 27 in Tulsa, Oklahoma. Survivors include her husband, Ronald; three sons, two of whom are Clay, '07, and Collin, '15; a daughter; and a brother.

Patricia Stickney Van Sickel, g'74, g'78, PhD'84, 87, Jan. 13 in Topeka. She taught French at Emporia State University and also tutored students in French and English at Washburn University in Topeka. She is survived by four sons, Gregory, e'75, Christopher, d'77, Matthew, '79, and Stephen, '82; four sisters; three brothers; 12 grandchildren; and three great-grandchildren.

80s Henry Jones, e'81, 71, Nov. 23 in Lenexa. He was president of Jones Engineering Consultants. Survivors include two sons, one of whom is Jeffrey, j'92; a brother; and six grandchildren.

Paula Koenigs, c'87, 51, Nov. 28 in Cincinnati, where she was a senior research scientist at Procter & Gamble. Surviving are her mother; two brothers, Kenneth, c'78, m'82, and Chris, '81; and a sister, Carla Koenigs Feller, b'82.

905 Michelle Zemites Muiller, b'90, 49, Dec. 29 in Overland Park, where she managed information technology at YRC Worldwide. A memorial has been established with KU Endowment.

She is survived by her husband, Steven, e'03; three sons; her parents; and a brother.

UNIVERSITY COMMUNITY

William Arnold, c'55, 83, Nov. 17 in Lawrence, where he was professor emeritus of sociology. In 1999, he received the Steeples Service to Kansas Award. Surviving are his wife, Margaret Smith Arnold, '56; a daughter, Janice, '81; two sons, Mark, f'83, d'85, and Bruce, '86; eight grandchildren; and five greatgrandchildren.

Maynard Brazeal, '47, 92, Jan. 23 in Newton. He served 20 years in the Kansas City police department and retired as lieutenant. In 1968, he founded the KU Law Enforcement Training Center, where he retired in 1989 as director emeritus. He also taught criminal justice for several years at Hutchinson Community College. Survivors include his wife, Gaylene, a son, a daughter, six grandchildren, six greatgrandchildren and several stepchildren, step-grandchildren and step-great-grandchildren.

Allan Cigler, 73, Jan. 13 in Lawrence, where he was professor emeritus of political science. In 1993, he received the the Chancellors Club Career Teaching Award. A memorial has been established with KU Endowment. He is survived by his wife, Beth, '81; a daughter, Kirsten Cigler Nelson, c'96; a son; and a grandson.

Don Daugherty, 81, Dec. 22 in Lawrence. He was a professor of electrical engineering and chaired the department for several years. A memorial has been established with KU Endowment. Surviving are his wife, Dorothy; a son, Scott, g'01; a daughter; a sister; and two grand-daughters.

Peter Fillerup, 62, Aug. 18 in Heber City, Utah. He was a sculptor and crafted the Eulich Jayhawk, which was commissioned in 1983 by John, b'51, and Virginia Walsh Eulich, c'51, for the Adams Alumni Center. Survivors include his wife, Lisa, five daughters, a son, three brothers, three sisters and 12 grandchildren.

Sally Hayden, c'78, '12, 61, Dec. 13 in Kansas City. She was an administrative assistant in the Office of the Provost. Surviving are her mother, Ruth Kelley

Hayden, c'43; four brothers, three of whom are Kelley, c'69, g'72, g'73, PhD'83, Thomas, '71, and Paul, '87; and a sister, Katy, p'75.

Helmut Huelsbergen, 87, Jan. 5 in Battle Creek, Michigan. He taught German for 36 years and also chaired the department of Germanic languages & literatures for several years. Survivors include three sons, one of whom is Anselm, g'93; and five grandchildren.

Martha Bright Langley, 91, Jan. 24 in Lawrence, where she was financial administrator at Hilltop Child Development Center. In 2003, she was inducted in the KU Women's Hall of Fame. A memorial has been established with KU Endowment. She is survived by two daughters, Cindy Langley Belot, f'82, and Catherine Langley Cain, '82; and two grand-daughters.

Rita Napier, 76, Nov. 7 in Lawrence, where she was professor emerita of history. In 1982, she was inducted in the KU Women's Hall of Fame. Surviving are two sons, one of whom is Michael, c'11, g'14; a sister; and a brother.

Robert Nunley, 85, Dec. 24 in McLouth. He was professor emeritus of geography. He is survived by his wife, Ann Pierce Nunley, f'61, g'65; three sons, John, e'78, Bert, c'79, l'87, and Pierce, c'86, m'91; a daughter; six grandchildren; and two great-grandchildren.

Gordon Wiseman, g'42, g'47, PhD'50, 99, Nov. 19 in Lawrence. He was professor emeritus of physics. Survivors include two sons, one of whom is Alan, c'81, g'85; a sister; and four grandchildren.

ASSOCIATES

James Carlson, assoc., 75, Nov. 17 in Olathe. He owned Carlson Cards. Survivors include his wife, Charleen Warneke Carlson, n'64; a daughter, Margaret, j'96, '98; a son; a sister, Donna Carlson Bean, '58; three grandchildren; and two greatgranddaughters.

Shirley Ann Gard Howard, assoc., 91, Dec. 13 in Fairway. She worked at KU Medical Center for nearly 40 years. Surviving are her husband, William, EdD'63; a daughter; a sister; four grand-children; and four great-grandchildren.

Rock Chalk Review





Architect combines profession, hobby in seawall conservation

n avid fisherman, Keith Van de Riet grew up in St. Louis, where Ozark streams and Missouri rivers provided recreational fun and beautiful scenery. But even as a kid, he could see evidence of decline in his favorite waters. Later, as a professor in Florida, one of the most rapidly developing areas of the country, he saw similar losses in the disappearance of the state's tidal mangrove forests.

"I could see the impact of development," says Van de Riet, assistant professor in the School of Architecture, Design and

Planning. "And with architecture, the whole field is driven by development, right? Without development we don't have a job."

To resolve that seeming contradiction, Van de Riet, a'04, combined his interest in building human habitat with his desire to conserve vanishing natural habitat: He designed an artificial "reef wall" that may bring some of the environmental benefits of mangrove trees to the man-made seawalls that have replaced them.

Van de Riet uses "parametric modeling" to create an algorithm-based pattern that mimics the most important habitat features in the tangled mangrove root systems, which can shelter oysters, crabs and small baitfish that are the foundation of a food system that attracts larger gamefish. A computer numerical control (CNC) mill carves root-like patterns into rigid foam insulation board, which is then used to create a flexible mold. The flexible

> mold is used to cast threedimensional root panels of concrete and crushed oyster shell that can be attached to existing seawalls or cast directly into new walls.

The idea is not to recreate mangrove roots in concrete-which would be nearly impossible—but to fashion an "engineered system" that recreates at least some of the tree's ecological benefits within the confines







Keith Van de Riet's seawall panels, cast in concrete with oyster shell aggregate and mounted on existing seawalls, mimic the root systems of mangrove trees, an important but disappearing habitat for Florida's Gulf Coast fishery.

of Florida's building codes, which restrict modifications of existing seawalls to 18 inches from the face of the wall.

"We have not done extensive modeling of tree roots," Van de Riet says. "Rather than just make the tree roots, we're trying to extract generalities of spacing and the gaps that the animals prefer. We don't want to just make the mangrove; we want to make a hybrid that satisfies multiple conditions of the roots, like branching and diameters."

Mangrove forests stabilize coastlines and



make exceptionally productive habitats because their dense root systems filter water and shelter a large variety of species. About 35 percent of the planet's mangrove forests have been destroyed, according to The World Wildlife Fund, which says mangroves in the Americas are being cleared at a rate faster than tropical rainforests. Aquaculture, logging and development all contribute to their disappearance.

Most solutions focus on stopping the habitat loss, and rightly so, Van de Riet believes. But he also hopes his reef wall can offer a way to transform some of that engineered human habitat into something a little more friendly to sea life.

"I'm absolutely not advocating that we remove more mangroves," Van de Riet says. "We've lost enough. But what I see is a lot of hard infrastructure that was put in place mid-century and it's starting to fail." Current regulations meant to encourage the restoration of mangroves actually have the unintended consequence of discouraging private landowners from planting, he believes. "So this is really an effort to get past that impasse and look at what we can do to improve all these seawalls that are being replaced, to take a step toward some kind of constructed ecology."

Van de Riet installed his first reef wall panels in October along a 20-foot section of existing seawall at the WannaB Inn on Manasota Key, a barrier island along Florida's Gulf Coast. A \$15,000 grant from The Curtis and Edith Munson Foundation and matching funds from the inn supported the installation.

His collaborator on the project is Jessene Aquino-Thomas, a doctoral student in biology at Florida Atlantic University, where Van de Riet taught before coming to KU in 2015. She is monitoring conditions to see if sea life colonizes the habitat.

"She's been back twice and has seen the panels covered with oyster spat—the young oysters," Van de Riet says. Aquino-Thomas also observed several species of small crabs and lots of baitfish fry. "That's a great sign," Van de Riet says.

But the best sign, he says, is the human reaction.

"It's encouraging that the greatest success so far has been the response from the people in Florida. It's been embraced across multiple news outlets; fishing blogs and fishing magazines have picked it up and are advertising it as a conservation effort that could really help fishing in coastal waters. It shows me that the people down there want solutions and they're willing to accept solutions, and maybe there just haven't been enough proposals for solutions.

"There's a lot of people who want to stay on the water in Florida, and especially on the West Coast they are completely reliant on the quality of the environment for the tourism and recreation and fish stocks that support the Gulf economy. Seeing the human population accept this is the biggest hurdle for me, because that's what created the problem."

-Steven Hill

Joy of creation

Jeweler's journey leads to unique adornment

Tewelry designer and creator Megan Embers Roelofs has sought artistic outlets since she was a little girl, so when early career forays in industrial design proved less than satisfying she decamped for India and spent six months working at an orphanage for children with disabilities.

"I was on this search to figure out what I wanted to do," says Roelofs, f'06, g'11.

Travel indeed transforms, but not always in ways the seeker might expect. While riding an overnight bus across the northern state of Rajasthan, she fell into conversation with a Chilean architect who shared her dreams of becoming an artist.

As the journey neared its destination, a Canadian woman seated nearby suggested a route Roelofs had never considered.

"She said, 'I'm an occupational therapist and I really think everything you're saying you want to do, you could do with OT. It's creative. You problem-solve. You make things for people individually."

When she learned her alma mater offers an occupational therapy major, Roelofs enrolled in grad school and, as predicted by that serendipitous conversation in the Indian desert, found a rewarding career.

"I love occupational therapy," Roelofs



Roelofs

Rock Chalk Review

says. "There is a huge emphasis on the meaning behind the activities people do."

Her occupational therapy training also guided Roelofs into yet another creative outlet: jewelry design. During muchneeded grad-school study breaks, Roelofs fiddled with stitching together strips of leather remnants.

She fashioned leather necklaces with pouches, then began adding beautiful stones to the pouches. As her skills improved, Roelofs wrapped leather strips around the edges of the stones, and Feather Spring Arts was born.

Her distinctive and affordable necklaces. which range from about \$45 to \$80, are available at featherspringarts.com, Nomads in downtown Lawrence, Hammerpress in Kansas City, and frequent shows hosted by LOLA, the Ladies of Lawrence Artwork Collective.

"Everybody likes her necklaces," says Nomads co-owner Suleyman Vardar. "Our customers probably have more than one."

Roelofs, who still works part time as an occupational therapist, finds stones at area gem shows, in downtown Lawrence shops—Blackbird Trading Post is a favored haunt—and on her family's travels.

She adorns the dazzling stones with the occasional bit of flair such as Alaskan moose hair, Guatemalan fabric or Cape Cod shells, yet Roelofs insists the result is a Kansas product.

"Travel helps change the things I do and pushes me in different directions, but I love being a Kansas artist. It's the best state. It really is."

—Chris Lazzarino

Fast and fun

'Screamin' Dingo' design soars in aeronautics competition

The "Screamin' Dingo" is one hot little airplane. Or, it would be if it were ever manufactured. But even as a paper proposal created by a team of aeronautical engineering students from KU's School of Engineering and Australia's Royal Melbourne Institute of Technology, the sporty aeronautics plane was impressive enough to win over judges in the American Institute of Aeronautics and Astronautics' 2015-2016 Undergraduate Team Aircraft Design Competition.

The combined Jayhawk-Aussie effort bested 25 worldwide teams for top honors, yet another in a long line of gold medals for KU's aeronautical engineering students. Although it was their first collaboration with an Australian university, Jayhawks for years have worked alongside far-flung engineering teams, most notably those led by Roelof Vos, PhD'10, assistant professor at Delft University of Technology in The Netherlands.

"You have to learn how to work with people," says aerospace engineering professor Ron Barrett-Gonzalez, e'88, PhD'93. "Not just across the state line, but across international borders. That's how you build major systems like aircraft."

The stylish, lightweight Screamin' Dingo includes such attractive features as

removable wings and a projected price tag of a relatively modest \$95,000. What sets it apart is the students' incorporation of aerodynamic devices called "vortex generators," which were patented in 2015 by KU researchers.

The small riblets on the wings' leading edges prevent airflow from separating from the wing, which increases lift by 10 to 15

percent. That gain allows for a cascading flow of creativity by designers, who used the increased aerodynamic productivity to reduce the size of wings and thereby reduce production costs, which in turn led to projections for increased market share.

"We were drawing different configurations," says student team leader Riley Sprunger, e'16, of Inman. "What if we put the tail over here? What if we move the wings all the way back? What if we put the propeller in the back? It was about drawing up ideas to see what's possible."

After consulting with Lawrence aerobatics pilot and engineer Ron Renz, g'81, and visiting with pilots at a Florida aerobatics competition, the team decided on a



Riley Sprunger, now pursuing his aerospace engineering master's degree, didn't always dream of designing airplanes. "I was thinking about doing mechanical, until I realized KU has an aerospace program. I decided it would be more fun to work on airplanes rather than lawn mowers and refrigerators."

relatively conventional configuration.

"At a certain point," Sprunger says, "you come back to reality and think, can this beat what's out there right now?"

Barrett-Gonzalez says Thomas Edison napped with keys in one hand. When the keys fell, Edison stirred and wrote notes about his fleeting insights. Barrett-Gonzalez says neurophysiology supports the tactic, and he encourages students to lounge in bean bag chairs in their design studio.

"It sounds like a hippie commune from 1973, but there's a bit of genius to that. They tackled a number of problems that way."

-Chris Lazzarino

Written in the stars

Tilghman's fiction debut evinces Kansas pride and pluck

Romalyn Tilghman's debut novel should come with a warning label for readers: Put on comfy pants, folks; you may be here awhile. It's easy to start flipping through the first few chapters with no intention of devouring it only to find yourself looking up, disoriented, the sun coming up on a new day.

Even though Tilghman, c'72, g'74, has lived in California for decades, *To The Stars Through Difficulties* shows that her thoughts never roamed far from the prairies of her youth.

Fostering a rich cultural life on the Kansas plains is at the heart of this feel-good novel, which is told in a complex, three-person round robin style that

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might have proved challenging in the hands of a lesser writer. The action takes place in fictional New Hope, the kind of small town where folks look out for one another "from womb to tomb." Angelina, a librarian whose disappointing academic career is in need of a jump-start, has returned to finish her long overdue dissertation. While she researches the role Carnegie libraries played in small Kansas towns, she also finds herself searching for answers about her late grandmother's hidden past. A memorable childhood visit to New Hope looms large in her imagination; it turns out many secrets await her discovery if she is brave enough to look for them.

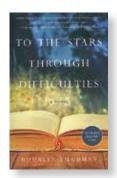
"[T]he ghosts of my grandmother and her cronies are closer than ever ... As I'm thinking about them, and carefully tucking my grandmother's journal in my computer bag, a photo falls out from a secret library pocket in the back. An old fashioned tintype. The woman is my grandmother. The man I don't know. They are standing in front of the library. I retrieve it from the floor, quickly, before anyone can see, and tuck it safely back in the hidden pocket."

Philanthropist Andrew Carnegie was responsible for building 59 Carnegie libraries in small towns dotted throughout Kansas, but the job of rounding out library collections often fell to hardworking women like Angelina's grandmother. It was not unusual for entire towns to participate in charitable fundraisers—from pancake feeds and barbecues to quilting raffles—to ensure that every library shelf was filled with the books that shaped the minds of their generation.

Tilghman's pride in her home state is evident with every turn of the page. She delights in reminding readers what earnest devotees of The New Yorker Kansans are, and loves to regale us with tales of farmers harvesting their crops as they listen to NPR. All of these seeds of intellectual rigor, Tilghman is certain, can be placed squarely on the fieldstone entrances of the

Ad Astra State's many Carnegie libraries

Angelina's research into her grandmother's part in getting the original Carnegie library off the ground



To the Stars Through
Difficulties
by Romalyn
Tilghman
She Writes Press,
\$16.95

in New Hope serves as delightful historical counterpoint to the action taking place in the story's present-tense.

The novel's second protagonist, Traci, is a rough-around-the-edges mixed-media artist who collects trash to make her avant-garde collages. She comes to the town's arts center (located in the former Carnegie library) on a grant, and the people of New Hope are fixated on the notion that she'll breathe new creative life into their city. A troubled childhood renders Traci unwilling to connect with anything but her art, but the moment she lets her guard down, she is visited with just the sort of second chance for which the town is named.

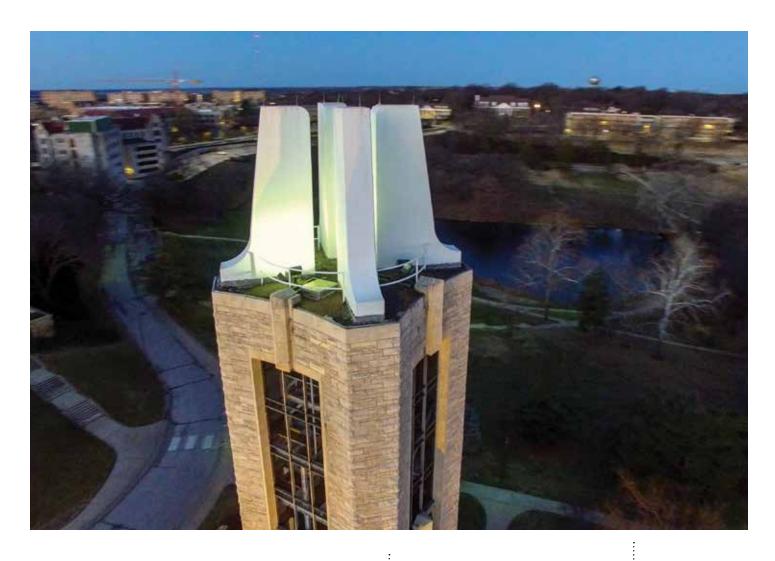
At first glance, it may be hard to reconcile third protagonist Gayle's inclusion in the lineup: Her home, in a different town, is ravaged by a tornado, leaving her homeless, casting about and wondering how and where she will rebuild her life. In Tilghman's capable hands, Gayle's importance in this narrative, as well as her own redemption in New Hope, soon becomes clear to all readers with a soft spot for a happy ending.

Compelling beyond measure, *To The Stars Through Difficulties* is a promising debut from Tilghman. The erstwhile prairie woman proves her mettle weaving together the lives of disparate characters, maintaining readers' attention to the very last page, whether they hail from Kansas, or simply wind up wishing they did.

—Andrea Hoag

Hoag, c'95, is a Lawrence book critic; her reviews and reporting have appeared in the Los Angeles Times, the San Francisco Chronicle and other publications.

$Glorious\ to\ View\ {\tiny photograph\ by\ Dan\ Storey}$



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