THE ANIMAL ISSUE

LEMURS AND TURTLES AND BEARS! OH, WHAT THEY (AND LOTS OF OTHERS) CAN TEACH US
IT’S ACTUALLY NOT LONELY AT THE TOP. As a graduate of Emory University, you know what it means to be among the best. So why stop now? Consider furthering your career with an MBA from Goizueta Business School—the Southeast’s only institution with four business degree programs ranked in the top 20.* Build upon your background by returning to an academic environment globally recognized as rigorous and relevant. Complement your degree with the kind of knowledge that opens doors and communicates success. Join our 17,000 Goizueta alumni worldwide who have experienced career success that places us among the country’s top 25 for post-MBA salaries.† Visit us online—goizueta.emory.edu/events—to find out when and where to meet us to discuss your tomorrow—today.
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From elephants to mice, through responsible study and careful observation, animals have something to teach us about pretty much everything.

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Lynn Sibley of the School of Nursing has devoted her career to giving vulnerable new mothers and babies a better chance.

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video: ecosystem in crisis
Learn more about the holistic “one health” approach being used by an Emory team in Madagascar. Story on page 26.

video: for love of the sport

invitation to readers
Emory Magazine readers are invited to share their memories of Bill Fox with the Emory community. Please write to Maria Lameiras at mlameir@emory.edu. Story on page 13.
Attorney Chilton Davis Varner ’76L received the J. Pollard Turman Alumni Service Award and the traditional glass cow.

Proof Points
Emory’s new Quality Enhancement Plan, required for the university’s accreditation, places primary evidence at the center of undergraduate education.
THE BIG PICTURE

8 Tangible Reminders

The first major exhibition to celebrate the life and work of late Irish poet and Nobel Prize–winner Seamus Heaney, who gave Emory’s inaugural Richard Ellmann Lectures in Modern Literature in 1988, is on view in the Robert W. Woodruff Library through November. Photo by Kay Hinton.
Charlie the Charmer

EMORY MAGAZINE
CANINE STAFF

TRUMAN friend of
Erica Endicott

CANNOLI friend of
Maria Lameiras

MILLY friend of
Maria Lameiras

SABLE friend of Susan Carini

THE FIRST TIME I MET CHARLIE—THE CUTE BLONDE ON the cover of this issue of Emory Magazine—he was behind bars. Maybe that should have been a clue.

He was, of course, in a cage at the Atlanta Humane Society, a frightened three-month-old puppy who had been brought to the shelter by a homeless man. When a volunteer lifted him out for me to hold, he shrieked and yelped and wriggled so wildly that everyone stared. The volunteer winced. Another clue.

I ignored the clues, charmed by his good looks and sympathetic to his obvious anxiety. I brought him home.

Memories of Charlie's early days feature him frolicking in the front yard, one of my undergarments flopping merrily in his mouth; casually relieving himself in the middle of the living room where we sat with guests; eating an entire loaf of bread, wrapping included, leaving us to wonder how it had disappeared; and racing up and down the fence line in front of our house, barking rabidly at passersby.

One evening as I was making dinner, I heard a flurry of frantic barking and terrible, high-pitched screaming coming from the front yard. I rushed outside, panicked that Charlie had gotten loose and was attacking someone (which, we were beginning to realize, was within the realm of possibility). A young woman was standing on the other side of the fence in front of Charlie, simply screaming over and over into his barking face at the top of her voice. Clearly she had lost her mind, but then, Charlie can have that effect on people.

Another time, my partner heard Charlie going completely ballistic out front. When she went to investigate, she found the mail delivery lady standing in the driver's seat of our convertible—conveniently parked in the driveway with the top down—while Charlie circled the car like a shark, only louder. The mail woman, who had apparently vaulted into the car with remarkable agility, was deeply unhappy into the car. Charlie can do that.

Despite repeated, ominous threats involving a farm, we kept him. With all his faults, Charlie was ours, and nobody knew it better than him. We learned to shut him in the laundry room when anyone visited, to make sure screen doors and gates were firmly closed, and to give other dogs and humans a wide berth on walks. We never worried about leaving our son home alone—not with Charlie there.

Charlie is ten now, and in many ways he's a different dog from the nervous, wild-eyed puppy I brought home. He's much calmer and sweeter, at least most of the time. No one has mentioned a farm in years. We love Charlie, and we thought we knew him. But recently, we had the chance to get to know him a whole lot better.

In this magazine celebrating the companionship and study of animals, you'll read about Dognition, an online company founded by Brian Hare 98C to augment his work with dogs at the Duke Canine Cognition Center. Using Dognition, dog owners anywhere can be guided through a series of simple training exercises designed to reveal certain aspects of their dog's psychology. When the program is completed, the dog is assigned one of nine personality profiles with names like ace, stargazer, and Einstein. So we did this with Charlie, mainly so I could have a legitimate excuse to put his picture on the cover. But the process, and the outcome, were both fascinating and fun.

Considering my description of Charlie's early life with us, it may surprise you to learn that he is a "charmer." What this means, it seems, is that he is intensely bonded with us, his family.

"A smooth operator, the charmer relies on his secret weapon—you," reads his profile. "As a charmer, Charlie has exceptional social skills, which means he can read your body language like a book. He is not above using this information to get his own way. Charlie is no fool when it comes to independent problem solving, and his scores reflect a keen understanding of the physical world. However, Charlie's real genius is that he sees you as an ally and partner, and he will usually turn to you for help before trying to figure out a problem on his own."

Charlie thoroughly enjoyed the Dognition games, and he's now part of a database including hundred of dogs that will help Hare, and other dog researchers like Emory's Gregory Berns, learn more about the species as a whole.

On a sad note, in this issue, we say goodbye to Bill Fox 79PhD, a long-familiar and much loved Emory figure who died on April 11. At his memorial service, which was overflowing with family and hundreds of friends, former Emory President James T. Laney mentioned Bill's great affection for his two dogs, Hank and Katie. We think Bill would appreciate the inclusion of the photo on page 13.

With this issue, we also welcome Maria Lameiras as associate editor of Emory Magazine. I know you will enjoy her thoughtful writing in those to come.—P.P.P.
I read the wonderful article summarizing Ben Johnson’s Emory life and work for our university (“Steady Hand, Wise Heart,” winter 2014). I so well remember my old ATO brother as president of the charter. He was a year behind me in school, but on another level in maturity and insight, guiding the chapter of ATO through some rocky days as it wrestled with a broader, more open, and civil understanding of what we called brotherhood.

To me, a guy who would become a teacher for forty years, Ben Johnson was a peer who exuded excellence, confidence, and the demeanor that enabled his vision on behalf of the university. No surprise that he gave himself to Emory, its growth and mission with the passion and dedication that marked the time I knew him. A great fellow, and a wonderful article and tribute. I am proud to have been among his early Emory friends and ATO brothers.

Herb Meyer 63C
Athens, Georgia

As one of Professor Ken Stein’s first doctoral students at Emory, I read with great interest “In Class: Hist 383” (winter 2014), which called attention to the iconic Arab Palestinian image of a key—a symbol of going back” to left-behind homes in Palestine (or Israel, as the Jewish state therein was named in 1948). Notably, in the post-World War II years, tens of millions of refugees worldwide, including Jewish refugees from Arab lands who had outnumbered Arab Palestinian refugees, experienced expulsion from their homes and population transfer, a normative pattern in those years in the formation of new nation states. But only the Arab Palestinians turned their loss of a home—with many of them fleeing volitionally before was established—into a foundational event in their national history opting thereby to keep what they call the Nakba (the catastrophe) as a live wound symbolized by an old key. For preferring lamentation over reha-

I graduated from Emory law school in 1959. I was a Jew from Brooklyn, New York. That never made a difference at Emory. It made a difference at times in Atlanta, but not at Emory. Integrating turned Emory from a regional university to a national university. Thank you for the article (“Beyond Black & White,” winter 2014). Your publication is well done. I am an alternate public defender in Los Angeles. I am still a member of the Georgia bar.

Josh Groshan 59C 59L
Sherman Oaks, California

I had to laugh when I read your article (“What Your Dog Is Thinking,” winter 2014). First and foremost, my eldest daughter [Sydney Berger 17C] is a freshman at Emory; my husband is an alumnus [William J. Berger 75C]. I am also the research director for the American Pet Products Association, the leading not-for-profit trade association for all pet products in the United States and internationally. Each year we conduct a survey among a nationally representative sample of pet owners to measure behavioral patterns, buying trends, service consumption, etc., among owners of dogs, cats, birds, fish, small animals, reptiles, and horses. This survey has been conducted since 1988, and the most recent is nearly double in size since the survey was first conducted due to the inclusion of more questions. At least a decade ago, I began to recognize trends, especially among dog owners, with regard to the strong emotional attachment owners had to their dogs. At my insistence, we began to incorporate these emotional trends and, as you have discovered, dog owners (as well as other pet owners) indicated they are healthier than non-dog owners, are more active, happier, exercise with their pets, and—to the amaze-

Francine Ross Berger
Roslyn, New York

I recently read your article (“Young at Heart,” autumn 2013). I am ninety-four years old and was fortunate to be selected for the national clinical trial for the procedure called TAVR. My cardiothoracic surgeon, John Puskas, submitted my name for the research study group. On February 26 [2013], Dr. Vinod Thourani and Dr. Chandanreddy Devireddy performed the operation. On February 28, Dr. Angel Leon installed a pacemaker. At this writing I feel almost like a teenager, getting around well. I can never thank the doctors and support personnel at Emory Hospital enough for their kindness and the treatment afforded me.

John H. Melotte
Fayetteville, Georgia

An article on Ben F. Johnson III in the winter 2014 issue of Emory Magazine mentions the “tangled woodland ravine” near the southern end of the main campus. As a student in the Division of Librarianship in 1963, I loved that ravine. Would it be possible for you to include a picture of that beauty spot in a future issue of the magazine? I would thank you for doing so. It is always a joy to read your publication.

Myra Armistead 63G
Central, South Carolina

Has something in Emory Magazine raised your consciousness—or your hackles? Write to the editors at Emory Magazine, 1762 Clifton Road, Suite 1000, Atlanta, Georgia, 30322, or via email at paige.parvin@emory.edu. We reserve the right to edit letters for length and clarity. The views expressed by the writers do not necessarily reflect the views of the editors or the administrators of Emory University.
Proof Points

MAKING RESEARCH SECOND NATURE FOR UNDERGRADUATES

“The definition of marriage cannot be disputed. It’s right there in black and white, and it’s been the same since the start of Wikipedia.”—Jesse Tyler Ferguson, star of ABC’s Modern Family

THE WORLD RAINS INFORMATION, YET IT’S POSSIBLE TO DIE OF THIRST AWAITING THAT ONE, TRUE THING: RELIABLE EVIDENCE.

Given the ease of online research and the sometimes spotty education in scholarship techniques that students receive during high school, they can struggle in this arena. But as a research institution, Emory creates opportunities for undergraduates to conduct research alongside faculty, which means that they must know—or quickly learn—how to use primary evidence.

Students generally know how to classify sources like Wikipedia, but the paved road to credible scholarship may end there. What are the best practices undergraduates should follow in gathering and analyzing different viewpoints or in judiciously weighing evidence and comparing ideas? Does a ‘balanced judgment’ simply mean presenting competing claims? How do different disciplines approach evidence?

Enter SACSCOC—a mouthful as acronyms go, but the guide that has helped lead Emory first-year education to an exciting new place. That knot of letters stands for the Southern Association of Colleges and Schools Commission on Colleges, and it is Emory’s accrediting body. As part of the accreditation process, schools that fall under SACSCOC need to institute a Quality Enhancement Plan (QEP) as a requirement for reaccreditation, a process in which Emory is currently engaged. SACSCOC describes a QEP as “a carefully designed and focused course of action that addresses a well-defined topic or issue(s) related to enhancing student learning.”

There is wide latitude in what schools can choose for their QEPS. At Rice, it was community-based research in Houston (led by Dean of Emory College of Arts and Sciences Robin Forman when he was there); at Auburn, an e-portfolio project; at Duke, a project on world citizenship; and at Clemson, a plan to improve students’ critical thinking skills.

Emory’s plan is called The Nature of Evidence, and it was first conceived in fall 2011, when a two-year process of planning, soliciting proposals, and engaging in broad-based discussion across campus boisterously began. Four final topics were proposed, all of which played to Emory’s strengths: primary evidence; worldview (international); sustainability; and engaged scholarship, learning, and service.

Many conversations later, primary evidence held sway as being most germane to Emory’s goals and mission as a liberal arts research university. It was agreed that students should graduate with an appreciation for the difference between a 1963 newspaper article and a Wikipedia entry; between a study published in a scientific journal and a newspaper article about new findings; between an ancient text and a book interpreting an ancient text; between an original painting and a picture of a painting.

EXAMINING THE EVIDENCE: A new plan will elevate the role of primary evidence in undergraduate research and create shared purpose across disciplines.

Emory named top ‘green school’ among US universities

The US Green Building Council’s Center for Green Schools gave Emory top honors in its annual “Best of Green Schools 2013” report for maintaining “sustainability as one of its top priorities—to help restore the global ecosystem, foster healthy living, and reduce the university’s impact on the local environment.” Emory has among the highest square footage of LEED-certified space of any campus in the US.

Harvard’s Johnson to lead Yerkes

R. Paul Johnson will join Yerkes National Primate Research Center as director on August 1, 2014. Johnson currently serves as director of the New England Primate Research Center (NEPRC), chair of the NEPRC Division of Immunology, and professor of medicine at Harvard Medical School and Massachusetts General Hospital. He will succeed Stuart Zola, who has served as director of Yerkes since 2001.
Big ideas need powerful engines, and Pamela Scully’s roars. Chosen by the provost in early 2013 as chair of the QEP Development Committee, Scully is the director of the Center for Faculty Development and Excellence (CFDE), assistant vice provost for academic affairs, and professor of African studies and women’s, gender, and sexuality studies. For Scully, the most rewarding part has been the organic process and consistent collaboration.

“The QEP Development Committee included faculty from all the schools, including Oxford, as well as students, administrators, and alumni. The topic developed naturally as part of this inclusive process,” Scully says. “Discussion continued with the University Senate, the Faculty Council, Emory College faculty, the Academic Affairs Committee of the Board of Trustees, and all the schools. A special student group gave feedback and designed a QEP T-shirt. I and my colleagues could not have received better help and inspiration than the whole of Emory offered.”

_The Nature of Evidence_ has three components that span the first-year experience at Emory. It is designed to engage students both in and outside the classroom through an introductory orientation, classroom instruction, and cocurricular experiences. The goal, Scully says, is that students will finish their first year understanding the building blocks of knowledge and engaged by the opportunities Emory offers as a liberal arts research university.

Faculty involvement is key to _The Nature of Evidence_. The CFDE will form academic learning communities on the subject of evidence in order to develop a campuswide conversation about teaching evidence to students. At summer workshops, faculty experienced in teaching evidence will train other faculty. Common approaches to teaching evidence will be developed, but faculty will have flexibility in their courses to teach and evaluate evidence in ways appropriate to their discipline.

One approach to fostering engagement will be the Evidence-in-Action program, which will ask first-year students to attend four events, including an Encounter with Evidence talk and three electives. The latter are opportunities for first-year students to attend discussions in the professional schools and learn about work at places such as Yerkes National Primate Research Center; the Manuscript, Archives, and Rare Book Library; and The Carter Center.

Encounter with Evidence talks will involve presentations by two faculty members demonstrating the ways that evidence is identified and used in their fields. For example, how would a chemist and an art historian work with the same shard of ancient pottery?

This past March, the SACSCOC review team visited Emory, and is now preparing its report for submission to SACSCOC. The organization’s Board of Trustees will meet in December to take final action on Emory’s reaffirmation.

In the meantime, the Emory implementation team is working, with pilot programs planned for the 2014-2015 academic year and a “proper rollout,” in Scully’s words, in 2015-2016.

_The Nature of Evidence_ report is online at www.emory.edu/magazine. The QEP formally will extend five years, but Scully and her many collaborators are confident that _The Nature of Evidence_ will create an “evidence community” at Emory to further energize the university’s already thriving, dynamic culture of research.—Susan Carini 04G

### GRAD SCHOOL RANKINGS
Several of Emory’s graduate schools and programs are ranked among the best in the nation, according to analysis and surveys released in _US News & World Report_’s 2015 edition of “America’s Best Graduate Schools” guide:

#### TOP-RANKED SCHOOLS IN GEORGIA

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<th>School of Law</th>
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#### BIOMEDICAL ENGINEERING PHD PROGRAM

Emory University + Georgia Tech

**ranked No. 2 in the nation**

_for the eighth consecutive year_

#### NEWLY RANKED

- Biological Sciences: No. 30
- Chemistry: No. 35

#### NOT SURVEYED THIS YEAR

- Rollins School of Public Health: No. 6 [last survey held 2011]
- Nell Hodgson Woodruff School of Nursing: No. 21 [last survey held 2011]
- Physician assistant program: No. 4 [last survey held 2011]
- Physical therapy: No. 7 [last survey held 2012]
- PhD program in clinical psychology: No. 15 [last survey held 2012]

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**Saint Joseph’s receives fifth Magnet designation**

Emory Saint Joseph’s Hospital has received Magnet recognition for the fifth time from the American Nurses Credentialing Center. Saint Joseph’s is one of only three hospitals in the world to receive five consecutive designations. Emory Healthcare is the only health system in Georgia with two Magnet-designated hospitals. Emory University Hospital was recognized for the first time in January.

**Humanities professors win Guggenheim Fellowships**

Professor of Religion Joyce Flueckiger and Professor of Art History Bonna Wescoat were selected as Guggenheim Fellows in April by the John Simon Guggenheim Memorial Foundation. Flueckiger has carried out extensive fieldwork in India, working with both Hindu and Muslim popular traditions. Wescoat has spent more than 35 years studying the Sanctuary of the Great Gods on the Greek island of Samothrace.
Teller of Tales

When Salman Rushdie was a child, his father shared with him the great "wonder tales" of the East—"told them and retold them and remade them and reinvented them in his own way," the acclaimed author recalled.

Taken from the magical stories of the Panchatantra, the Hamzanama, and the Arabian Nights, the experience presented Rushdie with two unforgettable lessons: That stories were not true, "but by being untrue they could make him feel and know truths that the truth could not tell him," and that the stories all belonged to him, "just as they belonged to my father and to everyone else."

"This is the beauty of the wonder tale and its descendant, which is fiction," explained Rushdie, during a lecture in February that launched his twoweek visit to Emory as University Distinguished Professor, admitting that he’s most comfortable when engaged in the "art of the not true."

"Only by the fictionality of fiction, the imaginativeness of the imagination, the dream songs of our dreams can we hope to approach the new and to create fiction, once again, that may be more interesting than the facts," he explained.

This marked Rushdie's eighth year teaching at Emory College of Arts and Sciences—a role that leads him on a rigorous academic adventure, meeting with students and faculty in the college and across campus to discuss literature and film, cross-cultural communication and psychology, philosophy and South Asian studies.

Though best known for his literary contributions, his teaching "deserves special commendation, not just for its seriousness and depth . . . but for its breadth and underlying spirit of generosity," says Dean Robin Forman.

The sheer variety of his classroom appearances showcases both Rushdie's intellectual flexibility and his ease with student engagement; a sense-maker who lends insight, context, and anecdotes wherever he lands. One moment Rushdie is discussing short stories in an English seminar, the next he’s critiquing global French cinema with a film studies class, or squeezing in a meeting at the Manuscript, Archives and Rare Book Library, which houses his archive.

On a break between classes, Rushdie said that he enjoys the intensity of it all. "I’m always a little scared beforehand, but we usually end up having fun," he quipped. "Being amongst very smart people and all of their ideas? How bad is that?"—Kimber Williams

HONORING HEANEY: EXHIBITION CELEBRATES THE POET'S LIFE

Old photographs, personal correspondence with other writers, and the surface of his onetime writing desk are a few of the rarely seen treasures in the first major exhibition to celebrate the life and work of late Irish poet and Nobel Prize–winner Seamus Heaney since his death.


Among the other evocative materials on display, most of them from the Heaney collection held by Emory’s Manuscript, Archives, and Rare Book Library (MARBL), are Heaney’s poems and drafts showing his handwritten revisions, rare publications, and artists’ books containing Heaney’s poetry. The exhibition also features recordings of his poetry read by Heaney himself and by other poets, artists, and well-known figures including world-renowned Irish actor Liam Neeson and novelist Salman Rushdie, whose papers are also held by MARBL.

Heaney, who died August 30, 2013, was known for his generous spirit and inclusiveness, and his death was a devastating blow, says Geraldine Higgins, director of Emory’s Irish Studies program and curator of the long-planned exhibition.

Heaney had a special connection to Emory that can be traced back to his first reading in March 1981. He delivered the inaugural Richard Ellmann Lectures in Modern Literature in 1988, donated his lecture notes to MARBL (then called Special Collections), and conducted readings and poetry workshops in the 1980s and 1990s. His last visit to Emory was in March 2013, when he read his poems before a capacity crowd at Glenn Auditorium.

TICKER

Carter Center appoints new CEO

Mary Ann Peters will become chief executive officer of The Carter Center on Sept. 2. Currently provost of the US Naval War College, Peters spent more than 30 years as a career diplomat with the US Department of State, including serving as US ambassador to Bangladesh from 2000 until 2003, when she received a Presidential Meritorious Service Award. She succeeds John Hardman, who has held the post since 1992.

NCI designates Winship lead clinical trial site

Winship Cancer Institute of Emory University is one of 30 centers chosen as a Lead Academic Participating Site for the National Cancer Institute’s (NCI) new National Clinical Trials Network (NCTN). The NCTN serves as NCI’s primary infrastructure to conduct phase II and III cancer clinical trials. Winship is one of only five centers in the Southeast to be chosen for the NCTN.
Kevin Young’s Book of Hours

Award-winning poet Kevin Young’s eighth volume, Book of Hours, marks the tenth anniversary of the death of Young’s father; the intervening years saw the birth of his son, now seven. His latest collection confronts themes of birth, death, and rebirth, moving between and beyond his life’s milestone events.

“These are poems that have been brewing for a while,” says Young, Atticus Haygood Professor of English and Creative Writing. Young taught an advanced poetry workshop at Emory this spring semester, and his students wrote poems based on a series of visiting writers, including Pulitzer Prize–winners Tracy K. Smith, Paul Muldoon, and Sharon Olds, who appeared as part of the Raymond Danowski Poetry Library Reading Series, curated by Young, in March.

Young’s models included Seamus Heaney, who taught him shortly before winning the Nobel Prize for Literature. As a teacher he taught him “how to live life as a poet, which I really appreciated.”

African American Archives Grow

CIVIL RIGHTS LEADER THE Reverend C. T. Vivian, who worked alongside Martin Luther King Jr. in the Southern Christian Leadership Conference (SCLC), is placing a portion of his and his late wife’s papers with the Manuscript, Archives, and Rare Book Library (MARBL).

“It’s one of the most significant additions to our African American and civil rights material, and a great opportunity for students and scholars to appreciate a life so fully lived by someone who made such important contributions to the world,” says MARBL Director Rosemary Magee.

The collection includes a number of papers from Octavia Geans Vivian (1928–2011), who supported her husband’s work with the SCLC and was instrumental in the local civil rights movement. She also wrote Coretta, a biography of Coretta Scott King.

The Vivians’ papers contain binders of notes and articles pertaining to civil rights activities and issues, some of C. T.’s published essays and SCLC work, Octavia’s work on Scott King, congressional materials related to the creation of Martin Luther King Jr. Day as a holiday, as well as periodicals, C. T.’s outlines for speeches—including notes jotted on napkins and event programs—and more.

“Some of our papers can’t stand the test of time,” Vivian said in a talk at Emory during the King Week celebration in January. “They need a place to be properly preserved, and Emory does an excellent job.”
To Win but Barely Place

A BIOGRAPHY BY AN EX-NFL PLAYER CELEBRATES AN AFRICAN AMERICAN JOCKEY IN POSTBELLUM AMERICA

If you are shocked to know that African American jockeys existed—much less thrived—in nineteenth-century America, don’t tell Pellom McDaniels III. He will be shocked that you are shocked. And yet, in the end, he accepts that his job is to ensure that our shared national history is just that.

McDaniels—the faculty curator of African American Collections in the Manuscript, Archives, and Rare Book Library and assistant professor of African American studies—arrived later in life to a career as a historian and scholar. Earlier incarnations were as a respected defensive player for the NFL’s Kansas City Chiefs and Atlanta Falcons, an inventor (who sold Procter & Gamble a patent for a dental product), an artist, and the owner of an aging Chevy Suburban (more on that later).

Of former NFL players turned academics, there have been relatively few on record. That only makes McDaniels work harder to paint a true picture of what sports have meant to African Americans, a view that dissolves many stereotypes. As McDaniels says in his new biography, The Prince of Jockeys: The Life of Isaac Burns Murphy, “To most Americans, athleticism is an inherent feature of blackness, directly linked to the mythology of race promoted by the founding fathers.”

His countervailing view, eloquently interwoven in the book, is that sports has exerted a powerful role in allowing African Americans to express their intelligence and drive, to learn collaboration and organizational skills, and to develop that chief ingredient of character: self-discipline.

Born Isaac Burns in 1861, Murphy spent his life in Kentucky, born to enslaved parents; his father served as a Union soldier, and his mother was one of very few women who owned land in postbellum Lexington. The young Murphy joined the world of horse racing at the age of fourteen and by the 1880s was making tens of thousands of dollars per racing season. Murphy won the Kentucky Derby three times, the American Derby four of the first five running, and had an unmatched winning percentage of forty-four. He was among the inaugural class of jockeys elected to the National Museum of Racing and Hall of Fame in 1955. His life sounds like a tale of liberation, progress, and prosperity.

Yet it just as often wasn’t. This unmatched leader in the sport had more than his fair share of challenges. As Murphy’s career advanced, the primacy of black jockeys eroded as a result of the increased degree of gambling, the infusion of Irish riders, and fears of African American success and prosperity. Dirty tricks became the norm, with white jockeys colluding with gamblers to box in their black counterparts during races to prevent them from winning. Frequently, these same jockeys placed bets on the races because there was so much money to be made—legitimately and otherwise—in the industry.

The arc of Murphy’s career follows that of the country. Murphy lived, says McDaniels, through “the ‘second American Revolution,’ which gave people of African descent recognition as citizens; he died at the end of the same century, when those hard-fought gains were shattered by the adoption of government-sanctioned Jim Crow policies of exclusion and the unconscionable violence of lynching.”

NIH study examines asthma therapy for African Americans

Emory School of Medicine and Children’s Healthcare of Atlanta are recruiting patients for a National Institutes of Health clinical study on asthma in African Americans that will assess how they react to therapies and explore the role of genetics in determining response to asthma treatment. African Americans suffer higher rates of asthma attacks, hospitalizations, and asthma-related deaths than whites.

Rollins welcomes new chair

Colleen McBride joins the Rollins School of Public Health as Rollins professor and chair in the Department of Behavioral Sciences and Health Education in July. A renowned researcher in behavioral epidemiology, McBride works on developing innovative public health interventions to promote risk-reducing behaviors. Her research focuses on ways to use genetic information to inform and motivate healthy behaviors.
Murphy died of pneumonia in 1896; with the passage of time, his grave in African Cemetery No. 2 in Lexington was forgotten. After a journalist found the gravesite, the vice president of the Kentucky Club Tobacco Company saw an opportunity to publicize his company while ostensibly honoring Murphy. The idea was to reim- ter him next to the famed racehorse Man O’ War at the entrance to the Kentucky Horse Park. That act separated Murphy from his beloved wife and, laments McDaniels, “from the generations of African Americans buried in the sacred space.”

In *The Prince of Jockeys*, McDaniels supersedes biography’s border, putting down novelistic touches—as, for instance, in his section on the solar eclipse of 1869, which ends: “For African Americans, whose lives had been changed by the Civil War, the rights and privileges attained through federal legislation, and the burgeoning possibilities for social, economic, and political growth, their eyes were fixed on a future in which they emerged from the darkness of slavery into the light of full citizenship.”

Beyond McDaniels’s obvious gifts as a writer and historian, there is what he brings to the book by virtue of being a fellow athlete. When he recalls his professional football career, McDaniels acknowledges feeling as if he were “on a treadmill, always an injury away, with younger guys behind me.” The question McDaniels has asked repeatedly in his examination of sports and African Americans is, “How is it that an athlete, whose gravesite, the vice president of the Kentucky Club Tobacco Company saw an opportu- ty to publicize his company while ostensi- bly honoring Murphy. The idea was to rein- ter him next to the famed racehorse Man O’ War at the entrance to the Kentucky Horse Park. That act separated Murphy from his beloved wife and, laments McDaniels, “from the generations of African Americans buried in the sacred space.”

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Breaking with Spring Tradition

Student-led alternative spring break programs provide perspective, opportunities for service

Trips offered this year included programs on sustainability in New Orleans, Louisiana; youth advocacy in Orlando, Florida; social mobility in Appalachia in Knoxville, Tennessee; Native American cultural preservation in Bolton, North Carolina; community service and cultural immersion around Charleston, South Carolina; and Heifer International’s heifer ranch program in Perryville, Arkansas.

During the homeless immersion experience, students walked everywhere they went, working with homeless organizations including the Atlanta Center for Self Sufficiency, the Gateway Center, Progressive Hope House, the Open Door Community, and the Metro Atlanta Task Force for the Homeless.

“The first thing I learned during my homeless immersion experience was that they are not homeless people: they are people experiencing homelessness. The fact that they do not have a place to call home does not define who they are; it is simply a single piece of a much larger puzzle,” says Du, who is majoring in anthropology and human biology with a minor in economics. “We need to change the narrative that surrounds homelessness. No one is above homelessness, but the circumstances and privileges into which we are born determine the capacity with which we can deal with unexpected crises and avoid homelessness.”

Working on sustainability projects in New Orleans’ Ninth Ward gave first-year Emory student Casey Costello 17C a deeper understanding of how she could influence a whole community through her actions.

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“At the Center for Sustainable Engagement and Development (CSED) in the Lower Ninth Ward we did a variety of jobs—from working in a garden to rebuilding a house that will be used for sustainable education and office work. We built a close connection with the volunteer coordinator, Ms. Warrenetta Banks, who provided deeper insight into why CSED was created and what the Sustain the Nine initiative actually is,” Costello says. “She showed us that we are not merely doing volunteer work, we are helping people rebuild their lives. Her stories and kind heart made such a great impact and definitely made this trip an unforgettable one.”—M.M.L.
Bill Fox Remembered for Service and Joyful Spirit

WILLIAM H. FOX JR. 79PHD, a UNIVERSITY EDUCATOR PERHAPS best known for his leadership in developing a creative and robust student affairs division at Emory, died on April 11, 2014, at Emory University Hospital.

William H. Fox Jr. was born October 4, 1938, in Paris, Arkansas, the son of William and Mary Magdalene Fox. Fox is survived by his beloved wife, Carol Lewis Fox; his brother, James N. Fox (J’Laine) of Hot Springs Village, Ark.; his brother-in-law, Gene Lewis (Ann) of Little Rock, Ark.; and many cherished nieces and nephews.

After earning a bachelor’s degree from Hendrix College, in Conway, Arkansas, and a master of divinity degree from Southern Methodist University in Dallas, Fox arrived on the Emory campus in 1971 to pursue a doctorate in religion and literature. He began his administrative career at Emory in 1974 as an assistant director in the Graduate Institute of Liberal Arts, and he completed his PhD in 1979.

As an Emory student, alumnus, staff member, administrator, and benefactor, “Bill,” as everyone knew him, forged a significant legacy during his forty-three-year association with the university.

When he stepped down from his Emory roles in 2005, Fox reflected on the deep connection to the university that had motivated his work through the years. “When I came to Emory, I found a place that held, at its deepest core, values that were similar to my own” Fox told Emory Magazine. “That alignment has been magic to me all these years.”

“It’s just been exciting being part of an Emory that became nationally and internationally known and one of the top schools in the world,” Fox later said.

President James Wagner commented on the loss of one of Emory’s most devoted alumni. “Bill Fox earned the affection and gratitude of the entire Emory community through his remarkable spirit and exemplary love of his alma mater. He left an indelible mark that will endure for a long time to come.”

In 1979, Fox was appointed Emory’s first dean of campus life; he was promoted to vice president three years later. For students on the campus throughout the next decade, Fox was Emory University. He connected with thousands of students on a personal level, taking care to remember names and faces even of those who were merely passing through his office.

In 1991, when the university’s chief development officer left in the middle of a capital campaign, then-President James T. Laney persuaded Fox to assume the leadership of Emory’s Office of Institutional Advancement (now the Division of Development and Alumni Relations and the Division of Communications and Marketing). Fox’s knowledge of the thousands of alumni who had graduated in the previous twelve years helped him guide the completion of a campaign that raised $420 million for the university. During his fourteen-year tenure as chief fund-raiser, Emory raised some $2 billion in gifts, pledges, and planned gifts.

“In 2010, the Foxes established a bequest that will benefit six areas on campus close to their hearts. Half of the gift will go to the Fox Center for Humanistic Inquiry, while the rest will be divided equally among the James T. Laney School of Graduate Studies, the Division of Campus Life, the Robert W. Woodruff Library, the Michael C. Carlos Museum, and the Emory Alumni Scholarship Fund.”

“Bill Fox was without peer in student affairs, beloved by generations of Emory students and alumni,” Laney says. “Later he led Emory’s capital campaign to new heights, winning friends for the university across Atlanta and the nation. He brought an incandescent joy to all he did and to all who knew him.”

Fox was quick to credit his wife, Carol, for his achievements, calling her the “unsung hero” of his work at Emory. After his retirement, the university named the Center for Humanistic Inquiry for Bill and Carol Fox as a tribute to their long and devoted service to Emory. The Bill and Carol Fox Center for Humanistic Inquiry at Emory College offers fellowship programs and hosts conferences, seminars, and lectures to advance research and teaching in the humanities.

In 2007, the university awarded Bill Fox its highest alumni honor, the Emory Medal, which recognizes distinguished service to Emory, to the community or to education, business, the arts, or the professions.

Much of Emory’s campus bears Fox’s imprint. He oversaw the planning and opening of the Woodruff Physical Education Center and the Howard R. Dobbs University Center, hubs of activity for the Emory community. Volunteer Emory, one of the nation’s most active student service organizations, was created under Fox’s watch.

Every year, he taught at least one class, usually introducing students to the religious insights of his favorite novels.

Emory Magazine

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Emory Magazine
Vic Anand says he’s always been a “gearhead.” As a child, he liked taking things apart—parts from a car or truck, things in the garage—which didn’t make his father too happy, since Anand didn’t always know how to put them back together. He went on to major in mechanical engineering at the Massachusetts Institute of Technology, where a few fraternity brothers introduced him to high-performance motorcycle riding. His first bike was a 1983 Honda Magna 750 and, despite a fall on his first day riding, he was hooked. During the next several years, he owned motorcycles including a Honda Nighthawk 650, a Kawasaki Ninja, and a Kawasaki Z1000 while moving around the country and earning an MBA at Carnegie Mellon University and a PhD in accounting from Cornell University. While at Cornell he attended a high-performance racing school at a racetrack in New Jersey. After moving to Atlanta in 2012 and buying a BMW R1200R, he began attending monthly “track days” at local racetracks, where he can work with a coach and practice his racing skills. His current motorcycle, a BMW S1000RR, can go from zero to one hundred miles per hour in 5.13 seconds and has a top speed of 190 miles per hour, but Anand says he usually tops out at 150 to 160 miles per hour on straightaways at his favorite track, Road Atlanta. He says the fun comes from taking turns at anywhere from thirty to seventy miles per hour.

**HIS WORDS:** “The first thing people always ask me is, ‘Isn’t that dangerous?’ It is somewhat, but I take all of the safety precautions to the extreme. I have a riding suit that has so much armor built into it you could hit me with a baseball bat and I wouldn’t feel it. That’s why I like track riding. It’s a controlled environment with lots of rules and no cars. When you can do seventy or eighty laps on the same course, you really learn where the bike should be on the course and you can focus on your skills. When you are going straight, you really can’t tell the difference between ninety miles per hour and 150 miles per hour. Leaning into the curves is the scary—and fun—part. It’s amazingly therapeutic to have to be so intensely focused on one thing that there isn’t room in your brain for anything else. It ends up being a great stress relief.” —M.M.L.
GRAD 700R
SICK: HEALTH CARE IN THE MODERN ERA

COURSE DESCRIPTION: A university course open to all undergraduate, graduate, and professional students exploring the many aspects of the health care system with a focus on historical context, the operation of health care delivery, and its evolution. In this course, more than two dozen professors and experts from multiple disciplines and perspectives at Emory and other institutions discuss public policy, governmental and legal regulation, access to care, insurance, and the payer structure, as well as examining ethical and social aspects of health care including equity, social justice, spirituality, outreach, and international care.

FACULTY CV:
Coconveners
Pearce Korb, adjunct professor of neurology at the School of Medicine, and Jaffar Khan, associate professor of neurology at the School of Medicine, worked with faculty across the university to develop a curriculum that would cover all aspects of health care. Korb received his undergraduate degree in business administration, with a concentration in chemistry, from the University of Florida. He graduated from Emory’s medical school in 2007 and served as a resident, chief resident, and fellow in the Department of Neurology before joining the faculty in 2012 as a clinical instructor.

Khan earned his undergraduate degree in zoology from Louisiana State University (LSU) and his medical degree from Louisiana State University Medical Center. After an internship at LSU, he did his residency in neurology at University of Iowa Hospitals and Clinic, joining Emory in 1997 as a fellow in clinical neurophysiology. He joined the faculty in Emory’s Department of Neurology in 1998.

TODAY’S LECTURE: Faculty experts discuss barriers to care among at-risk patients including children; the poor; the elderly; and lesbian, gay, bisexual, and transgender populations.

QUOTES TO NOTE: “Historically, we have treated the vulnerable very differently than other members of the population. We need to design a health care system that is equally accessible and in which everyone is treated exactly the same regardless of who they are. We need one world that is accessible to everyone, one world where everyone is equally invited to participate and be a member.”—TED JOHNSON, PROFESSOR AND DIRECTOR OF THE DIVISION OF GERIATRIC MEDICINE AND GERONTOLOGY AND DIRECTOR FOR THE EMORY CENTER FOR HEALTH IN AGING

“We work in a massively complex field, dealing with providers, pharmaceutical reps, chaplains, patients, and people who have to navigate the system. This course covers many things I wish I’d known as a medical student.”—PEARCE KORB, ADJUNCT PROFESSOR OF NEUROLOGY

STUDENTS SAY: “As a premed major, learning about the overall health care system is really valuable. I think a lot of undergraduates overlook that important factor of working in medicine. It is good to know what you are getting into.”—NEIL CHOKSHI 15C

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EMORY HEALTHCARE IS LAUNCHING THE EMMARY WOMEN’S HEART CENTER (EWHC), A NEW PROGRAM DEDICATED TO THE SCREENING, PREVENTION, AND TREATMENT OF HEART DISEASE IN WOMEN.

“Most heart disease is preventable, so we want to reach these women before sixty years old and evaluate their individual risks and educate them on risk reduction,” says EWHC clinical director Gina Lundberg, assistant professor of medicine.

The EWHC offers comprehensive cardiac assessments for women at risk for heart disease as well as treatment options for those already diagnosed. “Our diverse team will counsel patients on weight loss, exercise programs, diet, and other lifestyle changes, as well as help them understand how stress, obesity, depression, and menopause may impact their hearts,” explains Lundberg.

The EWHC also is conducting research in women to determine the best diagnostic tests and treatments specific to them. Leslee Shaw, professor of cardiology at the School of Medicine, is leading this effort as the research director for the EWHC.

NEXT STEPS
To learn more, visit www.emoryhealthcare.org or call 404.778.7777.
Eight Ways to Improve Your Relationships at Work

1. Accept It: You’re Only Human. Kuhar starts by exploring human nature and its influence on our behavior—how and why we react to situations and to each other in certain ways. “The key is to realize that our feelings and urges are not commandments,” Kuhar says. “We can act after thought and according to certain principles. It’s possible to put aside those natural feelings and urges.”

2. Speak with Respect. “Many of us need to develop a more benign and less judgmental language when talking about others,” Kuhar says. “Some people are born nonjudgmental and matter-of-fact, while others tend to be more harsh, treating others jokingly. That has a way of changing the attitudes of people around you. Show respect for others, and they will find it easier to return.”

3. Consider the Hippocratic Oath. Before taking action, we need to consider whether it might harm others and, if so, whether that harm can be eliminated or reduced. For instance, Kuhar says, when writing a reference for someone you don’t particularly like, put personal feelings aside and strive for balanced, objective candor.

4. Put the Past in Its Place. “Detraction” is the destructive practice of bringing up past events in a way that’s critical and harmful to coworkers. “Unless the past is having a current negative impact, there’s no reason to bring it up,” Kuhar says. “People deserve a break and should have the right to start fresh.”

5. Be Brave. A good colleague sometimes needs to show courage to support and help another. We should actively develop our sense of courage, Kuhar says, as well as our good judgment about when it’s called for—and be prepared for the consequences. When we choose to support a coworker who may be unpopular with others, it takes bravery to meet the challenge.

6. Give Credit Where It’s Due. We all know it, but it can be easy to forget. “There is literally nothing that makes people feel good and helps build relationships like getting credit when it is deserved,” Kuhar says. “Sometimes the culture of the organization does not foster that—certain people take or receive all the credit. But it is a fair and rewarding act to give recognition and praise when it has been earned.”

7. Take Your Time. The practice of collegial ethics may seem like common sense, but in fact, it takes time to absorb and develop the key skills—which are surprisingly uncommon. “Human beings are capable of learning and changing, but they need to spend some time and have a program and a plan,” Kuhar says. “Collegial ethics is intended to be that program.”

8. Show the Way. Model the behaviors of collegial ethics for your colleagues. Offer support, withhold judgment, and acknowledge accomplishments. As Kuhar points out, “People respect mentors who act according to their beliefs.”

MICHAEL KUHAR on Getting Collegial

Most of us have jobs that ask us to interact with coworkers on a daily basis. The success of these interactions can make or break our experience at work—helping us feel productive, valued, and happy, or frustrated and resentful.

As common as those experiences are, there’s no blueprint for building healthy, constructive relationships in the workplace. Michael Kuhar, Candler Professor of Neuropharmacology and a researcher at Yerkes National Primate Research Center, tries to close that gap with his book The Art and Ethics of Being a Good Colleague.

“This is sort of a life experience book,” Kuhar says. “I have been teaching, consulting, and collaborating for more than four decades, and I realized I had something to say about this.”

Using an approach he calls collegial ethics, Kuhar, also a member of Emory’s Center for Ethics, outlines step-by-step techniques for increasing our understanding of what’s at play in our work interactions and using that knowledge to make them better. “Supporting and being fair to our colleagues, which is the mandate of collegial ethics, can be done in hundreds of ways in various situations,” he writes.—P.P.P. ■
Still Standing

HOW THE OXFORD COLLEGE PRESIDENT’S HOUSE GOT A NEW LEASE ON LIFE

It was 2005. Emory’s oldest building, the Old President’s house at Oxford College, had seen better days.

Now its fate was up for grabs. Built in the late 1830s, just a few blocks north of campus, the residence housed four Emory presidents before the campus moved to Atlanta in 1919.

Following the move, the Old President’s House kept its name, but college deans and their families began taking up residence in its modest, yet gracious, space.

Given its age—160 years and counting—it’s not surprising that the house had seen its share of add-ons, renovations, and patchwork. Emory’s first president, Ignatius Few, built the classic “two over two” house (visualize a tall-standing shoe box), with two rooms and a wide foyer downstairs, two rooms upstairs, and the kitchen as a separate building because of the fire risk.

It soon morphed into a plain-style Greek Revival house with two exterior guest rooms (courtesy of President Augustus Longstreet) for visiting circuit-riding ministers and student boarders. The Victorian era left its mark with some dainty gingerbread scrollwork on the front porch. Eventually the house would expand to include five rooms downstairs and four bedrooms upstairs. In one of the rooms that had once sheltered clergy from the elements, students now crowded around a pool table.

Dana Greene PhD, a historian and the most recent dean to live in the house, says she “cherished living there because of its history.” But she admitted the house needed help.

One of its late-modern additions involved an upstairs master bathroom that was located four steps down from the bedroom. She recalls that you had to be careful navigating those steps first thing in the morning.

So in 2005, the fate of the old house was as shaky as the almost-sanded-through floorboards in the front room. A new dean was arriving, Stephen Bowen—Oxford’s first dean who didn’t graduate from Emory—with his wife, Nancy. Many people agreed that it seemed like the right time to build a modern, energy-efficient home nearby.

The Bowens moved into the house in time for the annual college Christmas party, with faculty and students and a choral group singing in the downstairs foyer. In the the front room, Nancy sat next to the Christmas tree, keeping a hand on it to make sure it didn’t topple over as it bobbed and weaved because of the loose floorboards. But she gained an affection for the house: “For us not to live there would leave it sad.”

The right thing to do was restore it. So in summer 2007, Emory began its own version of This Old House. In his book, Cornerstone and Grove: A Portrait in Architecture and Landscape of Emory’s Birthplace in Oxford, Georgia (2009), Erik Oliver 93g details some of the items on the punch list: near-complete reconstruction of the ground-level floors, including floorboards of re-milled and salvaged 1800s heart pine; disposal and replacement of the wooden clapboards saturated with lead paint (a $125,000 bill just to incinerate the wood safely); replacing the old windows with custom-made replicas fitted with insulated glass; completely rebuilding the porches; and landscaping the grounds.

Oliver remembers a sense of relief, along with others, that the Bowens decided to restore rather than replace. He grew up in Oxford, the son of Oxford Emeritus Professor of Religion Hoyt Oliver 54ox 56c, and remembers playing in the house with Dean Moncrief’s children—discovering the secret passageways that connected the closets, and stepping off the second-floor balcony right into the magnolia trees that were planted in the 1870s, then removed more than a century later because their roots were damaging the house’s foundation. “It would’ve been a significant departure for him [Dean Bowen] not to live there,” he says.

So where ministers once holed up for the night and students later played pool, Bowen, an accomplished woodworker, makes beautiful wooden bowls from nearby fallen trees. In the other room, Nancy, a certified yoga instructor (and retired Spanish instructor), leads small classes in her studio.

Not only can the Bowens talk the talk about the history of the college, they can walk the walk of the people who lived in the space before them.—Hal Jacobs
Putting Heads Together

NEW IMMUNOENGINEERING CONSORTIUM SUPPORTS EMMORY, GEORGIA TECH COLLABORATION TO IMPROVE HEALTH

AFTER THE BRAIN, THE IMMUNE SYSTEM IS THE most complex system in the human body. When it works correctly with wondrous efficiency, as it does thousands, even millions, of times every day, invading disease-producing bacteria, viruses, parasites, and fungi don’t stand a chance.

But when things go wrong—the immune system is overwhelmed, or overreacts and attacks the body’s own cells—the results can be catastrophic.

In an ambitious effort to learn how to better regulate the immune system and effectively treat immune-related diseases and inflammation, researchers from Emory and the Georgia Institute of Technology have established the Georgia ImmunoEngineering Consortium.

“In terms of health and wellness in general, almost everything is related in some way to the immune system,” says Ignatio Sanz, who cochairs the consortium’s steering committee. “Infections, vaccines, autoimmune diseases, cancer, transplantation—all these and more are heavily dependent on the immune system.”

The consortium represents “a new way for Emory and Georgia Tech to explore important problems together and use engineering tools to better understand the function of the immune system,” says C. Michael Cassidy, president and CEO of consortium partner the Georgia Research Alliance (GRA), a nonprofit organization that expands the research and commercialization capacity of Georgia’s universities. “We think this represents a whole new world of disease management.”

The multidisciplinary consortium brings together engineers, physicians, chemists, physicists, computational scientists, immunologists, and clinical investigators to focus on an exhaustive range of illnesses: cancer, infectious diseases, autoimmune and inflammatory disorders, and areas of regenerative medicine including transplantation, bone and cartilage repair, and treatments for spinal cord injuries.

Emory’s Sanz is the Lowance Chair of Allergy and Immunology, director of the Lowance Center of Human Immunology, chief of the Division of Rheumatology in the School of Medicine, and a Georgia Research Alliance Eminent Scholar. He leads a team conducting research into understanding how B cells—the immune cells responsible for producing antibodies—go awry in autoimmune diseases such as lupus, rheumatoid arthritis, diabetes, and multiple sclerosis.

“We combine technologies such as multidimensional flow cytometry, deep sequencing of the B cells, generation of monoclonal antibodies, and computational biology to understand the type of B cells and antibodies responsible for autoimmune diseases,” he explains. “By learning about these issues, we will be able to greatly improve our ability to predict, diagnose, and treat autoimmune diseases in ways that are more effective and safer than current therapies.”

One such autoimmune disorder is Crohn’s disease, which is essentially an allergic reaction to one’s own large bowel. This chronic condition produces painful abdominal cramping, bloody stool, bowel perforation, and bowel obstruction, which often requires surgery.

Using adult stem cells, Jacques Galipeau, professor of hematology and medical oncology and director of the Emory Personalized Immunotherapy Center, is developing a treatment for Crohn’s that, if successful, may be adapted for other autoimmune disorders as well.

His approach works like this: A bone marrow sample is extracted from the patient and placed in a petri dish filled with a special nutrient broth. The tiny number of stem cells within the marrow sample multiplies exponentially, producing billions of new ones. These cells are then inserted into the patient through a series of injections during a period of weeks. This massive infusion of new stem cells dampens the overexuberant inflammatory responses causing the Crohn’s symptoms.

What distinguishes this technique, according to Galipeau, is that the new stem cells are derived from the patient, and they are fresh.

“We’re the first ones in the world to systematically utilize fresh stem cells,” says Galipeau, noting that cells typically are harvested from ran-
dom donors and frozen as a logistical matter before they are distributed to hospitals, thawed, and administered to clinical trial subjects.

“There’s nothing wrong with freezing, but the thawing process injures them,” he continued. “Not lethally, but they’re injured in such a manner that they lose all their immune-suppressive properties because they’re investing all their energy into surviving the thawing process.”

Another key factor is the material in which the stem cells are grown. Rather than use a liquid derived from cow’s blood, as is the norm, Galipeau has developed a nutrient made from human blood platelets.

Galipeau is working with pediatric gastroenterologist Subra Kugathasan on a clinical trial to test the therapy in advanced Crohn’s disease patients.

Pathology and laboratory medicine professor Max Cooper began searching for the roots of the human adaptive immune system by investigating primitive fish, but in the process he may have found a powerful new disease-detection agent.

Like all vertebrates, the jawless hagfish and sea lamprey are equipped with an adaptive immune system; that is, they produce cells that identify and destroy certain pathogens quickly because they “remember” a previous encounter.

“We found that they have basically the same type of lymphocytes as humans, but they use different genes and proteins to make antibodies,” Cooper explains. “They can make trillions of different kinds of antibodies, and while they see antigens a little differently than ours do, they are just as specific as our antibodies.”

The fish antibodies are smaller but sturdy, says the GRA Eminent Scholar, and are resistant to strong acids and alkalines. More important, “they can detect antigens and infectious agents like viruses, bacteria, and so forth very well. We hope to use them as cancer and infectious disease detection agents.”

Georgia Tech’s involvement in the Georgia ImmunoEngineering Consortium is based at its Center for Immunoengineering at the Parker H. Petit Institute for Bioengineering and Bioscience. There, engineering technologies are developed to assess, predict, and control immune response. The work addresses deficiencies in immune response as well as discovering ways to manage autoimmune diseases.

“Bringing engineers into health research is fantastic,” said Rafi Ahmed, a consortium cochair and director of the Emory Vaccine Center. Ahmed’s lab studies adaptive immune responses to vaccination and viral infection. The idea is to develop new and more effective vaccines by understanding the mechanisms of immunological memory—the ability of certain cells to remember previous encounters with pathogens and react quickly to destroy them.

“Engineers have different training and backgrounds, and they think about problems differently, so they bring a fresh, innovative perspective to biological questions.”

“There’s no way you can analyze a very complex system like the immune system unless you have people with different talents coming together,” he adds. “That’s why I think the Georgia ImmunoEngineering Consortium is such a terrific program.”—Gary Goettling

‘Chaperone’ Proteins Curb Bad Behavior in the Brain

Most of us think of a chaperone as an adult who keeps teenagers out of trouble at a dance or overnight trip. But the word also describes a type of protein that can guard the brain against its own troublemakers: misfolded proteins that are involved in several neurodegenerative diseases.

Researchers at the School of Medicine have demonstrated that as humans age, their brains are more vulnerable to misfolded proteins, partly because of a decline in chaperone activity. The scientists were studying a model of spinocerebellar ataxia, but the findings have implications for understanding other diseases, such as Alzheimer’s, Parkinson’s, and Huntington’s.

They also identified targets for potential therapies: bolstering levels of either a particular chaperone or a growth factor in brain cells can protect against the toxic effects of misfolded proteins. The results were published in January in the journal Neuron.

Scientists led by Shi-Hua Li and Xiao-Jiang Li, both professors of human genetics, devised a system in which production of a misfolding-prone protein that causes a form of spinocerebellar ataxia can be triggered artificially in mice at various ages. The misfolded proteins are toxic and interfere with the normal forms of the same protein.

Chaperones are proteins whose job is to prevent improper liaisons between other proteins; they prevent the sticky regions of proteins from grabbing something they’re not supposed to. Li’s team identified a chaperone called Hsc70 whose activity declines with age in the brain, while others’ activity does not.

To confirm Hsc70’s importance, the researchers showed that boosting cells’ levels of Hsc70 can bolster their ability to cope with misfolded proteins. Potentially, small molecules that increase Hsc70 levels could be used for treating spinocerebellar ataxia, says Xiao-Jiang Li.

Immunostaining showing age-dependent decrease in Hsc70 expression in brain cells of mice at different ages.
AND THE DOG HAS HIS DAY

Why dogs are the new darlings of cognitive science

BY PAIGE PARVIN 96G
This will be his earliest memory. Red light, morning light. High ceiling canted overhead. Lazy click of toenails on wood. Between the honey-colored slats of the crib a whiskery muzzle slides forward until its cheeks pull back and a row of dainty teeth bare themselves in a ridiculous grin.

So begins the bond between Edgar Sawtelle and Almondine, the dog who, he will later say, “bore his soul.” As Edgar—title character of *The Story of Edgar Sawtelle*, the best-selling 2008 novel by David Wroblewski—grows up, surrounded by the remarkable dogs his family breeds, raises, and trains, Almondine is not merely his constant companion; she is his family, his soul-mate, his deepest and most enduring love.

Canine characters abound in literature, from the loyal Old Yeller, Sounder, and Old Dan and Little Ann of tearjerking young-adult classics to Jack London’s Buck, Charles Dickens’s Jip, and eloquent Enzo, narrator of the more recent *The Art of Racing in the Rain*.

But Wroblewski’s debut novel is an exception-ally thorough testament to all that is extraordinary about dogs: their fine emotional intelligence, their desire and ability to serve humans, and their keenly attuned perception. Perhaps most important, Wroblewski describes dogs that have minds of their own, serving as responsive companions not because they have forfeited their free will, but because they gladly dedicate that will to their engagement with people.

*The Story of Edgar Sawtelle* is a work of fiction, but there is increasing evidence that the high-minded qualities Wroblewski ascribes to dogs are the stuff of fact. In recent years, domesticated canines have emerged as serious scientific research subjects—a development that could arguably be considered long overdue, given their sustained presence in our lives for more than thirty thousand years.

As Emory neuroscientist Gregory Berns points out in his 2013 book *How Dogs Love Us*, the modern study of man’s best friend really began with Charles Darwin, who devoted considerable attention to dogs in his third treatise, *The Expression of the Emotions in Man and Animal*.

“What Darwin understood, and what every dog owner knows—but many research scientists seem to have forgotten—is that dogs have a rich set of expressions and body language,” Berns writes. “Darwin had no problem discerning joy, fear, and rage in dogs. He was primarily concerned with observing the expression of these emotions, not with the intent of training these intelligent animals, but rather to understand how human emotions evolved.”

Dogs also star in the second episode of the Fox TV documentary series *Cosmos*, a sweeping scientific exploration of the evolution of the universe and the creatures that inhabit it. Narrator and astrophysicist Neil deGrasse Tyson explains that dogs are the earliest example of what Darwin called artificial selection—the process by which a species evolves in a particular way because of deliberate decisions about breeding.

Thousands of years ago, it’s likely that wolves lurked at the edges of early humans’ cooking fires, sensing the possibility of food. Those with lower levels of stress hormones in their brains may have been the first to have contact with people, eventually making themselves useful as protectors and companions in what Tyson wryly called “the domestication of humans.” People began to breed these wolf-dogs for certain desirable characteristics, casting aside those that exhibited negative traits. Over time, domesticated dogs evolved into their own species, with hundreds of varied breeds—every one, incredibly, attributable to human influence.

But does the evidence of artificial selection end with dogs’ outward appearance and behavior? Or could their close connection with humans also have shaped how they think, guiding the evolution of their brains—and vice versa?

That’s one of the questions that Berns, Distinguished Professor of Neuroeconomics,
hoped to answer with the Dog Project, a groundbreaking research study that produced the first fMRI images of a dog’s brain.

A series of events in Berns’s personal life—including the death of a beloved dog and the arrival of a new one, a party where his two dogs made trouble, and the striking knowledge that a dog was a member of the Navy SEAL team that killed Osama bin Laden—gradually led Berns to wonder about dogs’ minds. What drives their behavior? Do they act on animal instinct, or something more akin to human feeling?

Brain imaging has been a constant in Berns’s varied research, which has explored decision making, motivation, and other cognitive processes in humans. The watershed moment for the Dog Project came when he realized that if a military dog can jump out of a helicopter, dogs could almost certainly be trained to enter an MRI machine. By “mapping” between the brain scans of dogs and humans—a process called functional homology—researchers could potentially throw open a window into the canine mind and revolutionize our understanding of how dogs think.

“Philosophers dismiss the question of what it is like to be a dog as unanswerable, but functional homologies between dog and human brains could provide the missing link,” Berns says. “If we could map our thoughts and feelings onto the dog brain, we could get right to the heart of the dog-human relationship: Do dogs love us?”

Let’s Go Find Out

If you walk around to the back of the Biological Sciences Building at Duke University, you’ll find a set of concrete steps leading up to a flat, empty loading dock and an unassuming metal door marked by a modest blue sign: Canine Cognition Center.

The door opens to a two-room laboratory—one equipped with a few computers, the other with some basic dog-training equipment, containers of treats, and cameras for observation.

The rather spare digs seem incongruous with the ambitious work that’s taking place here in the Duke Canine Cognition Center, founded by Brian Hare ’98C. But five minutes with Hare, associate professor of evolutionary anthropology, will tell you that physical space is not really where he lives; it’s in the lavishly equipped rooms of his mind.

While Berns’s ongoing Dog Project has received national attention, it’s not the first time dogs have been studied at Emory. As an undergraduate in the 1990s, Hare led and published a study showing that dogs can follow a human hand pointing—something that chimpanzees, longtime stars of cognitive research, were much less capable of doing.

It all started when Hare didn’t make the baseball team.

An Atlanta native, Hare attended the Lovett School, where he claims he was “not a particularly good student.” But he did get the chance to intern at Zoo Atlanta, working with drills, baboon-like primates who evolved to have dramatically colorful rear ends so their companions could follow them in the jungle.

So when he arrived at Emory (which his mother and uncle also attended), “I was already really excited about animal behavior and studying primates,” Hare says.

He was also really excited about baseball—what he calls his first love. When he wasn’t allowed to try out for the Emory team because he was three minutes late to practice, it was a crushing blow.

“But it was actually the hugest favor anyone ever did for me,” Hare says. “Because it gave me a year to think about it, and meanwhile I took classes with professors like Frans de Waal and discovered that I really loved psychology and evolutionary anthropology and studying primate behavior and cognition. I was hooked.”

In his sophomore year, Hare met Michael Tomasello, then a professor of psychology. That connection was a game changer. Tomasello immediately recognized Hare’s spark, and kindled it by encouraging him to participate in serious research. Hare was blown away.

“We had one conversation, and he said, here’s an idea we’ve been thinking about for a research project. What do you think?” Hare says. “And I was like, what? Did he just ask me what I think? This is the coolest guy I have ever met in my life. Right from the beginning, I was part of the team.”

At the same time, Hare had a choice to make about another team—the Emory baseball team, which was holding fall tryouts again.

“I was this eighteen-, nineteen-year-old, starting to realize what science is really all about,” he says. “I was like, wait, you want to study animals to better understand people? I didn’t even know people did that. I had a new love. So the calculation was this—I could try out for baseball, maybe sit on the bench, or I could work with Mike Tomasello and do what I actually thought might be my dream. I could play science like I thought I was going to play baseball. So that’s what I did. I played science like other people play sports.”

Hare continued to work with Tomasello and others, making substantial contributions to various research projects involving primates and eventually receiving credit on some half-dozen scientific publications as an undergraduate—an accomplishment that
“So I could try out for baseball, maybe sit on the bench, or I could work with Mike Tomasello and do what I actually thought might be my dream. I could play science like I thought I was going to play baseball. So that’s what I did. I played science like other people play sports.” —Brian Hare

Tomasello, who now heads the department of developmental and comparative psychology at the Max Planck Institute for Evolutionary Anthropology in Leipzig, Germany, would later call unprecedented.

But Hare’s next breakthrough moment came when he started studying dogs.

At the time, Tomasello was working with some of humans’ closest relatives, chimpanzees, looking specifically at their understanding of communication through gestures. Hare helped him determine that despite their considerable cognitive sophistication, chimpanzees are not so good at something that people can do very early in life: following a pointed finger or a gaze directed at an object of interest. The theory, Hare explains, was that this aspect of social development—shared attention—is key to what makes humans human and distinct from other species.

In his book *The Genius of Dogs*, Hare describes the conversation with Tomasello in which Hare’s dog, a black lab named Oreo, suddenly became a lot more than his goofy, loyal, slobbery childhood companion. Oreo became the subject of a serious scientific question. As Tomasello and Hare discussed what Hare calls this critical “hole in the cognitive toolkit” of chimps, Hare had a nagging memory of Oreo—following with his eyes as his boy pointed to an errant tennis ball.

“So Mike really thought he had nailed it, this thing that makes us uniquely human,” Hare said in a recent interview at his Duke University office. “And my response was, I think my dog can do that. I had seen him follow my gesture a million times.”

In that moment, Hare says, he learned two incredibly important things. One was that science always begins with a good observation. And two, if you’re a good scientist—a scientist driven by genuine curiosity and the desire to discover, rather than ambition and ego—then it’s okay to be wrong.

Because, without hesitation, Tomasello responded by suggesting that Hare’s assertion should be tested.

“So here’s this brilliant guy who’s been working on this idea for fifteen years, and he’s confronted with this dopey undergraduate who just happens to have a dog that plays fetch with tennis balls. And he’s immediately like, okay, well, maybe I’m wrong. Let’s go find out,” Hare says. “And that’s science. You have an idea, and you are willing to have it falsified. That’s what differentiates science from everything else. If you ask me the number one gift I got from Emory, that’s it right there.”

Playing Science

It’s Sunday afternoon, and Caylin, a bright-eyed border collie, is straining at the end of her leash as she enters the training lab, tail lashing, eager to get to work.

Not that Caylin views the training as work. For her, these biweekly sessions at the Comprehensive Pet Therapy (CPT) facility in Sandy Springs are a grand adventure in quality interaction with her owner, Lorrie Backer—performing tasks, getting treats and praise, and best of all, basking in Backer’s undivided attention.

Gregory Berns greets Caylin, and all the dogs at today’s practice, with familiar affection: “Pearl, I haven’t seen you in what seems like forever!” he gushes to a grinning golden retriever, who happily nuzzles his hand in response.

These are six of twenty-five dogs currently in the Dog Project program, eighteen of whom are “MRI-certified”—meaning they have proven that they can undergo the fMRI process while both alert enough to produce meaningful results and calm enough to produce reasonably clear images.

That’s what the long hours of practice, orchestrated by professional dog trainer and CPT founder Mark Spivak, are all about. To undergo fMRI, the dogs must be able to place their heads in a cradle and hold still, while responding to hand signals and commands from their owners.

Today they are practicing self-control, resting their furry chins in specially constructed
wooden cradle simulators and, ideally, remaining perfectly motionless until a short whistle from their owner tells them to thrust forward and touch a target with their nose. When they’re successful, treats and praise ensue.

Patient Pearl aces this exercise, while Caylin struggles to contain her natural ebullience, hitting the target too soon. But the action is not the part of the experiment that’s most interesting, Berns explains—it’s the seconds of stillness that tick by before the whistle.

“What we’re trying to understand is the parts of the brain that come online to inhibit behavior,” he says. “Impulse control is very, very hard for dogs, and it takes a great deal of mental energy. They don’t have much of a frontal cortex, which is where self-control lives in humans. But impulsivity is often what gets dogs in trouble. This is all really about understanding them.”

Most of these dogs have already undergone brain imaging. Seeing a picture of their dogs’ brains—which are among the first images of their kind—is the primary reward for the owners, who volunteer their dogs and their time for the Dog Project.

“I find the research exciting,” says Pearl’s owner, Vicki D’Amico. “I believe in it, and I’m eager to see where it can go. It’s fascinating to understand my dogs better. Plus, Pearl enjoys it.”

That’s one of the cardinal rules of the Dog Project: Not only are the dogs completely unharmed, they should be having fun. “From the beginning, we agreed that training should be done strictly with positive reinforcement,” Berns writes in How Dogs Love Us. “Everything in the Dog Project should be fun. Fun for the dogs and fun for the owners.”

The first dog in the world to have her brain scanned was Callie, a two-year-old feist (a southern squirrel-hunting dog), whom Berns’s family adopted at nine months old. Callie and McKenzie, a border collie belonging to CPT trainer Melissa Cate, made history in 2012 by successfully undergoing fMRI.

It was a landmark scientific achievement and a major milestone on the road to better understanding how dogs think. But there was a catch.

“It turned out that the dogs’ brains looked nothing like a human’s brain,” Berns writes. One of the major differences is that dogs have almost no frontal lobe, while humans have the largest frontal lobes of any animal. This is where we perform our most complex cognitive work—processing language, thinking symbolically, planning for the future, and imagining what other people might be thinking. On the other hand, a dog’s olfactory bulb, which processes smell, is gigantic—nearly a tenth of its total brain.

Mapping between the two to draw conclusions about dogs was, Berns admits, a “shaky premise.” So he and graduate student Andrew Brooks decided to begin on the most solid ground they could find: the reward system.

“Unlike the cortex, with its labyrinthine folds, the reward system belongs to the evolutionarily older, reptilian part of the brain,” Berns explains. “The heart of the reward system is the caudate. Because it is so ancient, all mammals have a caudate, and lucky for us, it looks pretty much the same in dogs and humans.”

The team designed an experiment involving hand signals and hot dogs. Eventually, they were able to show that dogs have a positive response in the caudate region of the brain when they are shown a hand signal that promises a piece of hot dog, while a hand signal indicating “no hot dog” elicited no such response.

The key finding was not that dogs like hot dogs; that would hardly be news. What was worth noting was that their reward system was activated in response to a human gesture alone.

“We know what’s good for me; that’s kind of a universal thing,” Berns says. “Humans take it for granted that hand gestures convey a great deal of information, almost as much as the eyes,” Berns writes. “Is it possible that dogs place as much importance on hand movements as we do? A growing body of evidence suggests that they do.”

This would have come as no surprise to the character of Edgar Sawtelle, who, inexplicably, never spoke a word in his life. He communicated easily with Almondine using only his hands.

Fun for Dog and Owner

Sisu looks almost bored.

In the lab at the Duke Canine Cognition Center, the sweet-natured two-year-old lab mix is giving a demonstration guided by lab managers and researchers Kerri Rodriguez, a 2011 Duke graduate, and Katelyn Almon. Among other tasks, Sisu is asked to choose which red plastic cup hides a treat placed underneath, follow a pointed gaze and a finger toward
food, and infer that the can that rattles when shaken—as opposed to the one that's silent—is the one that contains something good.

Sisu, who belongs to Evan MacLean, senior research scientist and codirector of the center, is a pro at these training exercises because she's done them hundreds of times. The tasks are part of a structured program developed by Brian Hare to assess dogs’ cognitive processes and learn about their psychology, the reason the Canine Cognition Center was created in 2009. Dog owners from around the region can sign up to bring their dogs in to be tested; about two hundred “pet dogs” have undergone the assessment, while the researchers have tested many more military and service dogs.

performed in the Canine Cognition Center lab. After playing “games” with your pet for twenty minutes a day over five days, the website promises, you’ll “know your dog better.”

The exercises are designed to measure five cognitive skills: empathy, communication, cunning, memory, and reasoning. The results place dogs into one of nine colorful personality profiles with names like maverick, renaissance dog, and socialite. Participants can then enter their data and compare it with all the other dogs tested through Dognition. They can also pay more for a subscription to the site that gives them ongoing access to training tips and research news.

“The goal is to learn a whole lot more about dogs and answer a lot of really cool questions,” says Hare. “It’s also to help people learn things about their own dogs that they can use to improve their relationship with the dog. But what gets me really excited about it is, this is science, but it’s not rocket science. It’s accessible and fun. Let’s introduce science in a way that’s exciting, and I don’t know a better way than with something that’s really meaningful in the family, like a dog.”

It’s easy to assume that Dognition is a measure of dogs’ raw intelligence, but Hare is quick to refute that notion. “The way we conceptualize intelligence today is, you either have it or you don’t,” he says. “The message of Dognition is that there are multiple types of intelligence, and what you can measure are the strategies your dog uses to demonstrate his particular type. Well, you know what? That applies to people, too.”

Unbeknownst to the dogs, who likely assume it’s all in good fun, the results of these assessments become part of a database designed to compare cognitive skills and identify patterns that will ultimately shed new light on how dogs think. But with limited space and resources, the center can’t test enough dogs to yield “big data”—the sort of volume that lends credence to scientific study.

“As great as the Canine Cognition Center is, just like any paradigm, there are limits,” says Hare, who also continues to conduct research with primates as head of Duke’s Hominoid Psychology Research Group.

And that’s how Dognition was born.

Hare cofounded the web-based company early last year, partly to be able to exponentially increase his data on dog cognition. Dog owners—anyone, anywhere—can go online, pay $29, and be guided step-by-step through the same series of simple exercises that are

Puppy Love

Of course, what most of us really want to know is whether we are as special to our dogs as they are to us. Both Hare and Berns have found ways to test whether dogs love us—or at least, whether they respond more strongly to their owners than to strangers.

In the second phase of the Dog Project, Berns performed brain scans on twelve different dogs to assess their response to biological odors—specifically, the sweat of their owners and that of strangers. And guess what? The caudate region, that associated with reward, reacted most strongly to the scent of the familiar human.

“It’s one thing when you come home and your dog sees you and jumps on you and licks you and knows that good things are about to happen,” Berns says. “In our experiment, however, the scent donors were not physically present. That means the canine brain responses were being triggered by something distant in space and time. It shows that dogs’ brains have these mental representations of us that persist when we’re not there.”

And at the Duke Canine Cognition Center, dogs have been tested to see if they will take a treat from their owner more readily than from a stranger—and even whether they will howl along with their familiar person more willingly.

“Dogs show an affiliation toward humans that is unlike any other in the animal kingdom,” Hare writes in The Genius of Dogs. “They prefer humans to their own species and can behave like human infants toward their parents.”

The psychological benefits of dog-human interaction are well documented; that’s part of the reason why Emory offers “dog days” during final exam time, when stressed-out students can take a break and play with therapy dogs. Both the Dog Project and Dognition have major implications for the roles dogs play in our lives, not only as beloved pets but also as useful partners. Many of the dogs tested have been trained as therapy and service dogs through programs such as Canine Companions for Independence. The more we learn about dogs, the scientists say, the more we can enrich our relationships with them.

“The dog’s brain represents something special about how humans and animals came together,” Berns says. “It’s possible that dogs have even affected human evolution. People who took dogs into their homes and villages may have had certain advantages. As much as we made dogs, I think dogs probably made some part of us, too.”

Our young friend Edgar Sawtelle would not disagree. Late in the novel, far from home, he is remembering his Almondine, who has now grown old.

“But what she’d lost in agility she’d gained in perception—in her capacity to peer into him,” Wroblewski writes. “How had he forgotten that? How had he forgotten that in the months after his father’s death, she alone could console him, nosing him at precisely the instant to break some spiral of despair? How had he forgotten that some days she’d saved him by simply leaning against him?”

A work of fiction, yes; but those of us who love dogs recognize its truth.
AN EMORY TEAM IN MADAGASCAR TRACKS HOW GERMS JUMP BETWEEN PEOPLE AND ANIMALS, HOPING TO HELP AN ECOSYSTEM IN CRISIS

STORY BY CAROL CLARK
She looks skyward, scanning a tangle of thick, Tarzan-worthy vines, tree branches, and leaves that weave the dense rain forest canopy one hundred feet above.

“Do you smell that?” Zohdy asks a new arrival to Madagascar’s Ranomafana National Park. “They have a scent like maple syrup.”

Then, whoosh! A wide-eyed, fur-covered acrobat, mostly arms, legs, and tail, leaps out of one clump of leaves and disappears into another.

“Props!” Zohdy confirms, smiling at the comical performance of the creature. “Their legs are crazy long for their bodies.”

*Propithecus edwardsi*, more commonly known as a sifaka, is one of nearly one hundred species of lemurs. These primitive primates, with large, round eyes and wet, dog-like noses, are unique to Madagascar, an island in the Indian Ocean, off the southeast coast of Africa.

Lemur ancestors arrived in Madagascar some sixty-five million years ago, perhaps floating over from mainland Africa on mats of vegetation. Isolated on the island, the Earth’s fourth largest, lemurs evolved independently from other primates, diverging into a striking cast of characters: From the teddy-bear cute black-and-white ruffed lemur to the creepy, bat-like aye-aye.

Zohdy’s favorite is the mouse lemur, the smallest primate in the world. “The adults weigh about as much as a fun-sized package of M&M’s and can fit into the palm of your hand,” she says. “The babies are no bigger than a Ping-Pong ball and, basically, all eyeballs.”

A biologist in Emory’s Department of Environmental Sciences and the Rollins School of Public Health, Zohdy has been researching lemurs in Madagascar for seven years. Last summer, she broadened her focus and joined an Emory field team of infectious disease researchers, made up of students from a range of specialties, in Ranomafana. The Emory team is gathering baseline data for an ambitious “one health” intervention aiming to bolster the health of the rural poor around Ranomafana, who are struggling to stay fed, sheltered, and alive, while also conserving the ecosystem of the World Heritage site.

Zohdy’s rubber boots make loud sucking sounds as she trudges through thick mud toward a wooden suspension bridge spanning the Namorona River, roaring and rushing over its rocky bed even during the dry season. “Check out that spider web,” she says as she leads the way across the bridge. She points up at gossamer threads hanging above the water, leading out of the forest on one side of the river and stretching forty feet to connect with the trees on the opposite bank. The recently discovered Darwin’s bark spider, she notes, spins the largest webs in the world, and its silk is the toughest biological material ever studied—more than ten times harder than Kevlar.

Crested drongos—large black birds sporting what look like elegant coattails and fancy feather headdresses—chatter in the trees alongside the slick forest trail, which is now leading steeply up a lush hillside.

Zohdy pauses when she hears breaking leaves in the canopy and catches a whiff of a musky, zoo-like smell.

“Golden bamboo lemurs. They are right above us,” she says softly.

“Don’t open your mouth when you look up,” she quickly adds. “People have been peed on.”

The dusky-gold creatures, which look like a cross between a koala bear and a raccoon, are critically endangered. They are one of twelve species of lemurs found in Ranomafana National Park.
three species of lemurs in the park that subsist almost entirely on the tender leaves and shoots of bamboo.

The greater bamboo lemur is the rarest of them all. Just two remain in the 160-square-mile Ranomafana National Park—a father and his daughter—and only about sixty survive in the wild.

Like the giant panda, the greater bamboo lemur has molars capable of slicing and crushing the tough trunk of bamboo. “It’s a fascinating evolutionary adaptation,” Zohdy says, that allows them to survive during the dry season, when the more tender bamboo shoots and leaves are not readily available. Loss of habitat and shifts in climate, however, have lengthened the dry season.

“That means the greater bamboo lemurs have to chew on the tough trunks longer, which wears down their teeth,” Zohdy says. “When their teeth go bad, they starve. It’s not like they can go to a bamboo lemur dentist and get dentures.”

Since humans began settling on the island about two thousand years ago, bringing a rice-growing culture with them, much of its natural habitat and wildlife have disappeared, including at least seventeen species of lemurs.

“When I first came to Madagascar, I thought the whole island would look like a BBC nature special,” Zohdy recalls. Instead, she was stunned during the ten-hour drive from the capital of Antananarivo to Ranomafana to see a largely treeless landscape of terraced rice paddies and occasional smoke from slash-and-burn agriculture.

“I just wanted to study aging in mouse lemurs,” Zohdy says. “I didn’t go into this wanting to be a conservation biologist, but I realized that was necessary.”

In the steep landscape of Ranomafana, the homes of villagers and their food crops and livestock bump up against the remaining patches of primordial wilderness. The crowding puts both people and animals at risk. “When
you have humans encroaching on wildlife habitat, you have huge potential for zoonotic diseases, and the emergence of new diseases,” Zohdy says. Pneumonic plague and virulent strains of flu are examples of deadly outbreaks that have occurred in Madagascar in recent years.

The “one health” approach of the Emory infectious disease team may be key to solving some of the complex problems facing the Malagasy people and the fragile Ranomafana ecosystem.

Each summer since 2011, Emory student researchers have collected fecal samples of lemurs, people, and their livestock. These samples, along with mosquitoes and ticks the team also collects, are sent back to Atlanta for analysis of pathogens they may contain.

The project is part of a large-scale conservation and global health effort being led by Thomas Gillespie, professor of environmental sciences and environmental health. (See related story, opposite page.)

The fieldwork is not easy. It requires team members to camp out and hike up and down the steep trails of the region, often slogging through rain and mud, forging on even while occasionally suffering from bouts of the intestinal diseases they are there to investigate.

“One minute you’ll be struggling up a steep path, brushing back vines with thorns that tear at your hands,” says Zohdy, a postdoctoral fellow in the Gillespie lab. “But then you’ll round a corner and see a beautiful waterfall. Or you’ll look down at your boots and notice that the mud caking them is sparkling with flecks of gold.”

The data the students are gathering will help guide a health care improvement effort through a new nonprofit agency called PIVOT. The students on the 2013 team brought a breadth of experience and interests to the project, coming from Emory’s Department of Environmental Sciences, the Rollins School of Public Health, the Nell Hodgson Woodruff School of Nursing, and the Master of Development Practice (MDP) program. The work conducted last summer was largely funded by the Jim and Robin Herrnstein Foundation and Emory’s MDP program and Global Health Institute.

Emily Headrick is a nurse whose passion for global public health spurs her to choose fieldwork over hospitals.

“Madagascar is famous for its wildlife, to the point that its people get overshadowed,” she says. “When people’s children are dying of diarrheal diseases, their priorities are probably not going to include protecting biodiversity.”

She conducted health assessments of families that were randomly selected from the villages in the study. Few people she has surveyed own shoes or toothbrushes. One family, for example, consists of thirteen people living in a ten-by-two-foot mud-brick home with a thatched roof, a dirt floor, and little else.

In addition to asking questions about the health history of family members, Headrick’s role was to measure and record people’s height and weight and other vital signs and to test their blood for malaria. Most people have never been to a dentist, and some report debilitating tooth pain.

“I worked really hard to prepare myself for the fact that we are here to do research, and not to provide health care,” Headrick says.

Determined to do what she could, however, she bought drugs to treat anyone who tests positive for malaria. She also put together a comprehensive first-aid kit and spent much of her free time cleaning and bandaging wounds.

The simple act of touching someone and taking the time to listen to them talk about their pain is part of the role of a nurse, Headrick says. “It has a different kind of therapeutic value. And it helps build trust in people. This is a long-term project.”

Cassidy Rist is a veterinarian who also works part time in the One Health office of the Centers for Disease Control and Prevention (CDC).
Rist interviewed people in village households about the animals they own, mainly poultry, pigs, and zebu—a hardy, humpbacked breed of cattle. In a typical village, ducks, chickens, zebu, and pigs wander amid the mud houses, defecating near water sources and on the same paths where people walk barefooted. People often cage their free-roaming chickens and bring them inside the family home to sleep at night.

“Any pathogens these animals have can easily be shared by the whole village,” Rist says.

Some people told her that their chickens died of malaria. She explained to them that chickens don’t get malaria. She then asked the symptoms of the birds, so she could give them information about the likely culprit.

Dogs are also in the mix, often scruffy with ribs showing, and rarely vaccinated for rabies. Rist asked if she could treat the badly injured paw of one dog. The villagers told her that it was fady, or taboo, to

MADAGASCAR

is an evolutionary biologist’s nirvana and worst nightmare. Most of the flora and fauna of the island, located off the southeast coast of Africa, is found nowhere else on Earth. But this unique ecosystem is critically endangered. About 90 percent of Madagascar’s original forests are gone, mostly due to slash-and-burn agriculture. Time is running out for many animals, including several species of lemurs that are near extinction.

Meanwhile, much of the human population is focused on staying fed, sheltered, and alive. The country is the fifth poorest in the world, with an annual per capita income of $400. About 160 children a day die in Madagascar from preventable diseases, according to UNICEF.

“Madagascar could be a poster child for the effects of environmental degradation and the lack of a viable public health care system,” says Thomas Gillespie, a disease ecologist and Emory professor of environmental sciences and environmental health.

“Globally, we are going to have to deal with the issues of climate change, growing populations, and dwindling resources,” he adds. “Madagascar is just an extreme example.”

Gillespie is director of infectious disease research and a board member of Centre ValBio, an international research consortium at the entrance of Madagascar’s Ranomafana National Park.

For the past three summers, Gillespie has sent teams of Emory student researchers to Ranomafana to gather baseline data on the health of people, domesticated animals, and wildlife in and around the park.

Analyses of diagnostic samples from humans, livestock, and wildlife—along with survey, observational, and spatial data—show how viral, bacterial, and parasitic pathogens are moving between all three. Some lemurs near villages have picked up the bacterium that causes cholera, for example, while a form of the parasitic diarrheal agent Cryptosporidium usually associated with pigs is showing up in people.

Zoonoses, or pathogens that move between animals and humans, sometimes morphing into deadlier forms, can spark pandemics and decimate populations of animals and people.

“For the poor, acute and chronic diseases can create a negative downward spiral into a poverty trap,” Gillespie says.

The project is part of a large-scale, “one health” intervention to promote human and wildlife health, while ensuring ecological sustainability. In January, the nonprofit organization PIVOT launched a large-scale health improvement program in Ranomafana aimed at creating a system of universal access to quality health care in the region that will eventually serve as a model for the rest of the country.

PIVOT’s program will be guided by the Emory infectious disease team’s work to identify the area’s key pathogens and how they are transmitted, says Gillespie, who is on PIVOT’s board of directors.

Harvard economist and disease ecologist Matt Bonds is executive director, and Michael Rich, a founding director for Partners in Health Rwanda, is the senior clinical adviser.

The team recently received a Grand Challenges Grant from the Bill and Melinda Gates Foundation and will use the award to develop the first combined standard measure of the economic burden of human and livestock diseases.

“This is a rare opportunity to determine if the theory that people can be released from the poverty trap through improved health care is a reality,” Gillespie says. “We will be looking at whether the PIVOT health intervention leads to less degradation of resources and an improvement in quality of life for the people of Ranomafana.”

TOO MANY PUBLIC HEALTH PROGRAMS LEAVE PETS AND LIVESTOCK OUT OF THE EQUATION, RIST SAYS.
Kristin Derfus used mosquito traps to identify “hot spots” where malaria-infected mosquitoes are the most abundant. Her data will help in the development of targeted interventions.

Paul Kennedy spent his downtime from fieldwork on odd jobs like improvising an extra mosquito trap or repairing a village child’s homemade top. “I like tinkering with things and building things,” he says.

“Malaria is a big, big problem in Madagascar,” says Tovo Mbolatiana Andrianjafy, a Malagasy graduate student of medical entomology who worked with the Emory team in the field.

“I want to help deliver a tangible benefit to these villages,” says Morgan Mercer, right, working in the field with local guide and technician Rakotonjatovo Justin.

Derfus was rarely without her field notebook, where she recorded types of mosquitoes found and whether they were captured near homes, livestock pens, agricultural sites, or nearby forest.

“I’m learning a lot about how to develop research methods in the field,” says Caroline Schwaner, who used low-tech methods to gauge the water quality of streams running through villages.
“Studying diseases in a lab or a classroom is a lot different than seeing people affected by them in real life,” says Kristin Derfus 15MPH. “No one should be dying from these diseases. They’re treatable.”

In each of the villages of the Madagascar study, Derfus collected ticks and mosquitoes that were sent to the CDC for analysis. Cumbersome light traps, with lots of working parts, are used to capture the mosquitoes.

“A lot of things go wrong when you’re working in the field. I’ve learned to think creatively,” Derfus says. She was using plastic bags to keep the batteries of the light traps dry, but the bags leaked where the wires connecting them to the trap protruded. Zohdy grabbed a large banana leaf, slit it up the middle, and fitted it over the batteries. “The leaves work perfectly,” Derfus says.

Morgan Mercer 15MDP and Paul Kennedy 15MDP used GPS technology to survey the villages and their agricultural sites.

“We are mapping the layout and including water sources, latrines, livestock enclosures, streams, and roads,” Mercer explains. They will then add the GPS coordinates and data gathered by other team members on households, livestock, and surrounding forest, and any pathogens detected through analyses. The result will be a collection of data visualizations that can be viewed individually, or layered atop one another.

Ultimately, the project will not be successful unless it also considers the villagers’ complex views about their environment, Mercer says. “The Malagasy farmers work their land, feed themselves from it, feel tied to it, and ultimately should be the ones who have say over how it is managed.”

Kennedy served in the Peace Corps in Jamaica and earned a degree in nursing before entering Emory’s MDP program. He finds the Malagasy people exceptionally kind and is fascinated by their culture.

“I get bored watching lemurs after about a minute-and-a-half,” he says. “I appreciate the beauty of the environment, and it’s definitely a key component to this project, but I’m more into the people. It’s important that our data don’t just end up as statistics in a report.”

Environmental sciences major Caroline Schwaner 14C says her favorite professor is Eloise Carter, a biologist at Oxford College who is well known for her class field trips to the streams and woods of Georgia.

In Madagascar, Schwaner used a net to scoop out invertebrates—insects, worms, and snails—both upstream and downstream from villages and agricultural sites. That gave her a glimpse into the water quality of streams used for drinking, washing, and bathing.

“Certain bugs are usually found only in cleaner water, and others thrive more in pollution,” Schwaner explains. Caddis fly larvae, for example, are indicators of clean water while beetles tolerate dirtier conditions.

Schwaner also used rapid detection tests in the field to screen human fecal samples for adenoviruses and rotavirus, two common causes of diarrhea. Back in Atlanta, she analyzed the fecal samples from humans, lemurs, and livestock for a broader range of pathogens.

Madagascar was Schwaner’s first experience in the developing world, and she admitted to culture shock. “One of the hardest things for me was getting used to using a latrine shared by a whole village,” she says.

The benefits far outweighed that inconvenience, she adds. “One day we saw four species of lemurs, just while we were walking to work.”

One evening, Zohdy leads students on the team on a night hike up the side of a mountain. The forest is eerily silent. A thick mist snakes along the ground and drifts up through the silhouettes of trees.

The researchers’ headlamps slice like lasers across the understory, occasionally striking treasure. An iridescent green and blue chameleon looks like a jeweled dragon clinging to the branch of a sapling. A golden moth the size of a small bird fans its wings across a clump of eucalyptus leaves.

“Do you hear that high-pitched trill, like a tiny, far-away bell?” Zohdy asks. “That’s a mouse lemur.”

Tiny pairs of glowing eyes pop out of the darkness. Mouse lemurs are nocturnal, and their eyes shine due to the reflective effects of sensitive night vision. The eyes appear, then vanish in a flash, as the shy creatures dart amid the branches of small trees.

Zohdy instructs everyone to switch their headlamps from white light to red, so the lemurs don’t get blinded.

Seen in well-lit photographs, the brown mouse lemurs populating Ranomafana are charming. They have a beguiling gaze and tiny, elegant hands that look more human than animal, complete with delicate fingernails.

Moving through the dark forest, however, these miniature primates become like lemures, Latin for ghosts and the origin of the word lemurs. They flit through the trees alongside the trail, watching the humans with wide, curious eyes that reflect the red glow of the curious humans staring back.
LIFE LESSONS

Animals have something to teach us about pretty much everything.

By Maria M. Lameiras and Carol Clark
HUG IT OUT

When someone you care about is upset, it’s natural to reach out—to offer a reassuring touch or a soothing word.

Turns out, it’s natural for elephants too.

Asian elephants console others who are in distress using physical touches and vocalizations, according to a recent study led by Joshua Plotnik, a PhD. The findings are the first empirical evidence of consolation in elephants, says Plotnik, who began the research as a graduate student in psychology at Emory. “For centuries, people have observed that elephants seem to be highly intelligent and empathic animals, but as scientists we need to actually test it,” he says.

Consolation behavior is rare in the animal kingdom, with scientific evidence previously provided only for great apes, canines, and certain corvids (a family of birds that includes crows).

“When they strongly social bonds, it’s not surprising that elephants show concern for others,” says study coauthor Frans de Waal, professor of psychology and director of Living Links at Emory’s Yerkes National Primate Research Center. “This study demonstrates that elephants get distressed when they see others in distress, reaching out to calm them down, not unlike the way chimpanzees or humans embrace someone who is upset.”

Plotnik is a lecturer in conservation biology at Mahidol University in Thailand and CEO of Think Elephants International, a nonprofit focused on education and conservation. His main research interest is convergent cognitive evolution: The independent evolution of similar features of intelligence in species of different lineages.

While Plotnik was at Emory, he and de Waal provided evidence that elephants can both recognize themselves in a mirror—a test of self-awareness passed only by some apes, dolphins, and magpies—and problem solve cooperatively.

“Humans are unique in many ways, but not in as many as we once thought,” Plotnik says.

The latest study, which was published in the journal PeerJ, focused on a group of twenty-six captive Asian elephants spread over about thirty acres at an elephant camp in northern Thailand. For nearly a year, the researchers observed and recorded instances when an elephant displayed a stress reaction and the responses from other nearby elephants.

The initial stress responses came from either unobservable, or obvious, stimuli: A dog walking past, a snake or other potentially dangerous animal rustling the grass, or the presence of another, unfamiliar elephant.

The study found that nearby elephants consoling behaviors and traits.

“ONE HYPOTHESIS FOR WHY WE DON’T SEE CONSOLATION AS OFTEN IS THAT MORE COMPLEX COGNITION MAY UNDERLIE IT.”—JOSHUA PLOTNIK

ELEPHANTS

WHAT THEY CAN TELL US

Elephants have long been shown to demonstrate keen intelligence and strong social bonds—with each other and with human caregivers. Like people, they live in complex societies with family units at their core, making them intriguing subjects for research on the evolution of cognitive behaviors and traits.

Affiliated significantly more with a distressed individual through directed, physical contact following a stress event than during control periods.

As a typical example, a nearby elephant would go to the side of the distressed animal and use its trunk to gently touch its face, or put its trunk in the other animal’s mouth. The gesture of putting their trunks in each other’s mouths is almost like an elephant handshake or hug, Plotnik says. “It’s a very vulnerable position to put yourself in, because you could get bitten. It may be sending a signal of, ‘I’m here to help you.’”

The responding elephants also showed a tendency to vocalize. “The vocalization I heard most often following a distress event was a high, chirping sound,” Plotnik says. “I’ve never heard that vocalization when elephants are alone. It may be a signal like, ‘Shshhh, it’s okay,’ the sort of sounds a human adult might make to reassure a baby.”

In addition, elephants frequently responded to the distress signals of other elephants by adopting a similar body or emotional state, a phenomenon known as emotional contagion, which may be related to empathy. Groups of nearby elephants also were more likely to bunch together or make physical contact with each other.

“One hypothesis for why we don’t see consolation as often is that more complex cognition may underlie it,” Plotnik says. “Rather than just functioning as a way to maintain or repair relationships in a social group, consolation may also require empathy—the ability to put yourself emotionally into someone else’s shoes.”
SCENT OF DANGER

In a genetic twist on helicopter parenting, Yerkes researchers have found that when a mouse learns to become afraid of a certain odor, his or her pups will be more sensitive to that odor, even though the pups never have encountered it.

“Knowing how the experiences of parents influence their descendants helps us to understand psychiatric disorders that may have a transgenerational basis and possibly to design therapeutic strategies,” says senior author Kerry Ressler, professor of psychiatry and behavioral sciences in the School of Medicine.

Ressler and postdoctoral fellow Brian Dias trained mice to become afraid of an odor by pairing exposure to the odor with a mild electric shock. They then measured how much the animal startled in response to the odor with a mild electric shock. They then measured how much the animal startled in response to the odor with a mild electric shock.

Surprisingly, they found that the naïve adult offspring of the sensitized mice also startled more in loud noise by itself and in conjunction with the odor. Researchers are continuing the study, hoping to answer questions about whether the effects of the sensitization are reversible.

HAVE I SEEN YOU SOMEWHERE?

Whether you are terrible at remembering faces or you never forget one, it may all come down to your DNA, says Larry Young, director of Emory’s Center for Translational Social Neuroscience at Yerkes.

In previous research, Young noticed that mice with a mutated oxytocin receptor failed to recognize mice they previously encountered. He made the leap in logic from mouse to man by correlating rodents’ use of odors for social recognition to humans’ use of visual facial cues.

More recently, researchers found that the oxytocin receptor also plays a special role in the ability to remember faces. Young says this is the first study to demonstrate that variation in the oxytocin receptor gene influences face recognition skills.

While oxytocin plays an important role in promoting humans’ ability to recognize one another, about one-third of the human population possesses the genetic variant that negatively impacts that ability.

Young and the research team studied 198 families with a range of variability in facial recognition skills. By examining the influence of subtle differences in oxytocin receptor gene structure on face memory competence in family members, the researchers discovered that a single change in the DNA of the oxytocin receptor had a big impact.

Assistant Professor of Pediatrics Shannon Gourley’s lab at Yerkes is developing mouse models of adolescent-emergent depression, based on research that shows depression in adolescent girls is closely associated with social factors such as bullying and isolation.

“Female mice live in social groups throughout their lives,” Gourley says. “In this research, we isolate the mice during their adolescence. They are kept in an enriched environment with plenty of food and toys, but they are alone. It is unusual for a female mouse to live alone, and this produces a depressive-like state.”

“How do you tell when a mouse is depressed?” Gourley asks. “When you are talking about mood regulation, it is important to understand what mice like and what they will work for. All mice love sugar, so they will work very hard to get sucrose. So we ask them, under passive circumstances, if they want to drink a delicious ‘mouse milkshake.’ A normal mouse will drink a significant proportion of their body weight,” she says. “By contrast, anhedonic behavior is defined as no longer enjoying things you normally enjoy. Our studies have shown that social isolation reduces sucrose intake. That is, causes anhedonic behavior.”

Further testing using Skinner boxes—testing chambers in which mice are trained that they will receive a “mouse cookie” for pushing a button—measures motivation, another key factor in depression.

“Under easy conditions—when one button-press results in one cookie—both normal mice and depressive-like mice will perform the same way. Once they have mastered that task, we ask how hard they will work for a reward. A normal mouse will perform fifty to sixty nose pokes for just one mouse cookie, while depressive-like mice show, very consistently, a one-third drop in how willing they are to respond,” Gourley explains. “This models lack of motivation in depression.”

Adolescent depression and mood disorders are of particular interest to Gourley because of the challenges in treating the disease and realizing long-term relief from depression. Her lab’s work is supported by the National Institutes of Health and the Brain and Behavior Research Foundation, established by the Deschner family.

“Individuals who develop depression during adolescence are more likely to relapse along the course of their lifetimes,” Gourley says. Treatment strategies also are
very limited because most current antidepressants are not recommended for adolescents. “My lab’s research is aimed at developing interventions for adolescents using novel antidepressant compounds that will carry therapeutic effects into adulthood,” Gourley says. Building on the known biological mechanisms of how cells are developing and how certain known drugs work, Gourley is testing an established drug currently used for other applications for use in treating adolescent depression. Fasudil, a drug that widens blood vessels, is used in Japan to treat a stroke precursor called cerebral vasospasm and is in clinical trials in the United States for treatment of ALS (amyotrophic lateral sclerosis), also known as Lou Gehrig’s disease.

“We are using this drug because it appears to optimize, or facilitate, the development of the prefrontal cortex. Prolonged stress during adolescence derails this cortical development and is a factor in depression,” she says. Because a mouse’s adolescence only lasts about thirty days, it is easy to determine the long-term outcomes.

“We have evidence that this drug is optimizing cortical development and reversing the depressive-like state in mice. We stop treatment with the drug at day sixty, or even earlier, and our findings show that it is allowing them to grow up into middle-aged, quite typical, normal mice. This has important implications for successfully treating our youngest, most vulnerable depressed populations,” Gourley says.

SINGING FOR SURVIVAL
For white-throated sparrows, listening to another sparrow’s song may rouse some of the same emotions humans feel when listening to music.

These findings are part of the first study to compare the brain responses of birds to birdsong with the brain responses of humans listening to music. Proposed by a student and performed in the lab of Associate Professor of Psychology Donna Maney, the study sought to settle the longstanding debate over whether birdsong is music.

“Birdsong is a signal,” says Maney, lead investigator of the study. “And the definition of a signal is that it elicits a response in the receiver. Previous studies hadn’t approached the question from that angle, and it’s an important one.”

For females in the breeding state, every region of the avian counterpart of the reward pathway in the brain that has been reported to respond to music in humans showed a response to the male song. Females in the nonbreeding state, however, did not show a heightened response.

“The neural response to birdsong appears to depend on social context, which can be the case with humans as well,” says Sarah Earp, who was lead author of the paper as an undergraduate at Emory. “Both birdsong and music elicit responses not only in brain regions associated directly with reward, but also in interconnected regions that are thought to regulate emotion. That suggests that they both may activate evolutionarily ancient mechanisms that are necessary for reproduction and survival.”

LOVING AND LEARNING
Larry Young has spent the past two decades studying two different species of voles to determine why one is generally a loyal lover, while the other is a wandering lothario.

The answer comes down to a key difference in the receptors in the brains of monogamous prairie voles and promiscuous meadow voles that respond to the bonding hormones oxytocin and vasopressin. The hormones are present in both species’ brains, but only prairie voles have active receptors in brain regions that reinforce the emotional rewards of social interactions and caring for their young.

By expressing these receptors in the reward regions of animals that do not normally have them, Young and his colleagues have been able to create social bonds in the normally detached meadow voles. Humans also have vasopressin receptor genes that predict some aspects of human behavior, including romantic relationship quality.

Boosting the human oxytocin system with medications that stimulate natural oxytocin release during behavioral therapy could benefit people with autism spectrum disorders by making social interactions more intuitive.

“This could have tremendous potential in helping people with autism,” says Young, who was recently elected to the American Academy of Arts and Sciences.

“THE THINGS WE ARE DISCOVERING IN VOLES HAVE REAL-LIFE PARALLELS IN HUMANS.”—LARRY YOUNG

VOLE

WHAT THEY CAN TELL US
Monogamous prairie voles mate for life, while meadow voles—which are almost identical genetically—do not form any social bonds. This makes them ideal for studying what influences personal relationships.
BEN AND JERRY’S, ANYONE?

Anyone who’s ever turned to a pint of ice cream to deal with stress or heartbreak now has science to back them up.

Mark Wilson, research professor in the Division of Developmental and Cognitive Neuroscience at Yerkes National Primate Research Center, and Zach Johnson, assistant research professor at Yerkes and in the Department of Genetics at Emory School of Medicine, are studying the adverse influence of stress and social factors on appetite and food preference on health. By understanding how stress leads to comfort food ingestion, they hope to identify the physical triggers that drive people to overeat.

In Wilson’s preliminary study of fifty socially housed female rhesus macaques at Yerkes’ field station, subordinate monkeys within the groups ate fewer calories than dominant monkeys when given their normal low-fat, high-fiber diet. However, when the animals were given a choice between their normal diet and one that was high in fat and sugar, the low-ranking monkeys quadrupled their calorie intake, while dominant monkeys maintained normal calorie consumption—even though they too preferred the high-calorie food. When switched back to the low-fat diet, subordinate animals continued to eat greater quantities of food, underscoring the notion that dieting just by eating healthier food is difficult.

“While the relation of stress and comfort food ingestion is appreciated by us all, we now have the opportunity to begin to understand the biology of how stress leads to overeating,” says Wilson.

Johnson is examining how these changes in diet influence peripheral gene expression, particularly genes related to inflammation.

“We are seeking to identify changes we hope will lead to identifying the genetic modifiers that predispose individuals to stress-induced overeating and obesity,” he says. “If we can understand how stress and a high-calorie diet interact to change the biology of a rhesus monkey, we are much closer to developing methods for the treatment of obesity in humans.”

SHARING ALIKE

With each passing year of research, Frans de Waal, C. H. Candler Professor of Psychology, narrows the gap between humans and the animal world.

Decades ago, de Waal was one of the first to provide evidence of reconciliation in nonhuman primates, showing how chimpanzees make up with one another after a fight. De Waal’s research also demonstrated consolation behavior: After two chimpanzees fight, a third might come over and console the distressed loser of the battle with an embrace.

In a 2013 study on fairness, de Waal and his fellow researchers at Yerkes used the ultimatum game, in which two participants must agree on a distribution for both to receive rewards, to see how chimpanzees would respond compared to human children.

One individual chose between two tokens—one type of token that offered equal rewards to both players and another type of token that rewarded only the chooser. The chooser then needed to hand the token to the partner, who needed to exchange it with the experimenter for the reward. Both apes and children responded like humans typically do. If their partner’s cooperation was required, they split the rewards equally. However, with passive partners—who had no part in receiving the reward—both children and chimps preferred the selfish option.

“A growing body of evidence shows that we have grossly underestimated both the scope and the scale of animal intelligence,” de Waal wrote in an essay for the Wall Street Journal when his book The Bonobo and the Atheist: In Search of Humanism among the Primates was published in March 2013. “The one historical constant in my field is that each time a claim of human uniqueness bites the dust, other claims quickly take its place. Meanwhile, science keeps chipping away at the wall that separates us from the other animals. We have moved from viewing animals as instinct-driven stimulus-response machines to seeing them as sophisticated decision makers.”
Associate Professor of Medicine Tim Read was looking for a big project when he got in touch with marine biologist Al Dove, director of research and conservation at Georgia Aquarium.

Having already mapped the genomes of several species of bacteria, Read wanted to put his lab to the test with a larger challenge. He got it in the aquarium’s population of whale sharks. The filter-feeding behemoths can grow to upwards of forty feet long, weighing in at more than forty-seven thousand pounds. The ancient creature originated approximately sixty million years ago and is one of only three known filter-feeding shark species.

“It’s like mapping a new continent. You have an expectation of what you will find when you get there, but there is a possibility of finding something new while you are mapping the topography,” Read says. “When you have that, you can start examining it comparative to other species and ask questions about what is unique in the biochemistry of the whale shark.”

All living organisms have the same four chemicals—adenine, cytosine, thiamine, and guanine—in different combinations on each DNA molecule. The human body, for example, has three billion genetic sequences. Read estimates that the whale shark may have six billion.

“We are now completing the final set of data production, and then we will have enough to analyze and publish our findings,” he says. “When we have the whole sequence, we then have a tool to use to ask questions about the whale shark population and questions comparative to other species. Whale sharks have an ancient immune system. With a completed picture of how its genome is constructed, there is a possibility to discover new parts of its immune system and new anti-infective molecules.”

Read also hopes he and other scientists will be able to use the information to attract new scholars to the field of genomics.

“This would be a great way to teach undergraduates about genomics, having them ask simple questions that they can use these data to answer,” Read says.

“Because sharing 96 percent of our DNA isn’t enough evidence that we are alike, Yerkes National Primate Research Center researchers Matthew Campbell and Frans de Waal have completed a study that shows chimpanzees exhibit flexibility in their empathy, just as humans do.

The researchers found chimpanzees showed contagious yawning to familiar chimpanzees, familiar humans, and unfamiliar humans, but not to unfamiliar chimpanzees or an unfamiliar species.

While it’s long been known that human empathy can extend to family, friends, strangers, and even other species, it has not been known until now whether other species are similarly broad in their empathic responses.

To answer this question, Campbell and de Waal used contagious yawning as a measure of involuntary empathy. Humans will yawn in response to people they don’t know, showing flexibility in empathy, but chimps won’t yawn in response to unknown chimps or unknown species.

“Copying the facial expressions of others helps us to adopt and understand their current state,” says Campbell. “We can use this information to try to influence this flexible response in order to increase empathy toward unfamiliar chimpanzees, and we hope we will be able to apply such knowledge to humans as well.”
As a child growing up in Northern California, Rae Wynn-Grant was enthralled by the nature shows she watched on public television, mesmerized by the wild animals and exotic settings.

“The host was almost always an older, white, usually British man. I didn’t even know any of those people. I was an eight-year-old black girl, so I thought it must not be for me,” Wynn-Grant says.

Now a PhD candidate in ecology at Columbia University, Wynn-Grant is completing her dissertation research on the influence of human activity on carnivore behavioral patterns.

As part of her research, she has tracked lions, been chased by an angry bull elephant, and dug hibernating female black bears out of their dens to count, weigh, measure, and tag their newborn cubs.

“The fact that I get to go out there and be up close and personal with these animals, doing my best to create important science, it feels like a dream,” she says.

Her dissertation focuses on a population of black bears in the Lake Tahoe Basin of western Nevada. The bears, which are not native to the area, have migrated from Northern California, and Wynn-Grant has been tracking their interaction with humans, their migration patterns, and their survival rates.

The journey from spellbound nature fangirl to intrepid conservation biologist started for her as an undergraduate at Emory.

Contemplating a premed major, Wynn-Grant went to a Department of Biology career fair where different majors offered information on their areas of study. She stopped at the environmental studies booth because she was more interested in whole organisms, not just systems and cells.

“They told me I would be perfect for environmental biology, and they were right,” she says. “It was great from the very beginning. I knew as a freshman that I was in the right spot.”

She took a broad range of classes, from social science to pure ecology, but got hooked on conservation biology.

“I’d never even heard of it or considered it, but I always loved nature shows—it was almost an obsession—and this was the study of the science necessary to preserve endangered species and endangered landscapes,” Wynn-Grant says. “Animals were already my thing, and I was learning the complexities of keeping these endangered species on the planet.”

A pivotal experience came in her junior year when Wynn-Grant traveled to Southern Kenya on a study abroad program in wildlife management.

“The environmental science background prepped me very well for the program in understanding the science necessary, but could have better prepared me for living with large African mammals,” Wynn-Grant says with a laugh.

For a suburban kid whose family “didn’t even go camping,” living in thatched huts near traditional tribal villages was challenging, but thrilling.

“We were studying zebras and whether farmers who had been diverting water sources to their farms were changing the zebras’ distribution patterns by changing the landscapes the zebras used,” Wynn-Grant says. “We had some dangerous run-ins with elephants and poisonous snakes—amazing things you see in nature shows. I was this nineteen-year-old college student and at that point I could not believe I was living this life. I decided right then that I wanted to do it for the rest of my life.”

After graduating from Emory, Wynn-Grant worked as a research assistant for the World Wildlife Fund (wwf) in Washington, D.C., before enrolling in the School of Forestry and Environmental Studies at Yale University. There she focused her research on human-wildlife conflict, traveling back to East Africa to study human-lion conflict in farming communities in central Tanzania.

“These pastoralist people have livestock that indicate a fair amount of wealth in their society; it is their whole livelihood. When lions, leopards, hyenas, and other large carnivores take their cows or goats, it is a really big problem and often the pastoralists will kill the carnivores,” she says.

To determine why some carnivores chose livestock over their normal prey, Wynn-Grant and a research group from an African wildlife foundation tracked lions to examine habitat selection and how it coincided with the human communities. “I try to understand the conflict from the animal side. By understanding the animals’ habitat selection, we can help humans choose areas to settle and better avoid conflict,” she says.
Immediately after earning her master’s degree from Yale, she enrolled at Columbia University, seeking to continue her African research. However, an excess of native researchers studying the issue left little room in the field for Wynn-Grant.

Advisers at Columbia encouraged her to apply some of the research questions and interests she already had from her previous research to a different species in an ecosystem she could study for a long time—North America. Wynn-Grant connected with the Nevada Department of Wildlife and began research on a population of about four hundred bears that were causing problems in the growing recreation areas around Lake Tahoe on the state’s western edge.

Controversy has brewed between resident bear conservation groups over complaints from property owners about bears coming into human-populated areas to forage. In a number of cases, local authorities have trapped and killed bears that have been deemed nuisance animals.

“There is some mitigation going on, but as researchers we are interested in figuring out the ecological drivers of the conflict. How can we figure it out theoretically and eventually help with urban planning that allows human growth and development, but still allows the black bears to continue expanding their habitats?” Wynn-Grant says.

Before beginning the project in 2011, Wynn-Grant says she’d never even seen a black bear. Now, every spring, she and her team use GPS technology to find the dens of female black bears—who give birth while hibernating—so they can keep track of the growing bear population in the area.

“In the summer, when the babies are several months old, we look for the mother again to see how many cubs are with her. This tells us if survival rates are favorable in that area,” she says. “If we know survival rates are not optimal in the area, that tells us a lot about how human presence is affecting the bears.”

Once in danger of extinction due to hunting in the late 1800s and early 1900s, black bear populations have rebounded and are flourishing in many parts of the country. This is good for the bears in general, but Wynn-Grant says growing populations are driving the bears to move and colonize new areas. By viewing the problem from the animals’ perspective, Wynn-Grant hopes to give urban planners, policy makers, and developers the tools they need to create communities that can promote harmony among the species.

“This really is a conservation success story, but my challenge, and what I hope to do with my work, is to provide suggestions for coexistence,” she says. “People will continue to develop these beautiful mountain areas and keep making highways and ski resorts and campgrounds. If we can understand how bears use their habitat and the landscape in relation to people, perhaps we can provide recommendations for developments that are sustainable in the natural environment.”

Once she earns a PhD, Wynn-Grant hopes to pursue any one of three dreams—working for a large wildlife conservation organization like WWF, teaching conservation biology to new generations of potential scientists, or hosting her own nature show.

“I’d like to have some sort of media presence that exposes people to nature and wildlife, to scientific inquiry and adventure. I want to be a new face for what this type of science can be. I hope to be an example for young people and encourage them not to feel like ‘If you can’t see it, you can’t become it.’ I disagree. I didn’t see anyone who looked like me, and here I am,” she says.

For now, she’s happy to pull on her hiking boots and hit the woods, doing what she’s always dreamed of doing.

**BUGS ON DRUGS?**

Insects outnumber every other living thing on the planet by a sizeable margin, with at least six million species—the vast majority of which have yet to be identified. Their evolution and behavior hold countless scientific mysteries. But small discoveries can yield big, and often unexpected, rewards.

Some insects are experts at extracting what they need from the ecology around them. For instance, it appears that monarch butterflies may be able to cure themselves and their offspring of disease by using medicinal plants, according to research by Jaap de Roode, assistant professor of biology.

Few studies have been done on self-medication by animals, but some scientists have theorized that the practice may be more widespread than we realize.

Monarch caterpillars feed on any of dozens of species of milkweed plants, including some species that contain high levels of cardenolides. These chemicals do not harm the caterpillars, but make them toxic to predators even after they emerge as adults from their chrysalises. Experiments in de Roode’s lab also have shown that a female infected with the harmful parasite *Ophryocystis elektroscirrha* prefers to lay her eggs on a toxic species of milkweed, rather than a nontoxic species. Uninfected female monarchs, however, showed no preference.

Another Emory study found that fruit flies infected with a blood-borne parasite consume alcohol to self-medicate, a behavior that greatly increases their survival rate.

Researchers in the lab of Assistant Professor of Biology Todd Shlenke use *Drosophila melanogaster*, the common fruit fly that swirls around browning bananas, to study how immune systems adapt to pathogens.

The fly larvae eat the rot, or fungi and bacteria, that grows on overripe, fermenting fruit to protect against infectious disease. “Our data raise an important question: Could other organisms, perhaps even humans, control blood-borne parasites through high doses of alcohol?” Shlenke says.

Pea aphids, expert survivors of the insect world, are major agricultural pests and also important biological models for studies of insect-plant interactions, symbiosis, virus vectoring, and genetic plasticity. These resilient insects thrive despite a host of enemies, including parasitic wasps, ladybugs, fungal pathogens, and frustrated farmers and gardeners the world over. They also are potential resources for questions related to human health.

“Some people feel sick when they take antibiotics because the drug kills off all the beneficial bacteria. If we can study the process of how to keep beneficial bacteria while clearing out harmful bacteria across several organisms, including aphids, we might be able to understand it better,” says Nicole Gerardo, assistant professor of biology.
Lynn Sibley has spent her career improving the odds for new mothers and babies

BY YAELE D SHERMAN 08PHD
Lynn Sibley first saw the infant coffins at the market in Bolivia. They were for sale alongside brightly colored vegetables, beads, and woven fabrics. She started seeing them everywhere.

“I thought to myself, I don’t want to be a tourist anymore,” she says.

Now a professor in the Nell Hodgson Woodruff School of Nursing, Sibley has devoted her career to reducing maternal and infant mortality around the world. She founded and directs the Center for Research on Maternal and Newborn Survival, which is part of the Lillian Carter Center for Global Health and Social Responsibility.

Sibley recently published the results of a pioneering program—the Maternal and Newborn Health in Ethiopia Partnership (MaNHEP)—in the Journal of Midwifery and Women’s Health. Funded by an $8.1 million grant from the Bill and Melinda Gates Foundation, the program uses a participatory approach to create community-driven best practices to help families in resource-scarce areas.

The grant illustrates the power of private philanthropy to make a difference. “She’s changing lives,” says Ken Hepburn, professor at the School of Nursing. “This approach could change the course of women’s and newborn infants’ lives on a global scale.”

After practicing midwifery for six years as a faculty member at the University of Colorado, Sibley sought graduate training in anthropology to conduct research and undertake applied work in global health. For her dissertation research, she examined traditional midwifery in Belize.

“Having practiced as a midwife in the United States, I had romantic notions of traditional midwifery,” she says. Instead of intervening as little as possible, however, the traditional birth attendants manually dilated the woman’s cervix and pushed down on her belly to help the baby move down—practices understood by medically trained care providers to be potentially dangerous.

Sibley realized that the birth attendants had a radically different view of the body and processes of labor. They believed that when the belly got hard, the baby was trying to come out. They viewed the uterus as a passive organ that required external help, and that understanding guided their practice. Sibley also witnessed the failure of government training of traditional birth attendants—who had been taught to use gloves to prevent infection, but touched everything in the room while wearing the gloves; and were taught to use a bulb syringe to help clear the baby’s nose and mouth just after birth, but blew in rather than sucking out.

“There was no common space of agreement,” Sibley says. “The government training was not fully successful because it did not account for the world view of the traditional birth attendants regarding how the body works during labor and birth.”

With a deep understanding of the challenges of traditional home births, Sibley helped create the Home-Based Lifesaving Skills program for the American College of Nurse-Midwives. Using a skills-based participatory approach, the program teaches home birth attendants about basic techniques that don’t require expensive tools. Sibley led the first field test of the program in India. Today the program is used in twenty countries including India, Ethiopia, Bangladesh, and Belize.

In 2000, Sibley and another colleague from the American College of Nurse Midwives were invited by Save the Children to implement the program in Ethiopia. She returned during
the next four years to follow up. During this time she met Abebe Gobyzayehu, a pediatrician and faculty member at Ethiopia’s Deub University and Sibley’s coprincipal investigator and project director for the Maternal and Newborn Health in Ethiopia Partnership.

Ethiopia has one of the world’s highest rates of maternal and newborn mortality. Most women give birth at home because the population is largely rural, with very few doctors and nurses. In 2011 only 10 percent of women gave birth with a skilled provider in attendance, and only 7 percent received care within two days of giving birth.

Building on the earlier work of Home-Based Lifesaving Skills, the program aimed to improve the capacity and confidence of frontline health workers to provide maternal and newborn health care, increase the demand by women and families for maternal and newborn health care, improve self-care behaviors, and demonstrate a district model of continuous care improvement.

The Maternal and Newborn Health in Ethiopia Partnership (MaNHEP) effectively linked households to health facilities and was driven by health service and community leaders working together. In November 2009, Sibley received the Gates grant, which allowed her to expand her work within the existing Ethiopian health care system.

Drawing largely from her earlier project in Ethiopia, Sibley put together a team of Ethiopian experts to help run the new program. Gobyzayehu took the lead in Ethiopia as the project director. Lelissee Tadesse—one of Sibley’s former trainees—also joined the effort.

In 2000, Tadesse was a newly minted eighteen-year-old nurse with midwifery training. Initially resistant to the training, she quickly saw the results of working with families and grasped the importance of participatory training. She eventually became the senior maternal and newborn health adviser on MaNHEP’s team.

“Lynn had the vision for MaNHEP and put together a team that would flesh it out,” says Hepburn. “She enabled them to take the lead in the areas where they had expertise.”

Sibley and her team trained health extension workers and supported them while they, in turn, trained traditional birth attendants and community health care workers, who were paired to form a guide team. Based in their own communities, guide teams worked with pregnant women and their family members—including husbands—through a series of structured meetings focusing on care before, during, and soon after birth.

“If you want to improve maternal and newborn outcomes, you need to create a space for real dialogue and learning that starts with what people already know and do,” Sibley says.

Meeting four times in each family’s home, the guide team asked about family members’ experiences with birth-related problems, what they did, and what happened. Then the team shared what a trained health worker would do in that situation. Using pictorial checklists and role-play, family members practiced different scenarios, such as resuscitating a newborn.

A leading cause of maternal death in Ethiopia is postpartum hemorrhage, which
can kill a healthy woman in two hours. Most people know women who bled too much after giving birth and died. Traditional beliefs hold that too much bleeding is a sign of a spirit who has come to steal the woman's life, and the way to fight the bleeding is to frighten off the spirit.

After discussing the family members' experience with hemorrhage, the guide team taught them how to do uterine massage and other basic nursing practices, and how to transport a woman who is bleeding to a health facility using local means, a litter.

Community improvement teams consisting of district health service staff and area leaders—elders, administrative council members, women's association heads—dove efforts to improve maternal and newborn health care using a collaborative approach. They supported the guide team family meetings and figured out the best practices to ensure that women received adequate care at each stage of birth. “For anything to last, it has to come from the people themselves, and it has to be theirs,” Sibley says.

The partnership paid off. “Women used to think of coming to a health facility as bothering others or creating trouble for the health workers,” says Habtam Gedif, a health extension worker in Mecha. “Now they’ve realized the importance of health care and are demanding more services.”

Frontline health workers’ knowledge, skills, and confidence improved tremendously, and women’s use of any antenatal care increased from about 48 percent to 86 percent, while their use of postnatal care increased from 24 percent to 75 percent. There was a substantial shift in the care providers women used—away from unskilled family members and traditional birth attendants to health extension workers and other professional health care providers.

Perhaps most encouraging, fewer babies died—the interval between newborn deaths began to increase significantly about nine months into the program.

“The training made the pregnant woman herself the center of our focus,” says Asmarech Desta, a health extension worker in Abukeku. “We now stay longer with the women and provide them with personalized care to meet their needs in prenatal care, assist them during the birth process, and offer emotional and physiological support.”

The regional health bureaus and district health offices, with minimal support from the MANHEP team, introduced and spread the program to seventy-four additional villages in the two regions.

Local ownership of the project extends to authorship and publication as well. “Half of the articles published in the special edition of the Journal of Midwifery and Women’s Health have Ethiopian first authors,” Hepburn says. He traveled to Ethiopia three times to run writer workshops for the first-time authors and created a work plan to develop the articles.

“Writing a research paper gives you a new lens for understanding the project,” Gobyzayehu says. “We learned how to document success stories, which indicators are the most important, and how to write about projects in the future.”

A second MANHEP project is now underway in Afar, a remote pastoralist region in the desert. This version is using the same model, but has added antenatal care and maternal nutrition to the program—counseling, iron, and folic acid, as well as deworming pills, to prevent anemia.

“Small changes can save the lives of mothers and children,” says Gobyzayehu. “When you work with a community, you can implement basic interventions that make a difference.”

“In a way, this is midwifery on a different scale,” Sibley says. “It’s about supporting and nurturing growth and possibility. I think about practicing midwifery again, then I realize I’m doing it now.”
If you've been touched by the stories in this issue of Emory Magazine, these windows can open up ways for you to turn your inspiration into action. Here you'll see how you can invest in the people, places, and programs found in these pages and beyond. Gifts to Emory produce powerful, lasting returns; they help create knowledge, advance research, strengthen communities, improve health, and much more.

After he took over as dean of Oxford College in 2005, Stephen Bowen and his wife, Nancy, lobbied for the restoration of the Old President’s House, Emory’s oldest building and the residence of four Emory presidents before the campus moved to Atlanta in 1919. At the time the Bowens came to Oxford, the fate of the 1830s-era home was in question. After a successful plea to the university’s Ways and Means Committee, the home was beautifully restored so it can house Oxford deans for another century. To learn more about supporting facilities at Oxford, contact Tony Kimbrell at 770.784.8313 or tony.kimbrell@emory.edu.

Emory Healthcare is keeping hearts healthy with the addition of two new heart centers. The Emory Women’s Heart Center (EWHC) is dedicated to screening, prevention, and treatment of heart disease in women at five locations around metro Atlanta. According to the American Heart Association, heart disease is the No. 1 killer of women and is more deadly than all forms of cancer combined. The Congenital Heart Center of Georgia, a partnership between Children’s Healthcare of Atlanta and Emory Healthcare, cares for young children and adults, providing a continuum of lifesaving care from before birth through adulthood. To support these and other cardiac care programs, contact Alicia Kanjira, director of development, at 404.727.3989 or alicia.kanjira@emory.edu.

Researchers in the Department of Human Genetics at Emory School of Medicine have found that “chaperone” proteins can guard the brain against misfolded proteins involved in neurodegenerative diseases. The findings may help identify targets for potential therapies. To support research at the School of Medicine, contact Gabrielle Stearns at 404.727.2512 or gabrielle.stearns@emory.edu.
Professor of Nursing Lynn Sibley has spent her career improving the odds for new mothers and babies in some of the poorest areas of the world. As founder of the Center for Research on Maternal and Newborn Survival at the Nell Hodgson Wurth School of Nursing, the midwife and anthropologist helped create the Home-Based Lifesaving Skills program, which teaches home birth attendants about basic techniques that don’t require expensive tools. Today the program is saving lives in twenty countries including India, Ethiopia, Bangladesh, and Belize. For information on supporting this project or other global initiatives at the nursing school, contact Amy Dorrill at 404.727.6264 or amy.dorrill@emory.edu.

Students from Emory and Oxford College traveled around the Southeast to help rebuild communities, learn about homelessness, work with disadvantaged youth, and perform community service as part of the Alternative Spring Break program. These student-led trips are organized through the Emory Office of Student Leadership and Service and the Oxford Office of Student Development. To learn about supporting student leadership programs at Emory, contact Mary K. Roarabaugh at 404.712.4742 or mary.k.roarabaugh@emory.edu. To learn about supporting Oxford’s student leadership programming, contact Tony Kimbrell at 770.784.8313 or tony.kimbrell@emory.edu.

Gifts to student support at the Laney Graduate School help foster the vision of cross-collaboration and research that was a hallmark for former Emory president James T. Laney, for whom the school is named. Many graduate students choose Emory because of opportunities to work with renowned faculty and in partnership with institutions like the Centers for Disease Control and Prevention (CDC). For example, Jessica Belser 03PhD recently received the Presidential Early Career Science Award for research she began at Emory and continues in her career at the CDC. To learn more, contact Robin Harpak at 404.712.9341 or robin.harpak@emory.edu.

Michael Kuhar, a senior faculty fellow at Emory’s Center for Ethics, has written The Art and Ethics of Being a Good Colleague, a step-by-step guide for increasing our understanding of what’s at play in our work interactions and using that knowledge to make them better. A neuroscientist at Yerkes National Primate Research Center and Candler Professor of Neuropsychopharmacology at Emory School of Medicine, Kuhar says the idea for the how-to book came from four decades of teaching, consulting, collaborating, and observing the best and worst of professional relationships. For information about supporting programs at the Emory Center for Ethics, contact Mary K. Roarabaugh at 404.712.4742 or mary.k.roarabaugh@emory.edu.
Intellectual and Social Community

We often talk about “the Emory community” as if it were one thing, even as we recognize its many parts. What we sometimes overlook is that Emory has two different personalities. It is both an intellectual community and a social community.

The intellectual community is easy to see. Examples abound in every issue of Emory Magazine of ways our faculty and students contribute to the world through ideas, research, and scholarship.

The social community likewise is easy to grasp. You see that in Emory people’s stewardship of the environment, care for each other, and commitments to social justice.

When “the Emory community” outlined a strategic vision in 2005, we proposed enhancing the way these two kinds of community—intellectual and social—work together and strengthen each other. Emory’s heritage of educating both heart and mind is marked by intellectual work that stands with the best but also leans toward greater equity, deeper social capital, and the means for each person to do well by doing good. Our vision statement sums up that heritage as “working collaboratively for positive transformation in the world.”

Likewise our strategic planners envisioned a campus in which social interaction shapes intellectual pursuits. So, unsurprisingly, when you foster a community committed to sustainability, you get a chemist like Craig Hill winning awards for generating energy by means of artificial photosynthesis. When you have a community intent on being both an international destination and a global citizen, you find students from around the world enrolling in our master’s in development practice program, then returning home to improve their own societies.

The intellectual-social community at Emory has qualities and characteristics not easily measured by standard metrics of admission data, faculty awards, philanthropy, and so on. These certainly are important. But the work of blending the intellectual and the social is an art.

Take the shaping of a class, the most basic step in nurturing the quality of a campus community. Building an entering class, so that all members contribute something unique and rich, suggests attending to the character of the class—that blend of thought, aspiration, and action that distinguishes it from others. At Emory this character often manifests itself as a kind of generosity that seeks to lift our common humanity, not merely attend to self.

What evidence do we have about the character of our intellectual-social community? Consider:

- Last year, to heal divisions caused by race, gender, sexual violence, and privilege, students and staff formed an ad hoc committee to forge a new “Campus Life Compact” to build an inclusive Emory.
- Similarly, the University Senate is implementing fifty-seven recommendations from the Committee on Class and Labor, for improving the ways we respect each other as workers.
- Through the Office of Religious Life, Emory stands out as a campus where authentic religious expression coexists with deep mutual engagement among the many religions on campus.
- With the help of partners like Georgia Tech, we are forging powerful ways to apply new knowledge for good.

These are examples of intellectual and social impulses working hand in hand. But we also have metrics to assess the character of Emory.

- **Access:** Through programs like Emory Advantage and Pell grants, Emory provides greater access to needy students than most of our peers. (Emory ranks fifth in Pell grant recipients among the most-selective universities.)
- **Adoption:** Model programs developed at Emory to blend intellectual and social excellence are being copied by others: our Enterprise Risk Management, the innovative School of Medicine curriculum, and our cyber security, to name only three.
- **Digital scholarship:** Emory is forging new ways of scholarship in the digital age (see our website for more).
- **QEP:** Our Quality Enhancement Plan, required for reaffirmation of accreditation this year, will infuse our first-year college curriculum with attention to and reliance on the “nature of evidence”—an increasingly critical foundation for supporting civil debate in a diverse and democratic society.

These ways of blending the intellectual and the social into one community called Emory inspire us and guide us. In the end, they underscore the ways that Emory stands by what is good, in the words of former president Atticus Haygood, and strives to make it better for the sake of all of society.
You Can See Them from Space
Emory Law student Helen He (from left) hoists a banner atop the Great Wall of China with Emory Law staff and friends Jessica Dworkin, Vice President for Development Susan Cruse, Dean Robert Schapiro, Andrea Schmoyer, and Denton Cruse. Photo by Marifel Verlohr.
Dear Friends,

We all experience moments of sheer joy in our accomplishments. The journey toward those special achievements requires persistence, imagination, and compromise. As our 1997 Emory Medalist H. Jackson Brown 63C advised in Life’s Little Instruction Book, “Never give up on what you really want to do. The person with big dreams is more powerful than one with all the facts.”

At Emory, you came together as one student body, sharing cultural traditions and creating new ones to experience together. You compared your separate dreams and joined forces to envision a richer life. Now, as alumni of Emory, after graduation you are all presented with limitless opportunities to fulfill those visions for personal and professional success.

What dreams do you seek to achieve now? What inspirational story will you share with your world?

Look to your Emory roots, to your shared college years, and translate those memorable moments with friends into new experiences as alumni who come together to socialize, network, mentor, and share. Join your regional alumni chapter, and get involved. Invest in building your Emory network, and give of yourself to get something greater in return. Connect today, and you just may help a fellow graduate to achieve his or her dreams.

Sincerely,

Emory Everywhere

From the EAA

SARAH COOK 95C, SENIOR ASSOCIATE VICE PRESIDENT FOR ALUMNI AFFAIRS

Upcoming Alumni Events

Quarterly: Dine with Nine – Emory in Hollywood. Intimate dinners bring together alumni in the entertainment industry to network, discuss trends, and share inside information with fellow industry professionals. Learn more at www.alumni.emory.edu/emoryinhollywood.


For more, visit www.alumni.emory.edu/calendar.

VIP HOST: On February 18, the Emory Alumni Association hosted a special event at Bacardi USA in Coral Gables, Florida. Emory Trustee and Bacardi Chairman of the Board Facundo Bacardi 96L and Emory President Jim Wagner mingled with 175 alumni and guests during a cocktail reception. Guests enjoyed self-guided tours of the Bacardi Museum and tastings of the four rums from the recently launched Facundo Rum Collection.

CLASS IS NOT DISMISSED: At Back to Class: Emory in Los Angeles, alumni enjoyed a day of learning with Emory faculty members Kenneth Carter 87OX 89C, Kenneth Hepburn, Brad Killaly, and Michelle Lampl. Taking a moment to pose with Emory friends Swoop and Dooley are Ben Corley 07C (above from left), Brian Zager 06B, and Allison Bryant 10C.

HERE’S TO EMORY: Alumni gathered for a happy hour at ThirstyBear Brewing Company in San Francisco on March 13. “Mugging” for the camera are Warrick MacMillan 13C (above from left), Emma Rosenbluth 07C, Sahiti Karempudi 06OX 08C, Nicolai Lundy 09C, Trent Boorman 11C.

PROUD: Scott Turner Schoefeld 02C was named the Chesnut LGBT Person of the Year at the March 4 Pride Awards event. Named for Saralyn Chesnut 94PhD, former and first director of the Office of Lesbian, Gay, Bisexual, and Transgender Life, the Chesnut Award is peer nominated and recognizes individuals for the exceptional work they do for the Emory LGBT community.

COOK: RAY HINTON
How to build your Emory network.

1. CEO Lin hires student John before he graduates from Emory.
2. John shares news of his job with classmates on LinkedIn, Facebook, and through Emory’s class notes.
3. Anne reads John’s class note and connects. The two soon work together.
4. Terrell meets Anne at an alumni chapter event and proposes a new business venture.
5. Anne, John, and Terrell hire student interns via alumni.emory.edu/recruit.
6. Emory hosts an alumni chapter event sponsored by the new alumni business venture.
7. Anne, John, and Terrell spin off from Lin’s company to form their own. Lin becomes a board member who brings in Ron to finance the new company’s operations.
8. Anne, John, Terrell, Lin, and Ron become career contacts for other Emory alumni.
9. Emory student Alyssa calls career contacts in both companies, and the cycle begins again.

Make the connections that will boost your career.

alumni.emory.edu
2014 Turman Award Winner

“There is no better extension of a liberal arts education than legal training,” says Chilton Davis Varner ’76L, the 2014 J. Pollard Turman Alumni Service Award recipient. “Each case is different, and you have to learn a lot about the subject matter of each case. You end up, in some ways, being a great generalist, even if you are a trial lawyer by trade.”

Varner is far more than a generalist, having become King and Spalding’s first female litigation partner in 1983 and the first woman elected to the firm’s management committee in 1995. She is the senior partner in the firm’s product liability practice and has represented companies such as ExxonMobil, Nissan, American Airlines, 3M, UPS, and Merck.

At the onset of her career, Varner juggled marriage and motherhood but vowed to become a greater part of the intellectual life of Atlanta. Her daughter was five before Varner entered law school. “Emory has been very good to me. The law school gave me a great education at a time when there weren’t that many married women entering the field of law. Emory took a risk with me, and with a third of the class that I joined. That was an enormous statement that they were eager to train women to be good lawyers,” she says. “I loved the competitive part of trial law. I loved the fact that writing and speaking were so important in that particular arm of the law.”

Varner, now an emerita trustee, served on Emory’s Board of Trustees from 1995 to 2013. She is a past president of the Emory Law Alumni Association and has been recognized as an Emory Law Distinguished Alumna. In 2012, she was also the inaugural recipient of Emory Law’s Eléonore Raoul Greene Trailblazer Award. Though she is an active community volunteer, she reflects about her immersion in Emory life: ““Service on the Emory board has been far and away the most rewarding.”

Varner’s leadership has been lauded. In 2004, US Supreme Court Chief Justice William Rehnquist appointed Varner to the Advisory Committee on Federal Civil Rules (which governs civil practice in all federal trial courts), and Chief Justice John Roberts reappointed her for a second term in 2007. In March 2012, Benchmark named Varner Georgia Litigator of the Year and cited King and Spalding’s product liability practice as the best in the fourteen-state region. She has been selected for the short list of leading women lawyers by the National Law Journal, Benchmark, Law360, Chambers, the American Lawyer, US News & World Report Best Lawyers, the International Who’s Who in Product Liability, and LMG Life Sciences.

“My skill set was pretty well suited to the practice of law,” she says. “I was able to balance family and going back to school because my husband was very supportive. I have never looked back.”

Established in 1998, the Turman Alumni Service Award is one of the highest honors of the Emory Alumni Association. J. Pollard Turman 34C 36L was an influential humanitarian whose support of higher education and cultural organizations benefited institutions throughout Georgia. In 1996, through the generosity of the Tull Charitable Foundation (which Turman helped form) Emory established the award to pay tribute to his lifelong contributions to the university. In 2005 the Tull Charitable Foundation elevated its level of financial support to Emory through an annual pledge of $25,000 in honor of the Turman Award recipient.

As the 2014 J. Pollard Turman Alumni Service Award recipient, Varner has designated her gift to benefit Emory Law.—Michelle Valigursky

WORKING IT: NETWORKING

Chinonyerem “Chi Chi” Okezie 98OX 00C has a thing or two to say about networking. As owner and producer of SiMPLEnetworking for nearly ten years, she has published two networking books and over 350 online articles, and is working on a patent for a networking process. She also hosts monthly Power Networking Breakfasts and is widely recognized as a networking expert. Okezie serves on the Emory Alumni Board.

WORKING IT: MUSIC

Music and history merge in the work of Billy Fox 92C, a composer, filmmaker, and storyteller with a deep appreciation for Asian cultures. His Kitsune Ensemble, comprising Japanese and American musicians, performed at the National Gallery of Art on the 100th anniversary of Japan’s gift of cherry trees to the US. He recently worked with a grant from the Asian Cultural Council to research folkloric practices.

WORKING IT: JOURNALISM

As a BBC producer and reporter for their radio, TV, and web outlets, Suzanne Kianpour 07OX 09C is often in the thick of international news developments. She covers Capitol Hill and the state department in Washington, traveling with the secretary of state, as well as news from around the world. The Geneva talks set the stage for “one of the most colorful moments of my career.” Kianpour is married to Andrew Carroll 10B.
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If Wile E. Coyote were a microbiologist, then his road Runner would be the flu virus—a bug that just keeps bouncing back.

Jessica Belser ’08PhD, who works in the Influenza Division at the Centers for Disease Control and Prevention (CDC), studies types of influenza viruses, their potential capacity to cause disease, and how these viruses pass from person to person.

“I’ve always been interested in viruses that could kill you, and influenza is right up there,” says Belser. Her interest in the study of deadly diseases came after reading The Hot Zone, a nonfiction account of lethal viruses and their spread. “I thought it was the most interesting work you could do.”

Belser recently received a Presidential Early Career Award for Scientists and Engineers, the highest honor bestowed by the United States government on science and engineering professionals in the early stages of their independent research careers. She is one of 102 researchers honored for pursuit of innovative research at the frontiers of science and technology and commitment to community service.

After graduating from Rutgers University in her native New Jersey, Belser applied to Emory’s Immunology and Molecular Pathogenesis program primarily for the opportunity to do her dissertation research at the CDC—an examination of the pathogenicity and transmissibility of H7 influenza viruses. She has continued that work at the CDC, studying H7 viruses from all over the world, including the Netherlands, China, Canada, Mexico, and Chile.

“When there is an outbreak, health organizations will send the virus to us. We take them and grow them up in eggs, then we will test the virus to see how well it replicates in human cells,” she says. “Based on what we find, we can determine which viruses are more of a threat to humans and what it is in the virus that is conferring those properties.”

Researchers use such information to identify which viruses are the best targets for new vaccines. Once a vaccine is developed, Belser and fellow researchers test the effectiveness of the vaccines against the original virus. They also test the efficacy of potential antiviral drug candidates.

Belser’s research into H7 viruses received worldwide attention in 2013 when an outbreak of H7N9 avian flu occurred in China, with 144 cases and forty-six deaths. As of February, 205 cases have been reported in 2014, with twenty-six deaths.

“We don’t know what virus is going to cause the next big outbreak. Our research identifies these viruses’ pandemic potential to try to figure out which subtype could cause the next outbreak or human pandemic,” Belser says. “It’s very unpredictable, but that is the challenge. It is the benefits of the research that motivates me.”

Belser is the second Emory graduate to win the prize. In 2012, Valerie Horsley ’03PhD earned the prize for her research at Yale University on the cellular and molecular mechanisms that control tissue development, homeostasis, and regeneration.—M.M.L.
#PlayEmory

Play Emory strives to instill the Emory Community with a passion for physical activity and a healthy lifestyle from the moment an individual arrives on campus. The goals of the program align with Emory University’s Vision and Mission as well as the Division of Campus Life and Athletics & Recreation:

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- Yield research and education on Health and Wellness through Physical Activity’s impact on student development, student engagement, and student success.

www.play.emory.edu
Working It: Law

When Patrisse Perkins-Hooker B48 B4L is installed in June 2014 as president of the 45,000-member State Bar of Georgia, she will be the first African American and third woman in the post. Perkins-Hooker is the vice president and general counsel for the Atlanta Beltline, one of the largest, most wide-ranging urban redevelopment and mobility projects under way in the United States. Last fall, she received the 2013 Eléonore Raoul Greene Trailblazer Award, given to an Emory School of Law alumna who has blazed a trail for others through her own professional and personal endeavors.

Share your career news and updates with E-Class Notes. Visit www.alumni.emory.edu/updateinfo.

Working It: Medicine

Laura DeLong 03M was recently named president elect of the Emory Medical Alumni Association Board for 2014–2015 and will serve as president in 2015–2016. She has served on the board for the past three years. Since 2011, DeLong has been assistant professor of dermatology at Emory School of Medicine and enjoys the union of patient care and teaching at both Emory and Grady Dermatology clinics. An active Emory supporter and volunteer, she generously supports the Adopt-a-Resident Fund in Dermatology, which offsets the cost of resident education and travel.

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Working It: Business

In her new role as vice president of mobile for the Weather Channel, Nicole "Niki" Santoro 12WEMBA will be responsible for the direction, vision, deployment, and management of the company’s mobile and web-based apps on smartphones and tablets. In previous roles, she drove strategy, design, and implementation and established the PGi Innovation Lab at Premiere Global Services. At Halcyon Worlds, she founded Kinnection to provide a safe place for families to share, stay connected, and preserve family history. She is also a past board member and social media marketing strategist for Girls on the Run Atlanta.

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Working It: Nursing

Linda McGehee 78N 82MN is associate vice president of programs for the CDC Foundation, which manages more than two hundred CDC projects around the world. Since joining the CDC Foundation in 2007, McGehee has managed a $25 million initiative to strengthen disease surveillance and response, laboratory capacity, and epidemiologic training in Central Africa and a cooperative agreement to develop public-private partnerships funded by the President’s Emergency Plan for AIDS Relief. She also is a cofounder of the Health Initiative, a nonprofit serving Georgia’s LGBTQ community.

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Working It: Graduate

Erinn Goldman 04PhD is an editorial and scientific director with Articulate Science, a member of the Nucleus Group of medical communications companies. As a consultant in the pharmaceutical industry, Goldman has utilized her research expertise in cancer biology to support the development and communication platforms for numerous products in the field of oncology. Goldman holds a BA in English and premedical studies from Yale University and a PhD in molecular and systems pharmacology from Emory. A member of the American Medical Writers Association, she served as president of the Southeast chapter.

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Working It: Analyst

Andrew Carroll 10B works for Northrop Grumman’s Information Systems Sector. He is a major proposal cost estimating and pricing analyst. He leads basis of estimate (BOE) development and management for major proposal efforts. Carroll is also responsible for providing BOE and pricing tool training to pricing analysts and proposal team members. He is married to Suzanne Klampour 07OX 09C.

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Working It: Author

Shari Garelick Berman 93C 96L and Jennifer Cabot Finkelstein 93C have embarked on a new business venture and research project. Real Women Talking Now is a website designed to “create an avenue for interested, engaged, socially conscious, smart, achievement oriented, and very, very tired women, like yourself, to be able to share their thoughts on a host of topics from work to finding time for ourselves, marriage to modern motherhood.”

Working It: Investment

Edwin Poston 95B 95L and a friend from college cofounded TrueBridge Capital Partners, a boutique alternative investment firm that now manages more than $1 billion in assets. TrueBridge is also known for working with Forbes Magazine to build the “Midas List of the Top 100 Tech Investors” each year, as well as its venture capital commentary published on Forbes.com. Poston was honored as a Kauffman Fellow in 2012.

Working It: Theology

Acacia Bamberg Salatti 99T is acting director of the Center for Faith-Based and Neighborhood Partnerships at the Department of Health and Human Services. Salatti focuses on minority health outreach and recently has been instrumental in ensuring that faith and community leaders are involved with the implementation of the Affordable Care Act. She works to equip these leaders with information and resources that help them to be effective messengers to their communities. Salatti says her goal is “to see how we can bring people and strategies together for the public good.”

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Working It: Public Health

Lauren Blackmun Elsberry 09MPH wants to help prevent a million heart attacks and strokes by 2017. A health communication specialist for the Million Hearts initiative at the Centers for Disease Control and Prevention (CDC), she uses social media to get the message out, gaining 62,000 Facebook fans and 13,700 Twitter followers for the initiative. “Health communications is a way to take the science and research done here at CDC and create materials for different audiences so they can understand it, see its relevancy to them, and act on it to improve their health,” she says.

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Wild Woman, Wilderness Champion

In his junior year at Emory, author Will Harlan 97C 97G got an assignment for an Emory literature class that he's been working on ever since. That's when Harlan learned about Carol Ruckdeschel and began the research that would eventually become Untamed: The Wildest Woman in America and the Fight for Cumberland Island, the story of a rugged island and the remarkable woman who has spent decades fighting all takers—including the Carnegies, commercial shrimpers, and the government—to preserve its precious wilderness and save the sea turtles who nest there. A combination of Henry David Thoreau and Jane Goodall, Ruckdeschel is a self-taught scientist who has become a tireless defender of sea turtles on Cumberland Island, a national park off the coast of Georgia. Due on shelves in May, Untamed was selected by Barnes and Noble as one of its eighteen Discover Great New Writers books for 2014. Harlan is editor-in-chief of Blue Ridge Outdoors. His work has appeared in The Wall Street Journal, National Geographic Adventure, and Sports Illustrated.

LIFE INTERRUPTED: Henry Dumas (1934–1968) was a writer who did not live to see most of his fiction and poetry in print. A son of Sweet Home, Arkansas, and Harlem, New York, he devoted himself to the creation of a black literary cosmos, one in which black literature and culture were windows into the human condition. In 1968, months before his thirty-fourth birthday, Dumas was shot and killed by a white transit policeman in Harlem under circumstances never fully explained. In Visible Man: The Life of Henry Dumas, Jeffrey B. Leak 97PhD offers a narrative of both Duma’s life and his creative development. Given unprecedented access to the Dumas archival materials and through interviews with family, friends, and writers who knew him, Leak opens the door to Dumas’s rich, and at times frustrating, life, giving a layered portrait of an African American writer and his coming of age during one of the most volatile and transformative decades in American history. Leak is an associate professor of English and director of the Center for the Study of the New South at the University of UNC Charlotte.

A QUESTION OF HONOR: When South Carolina lieutenant governor James H. Tillman lost the 1902 gubernatorial race, he blamed the stinging editorials of Narciso G. Gonzales, editor of South Carolina’s most powerful newspaper, the State. On January 15, 1903, Tillman shot and killed Gonzales to avenge the defeat and redeem his honor. James Lowell Underwood 59C 62L investigates Tillman’s epic murder trial and the clash between the revered values of respect for human life and freedom of expression on one hand and deeply ingrained ideas about honor on the other. Underwood is Distinguished Professor Emeritus of Constitutional Law at the University of South Carolina School of Law and the author of a four-volume history of South Carolina’s constitutions and of several works on federal legal practice.—M.M.L.
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I was sitting by myself in an overcrowded cafe in Vietnam when I learned the news. I covered my face in my hands and began to cry.

Just ten days earlier, I'd asked Professor Randall Strahan for a recommendation letter to a graduate program. “Your reference letter has been submitted,” my gmail account informed me with a ding, only five hours later.

I thought his almost immediate response was kind, although uncharacteristic. I didn't give it much thought until I found out that he had only days left to live. Although young and seemingly healthy, Professor Strahan was diagnosed in May with bladder cancer, which sadly had taken an unexpected turn for the worse.

I pulled myself together to write him a letter, but before I left the cafe, or even finished my letter for that matter, I learned that Professor Strahan had passed away the day before— an unforgiving reminder that time is of the essence.

Following are excerpts from that letter, which never reached its intended recipient.

Dear Professor Strahan,

Alexis de Tocqueville says that a part of being human is containing an innate desire for immortality. The world is dichotomous, though, he says, because we all desire immortality, but none can achieve it. The world is further dichotomous in that someone as healthy, kindhearted, and astute as yourself can meet mortality well before your time.

With this letter, I want to express how I came to respect you deeply as a person. In those dreadfully long, but intellectually unparalleled Monday-only seminars, you excited in me a desire to be, at the risk of sounding cliche, just like you.

For three straight hours every Monday, you allowed me to discuss political ideas, my favorite activity in the world. I treasure that time.

I also cherish the way in which you spoke about your family. You mentioned them regularly, with such love, such pride . . . I remember you mentioning Andrea and her senior thesis. You spoke with the confidence and pride any daughter wishes to hear from her father. Not having a father of my own for most of my life, people like you provide me happiness and hope.

I always appreciated your attentiveness, as well as your frankness. During your office hours, you would listen carefully to a list of options for my plans next year, then reply candidly, “All right, now I am going to rank those from Mary’s best idea to Mary’s worst idea.” Your insight was valuable and will be greatly missed.

You helped me piece apart Alexis de Tocqueville’s Democracy in America, an eight-hundred-page book that provided me invaluable insight into my country, the world, and myself. Because of your class, I continued to study Tocqueville, presented and published my first conference paper, and plan to study Tocqueville for the duration of my career.

If more were like you, there would have been little purpose in reading Tocqueville at all. You upended Tocqueville’s critiques of democracy by being learned, unselfish, active in local politics, appreciative of the classics, contemplative of things that are not material, and careful to avoid generalizations. At the same time, you incorporated the positive elements of democracy, such as treating people equally, emphasizing efficiency, valuing the sweetness of family, and understanding the practical side of politics. Basically, if Tocqueville selected an example of his ideal democratic person, it could be you.

I am disappointed that your current project on Tocqueville’s research methods will not be completed. If I am permitted, I will read and use your unfinished piece in hopes that your work is not lost.

What is certain to live on, however, is the enduring impact you made on me and on many of your students.

You will be severely missed.

Yours,

Mary Shiraef

Editor’s Note: Randall Strahan, an exemplary scholar and professor of political science who joined Emory in 1985, died on January 16, 2014. To learn more, visit www.emory.edu/magazine.

In March, Shiraef was accepted to the graduate program at Oxford University, the program for which Strahan had recommended her.
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Two Makers of Emory History

EMORY WILLIAMS SR.

EMORY WILLIAMS SR. 32C, A DEDICATED alumnus and emeritus trustee, died Tuesday, February 11, in Hobe Sound, Florida. Williams was 102.

Williams, former vice president and chief financial officer of Sears Roebuck and Company and chair and CEO of the Sears Bank and Trust Company, maintained a lifelong connection with Emory. He began serving as a trustee in 1964 and was elected to emeritus status in 1981.

“In addition to his remarkable professional career, national service, and family life, Emory Williams was deeply committed to the university and to helping to stimulate and enrich the life of the mind,” says Emory President James Wagner. “He took his role as a trustee seriously, attending meetings—including last November’s Board of Trustees meeting—and writing to me regularly words of guidance and support.”

In 1972, Williams established the Emory Williams Awards to honor faculty for fostering participation, inquiry, and creative expression in the classroom; proving a model for teaching and scholarship; and serving as a mentor to students.

Williams’s commitment to the notion of the “great books” led to the establishment of a voluntary core curriculum in Emory College focused on “great works of the Western tradition in politics, philosophy, literature, and history.” He established a lecture series to support the program, which Emory College named the Emory Williams Lectures in the Liberal Arts in his honor. He attended lectures and classes on occasion, maintaining a keen interest in the program, says Patrick Allitt, Cahoon Family Professor of American History and a 2012 recipient of the Emory Williams Teaching Award.

“He was eloquent, amusing, and full of interest in the details of the curriculum, wanting to know exactly what the students did and did not like, how much work I was asking them to do, and how good or bad they were as writers,” Allitt recalls.

In 2011, Williams received the Judson C. “Jake” Ward Golden Heart award for longtime service to Emory and the community.

RANDOLPH THROWER

RANDOLPH THROWER 34C 36L, AN emeritus trustee who left a lasting legacy at Emory, died on March 8 at his home in Atlanta. Thrower had marked his one-hundredth birthday in September.

While an Emory student, Thrower served as president of the student body and of his fraternity. He also met his wife, Margaret Logan Munroe, who died in 2009.

Thrower was elected an Emory trustee in 1972 and became an emeritus trustee in 1983. In 1969, he received the Emory Medal, the university’s highest alumni honor. He received an honorary doctor of laws from the university in 1984.

“Emory benefited greatly from Randolph’s ethical and far-sighted leadership as a longtime trustee,” says Emory trustee Laura Hardman 67C. “Both principled and pragmatic, he was consulted on all major issues for his good judgment.”

Since 1995, the School of Law and the Emory Law Journal have hosted the Randolph W. Thrower Symposium, part of an endowed lecture series sponsored by Thrower’s family.

“Mr. Thrower provides a shining example of a brilliant and creative professional who always remained integrally connected to his law school,” says Emory Law Dean Robert Schapiro.

Thrower joined the Atlanta law firm of Sutherland, Tuttle and Brennan in 1936, where he practiced tax litigation and remained a partner until his death. In 1969, he was appointed commissioner of the Internal Revenue Service, where he served for two years before returning to his law practice. In 1993, the American Bar Association recognized Thrower’s achievements and contributions to the legal profession by presenting him with its highest award, the ABA Medal.

“Those who knew Randolph remember him for his unerring moral compass, his respect for all persons, regardless of station, and his gentle and dignified spirit,” says Thrower’s daughter Patricia Barmeyer. “But they also will never forget his wonderful wit and appreciation for a good story, told by him or anyone else.”

Thrower is survived by his five children, eleven grandchildren, and nine great-grandchildren.
Turtle Freak

BY NANCY SEIDEMAN

I AM A TURTLE FREAK.

It’s not a label I readily accepted six years ago as I sat among researchers and conservationists in a Savannah conference center, scribbling notes on presentations delivered at the International Sea Turtle Symposium.

One of the speakers made an offhand comment about turtle “freaks” or groupies who attend the symposium with the primary goal of snapping up an array of turtle-themed items from around the world that were sold in the vendor marketplace. I was insulted.

True, I was not technically a sea turtle researcher, but I had spent all night on Florida beaches on turtle patrols, accompanying researchers as they tagged nesting loggerheads and leatherbacks. I had written about their work, read scientific papers on satellite telemetry, loggerhead hatchling mortality, and the migratory behavior of male hawksbills in the Caribbean. Archie Carr was one of my heroes.

Okay, I was one of few “researchers” in the audience who was wearing a loggerhead T-shirt and silver turtle charms that dangled from my earrings, bracelet, and necklace. And yes, my research notebook did have a leatherback turtle embossed on it. But my attire certainly did not mean that I was some sort of fanatic.

My choice in home decor . . . well, perhaps that tells a different story. I survey what I can see from my vantage point on the couch. There’s the loggerhead tea candle stand, the Buddha in the form of a turtle, a framed oil painting of Madagascan flat-tailed tortoises, a jeweled turtle something, a turtle crossing sign . . . and we haven’t left the living room yet.

I am resigned to the fact that when I pass from this life, the headline will read: “Woman Survived by 189 Turtle Figurines.”

What is it about me and turtles? Why does my heart lift whenever I see one of those (even I have to admit) unearthly looking creatures?

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It all began at Emory with my exploration of the Lullwater Preserve. What started as a fun pastime—finding box turtles in the deep forest, catching glimpses of soft-shell turtles lurking at the bottle of the creek, and chuckling at painted turtles who managed to wedge themselves in the most unlikely positions in the lakeside brush—led me to wonder about their habits and habitats. Noting my budding interest in turtles, environmental studies undergraduate Mandy Schmitt Mahoney 99ox 01c 06l generously invited me to join her and researchers from other universities in monitoring nesting sea turtles along the Florida coast.

One summer evening I found myself at a Juno Beach hangout—the aptly named Thirsty Turtle—waiting for a call from the beach patrol. It was after midnight, cold and drizzling, when the radio call came: a leatherback was dropping eggs.

My fellow turtle watchers and I dashed along the shoreline to join a group of researchers who were preparing to attach a satellite transmitter to the world’s largest sea turtle. Easily a thousand pounds, six feet long, with a head the size of a soccer ball, she was oblivious to us—once turtles start laying eggs, they go into a sort of trance.

This ritual has gone on for millions of years, long before we cast shadows on these sands. If the hatchlings make it to the sea, they swim thousands of miles to feeding areas halfway around the world, returning thirty, even forty years later to nest near the same location from which they emerged.

We don’t know where they go in between—hence the transmitter that enables researchers to track the turtles’ movements, providing data that will help to protect their habitats and migratory routes. With the precision of a surgical unit, the team moved in quickly to strap a small box on top of the mother turtle’s shell.

Our leatherback filled the cavity with sand and then began to rock, rotating her massive body around and around, flinging sand in all directions to mask the nest from predators. She stopped abruptly and was still. The researchers gestured for me to kneel down beside her for a photo to document my “first turtle.”

Still oblivious to the ten humans bustling around her, the leatherback suddenly lifted her head, as if being called. Shuffling herself around to face the sea, she paused, then flung herself forward and down the dune onto the packed sand. Her speed was astonishing. She shoved herself into the surf and, flinging her head back for one more gulp of air, she was gone. I felt a vague sense of emptiness at her leaving. But I also felt a sense of kinship, a responsibility to a fellow creature who—against all odds—has survived for millions of years.

Several summers ago I took my “tween” niece and nephew to Singer Beach in Florida to patrol the beach and dig out nests that were past due for “eruption,” meaning that hatchlings may need help in digging out.

Working with an experienced volunteer, we dug carefully and were soon rewarded by the sight of a tiny flipper poking through the sand. I gently extracted a leatherback hatchling, a tiny, rubbery, pulsating being that thrashed his flippers frantically in an attempt to get away.

I put him down on the beach, facing the water. The hatchling strained mightily to hoist himself up and over several sand ripples to reach the flat, wet sand. Startled perhaps by the sudden change in temperature, he paused as a wave rolled in and swept him into the surf. He was gone.

Only one in ten thousand hatchlings survives. I’d like to think that the life that I held in the palm of my hand beat the odds. And perhaps one day my niece and nephew—or an Emory student—may have the honor and thrill of seeing “my” leatherback drop her eggs into a nest on a nearby beach.

I am proud to be a turtle freak.
Marcie Hirshberg 85MSN came to the Nell Hodgson Woodruff School of Nursing to become a nurse, but the lessons she learned helped her build a successful business career. After nine years in obstetrics nursing and management, Hirshberg worked in the pharmaceutical industry and as a health care consultant. Now she channels her energies into community work. “As a nurse you learn to listen, observe, and put it all together. It is a way of thinking that applies to any profession,” she says. To share similar opportunities with others, Hirshberg has made a bequest to endow a leadership-training fund at the Emory Alumni Association. “I feel that a strong Emory helps the world.”

Plan to share life lessons.

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A FLASH OF DISCOVERY: Emory lecturer Doug Mulford blows a fireball at the Atlanta Science Festival expo on March 29. Photo courtesy of the Atlanta Science Festival.

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We used to take the long way home just to drive past our favorite house. One day there was a sign out front: “For Sale.”

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