



INNOVATION

FACULTY EXCELLENCE

AT SPELMAN COLLEGE



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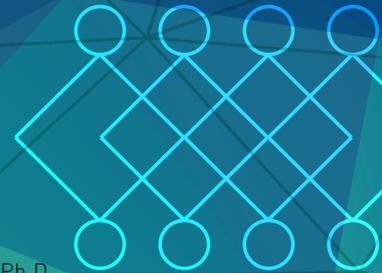
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Editor
Myra Burnett, Ph.D.

Creative Director
Joyce E. Davis

Graphic Designer
Elizabeth Karp

Contributors
Albert Thompson, Jr., Ph.D.
Tinaz Pavri, Ph.D.
Ayoka Chenzira, Ph.D.
William R. Macklin
Deanna Martin

Photographers
Scott King
Furery Reid

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Sharon L. Davies, J.D.

PROVOST & VICE PRESIDENT FOR ACADEMIC AFFAIRS

Spelman College is a highly-selective liberal arts institution with a 136-year history of academic excellence. Recognized as one of the top women's colleges in the nation and as the premiere institution among historically Black colleges and universities, Spelman is justifiably proud of its graduates, who are global leaders shaping the future in virtually every area of human endeavor.

In no small measure, our success as an institution of higher education is due to our supremely-talented, exceedingly dedicated faculty who year after year produce outstanding results for our students, while advancing knowledge, creativity, and innovation within their fields of research. In addition, these highly-skilled experts often work beyond the boundaries of their scholarly fields, engaging in interdisciplinary research and instruction and advocating for social justice.

The dedication of our faculty has enabled Spelman to maintain its National Science Foundation ranking as a top producer of African-American women who earn doctorates in fields related to science, technology, engineering, and mathematics (STEM). Faculty members with STEM backgrounds have also worked closely with arts faculty to produce innovative classes and programs that have made Spelman a pioneer in the development of curricula combining these seemingly disparate fields.

With this publication, we are proud to highlight the work of a few of our talented faculty, all leaders working on the frontiers of scholarly research and creative expression. As you will discover, Spelman faculty members bring unbridled enthusiasm and unquestionable passion to their work. We salute them for their commitment to our students and for their courage in expanding the boundaries of their distinct fields of research.



Aku Kadogo

SENIOR INSTRUCTOR AND CHAIR
THEATER & PERFORMANCE

Global Artist

Invigorates
Dramatic Arts

“So much of the work that I do is about creating spaces where students feel free to let their imaginations soar.”

—Prof. Kadogo

Ayers Rock rises over Australia’s arid central desert, an antediluvian monolith — mystical, grave, enigmatic. Aku Kadogo has stood in the looming shadow of that mountain, watched it glow like fire in the late day sun, and learned to forsake the title given it by Europeans in favor of its indigenous name, “Uluru.”

It will come as no surprise then that Kadogo, a dancer, theater director, choreographer and chair of Spelman’s Department of Theater & Performance who lived and worked in Australia for nearly four decades, regards Uluru as “a magical place.” She spent two years working in and out of the Anangu-Pitjantjatjara community creating an original work for the Perth and Adelaide International Theatre festivals, guided by Anangu women, who served as mentors and guides in their way of life. This seminal experience has influenced her life and work.

Given her consummately diverse background as a performer, choreographer, producer, and director, Kadogo has found and made magic in more places than some people can name. In the past four decades, the Australian-USA national lived worked and grew her family in Australia, but spent considerable time abroad performing and teaching in Korea, China, New Caledonia and throughout the United States.

While still a student at New York University, she met Ntozake Shange and went on to perform in her award-winning work “For Colored Girls Who Have Considered Suicide/When the Rainbow is Enuf.” After leaving the show, she studied in Brazil before joining the production’s touring company, which traveled the United States and eventually took her to Australia. After a year with the show, Kadogo departed when she, “realized that doing the same thing night after night for years to come wasn’t for me. I needed something else.”

What she needed was a little time in the company of legends.

“I went to Brazil to study dance with the legendary Mercedes Baptista,” said Kadogo of her work with the first woman of African descent to appear as a featured dancer in the Municipal Theater of Rio de Janeiro.

“I later received a call from the legendary theater producer and founder of the New Federal Theatre, Woodie King Jr. He invited me to go to Australia for a touring production of ‘For Colored Girls.’ Woodie and the legendary [New York theatrical producer] Joseph Papp were the original co-producers of ‘For Colored Girls.’ ”

In the Australia production of Shange’s play, Kadogo performed with a veritable who’s-who of major acting talent, including Alfre Woodard, Carol Maillard, Lynn Whitfield, Mary Alice, Elizabeth Van Dyke, Linda Thomas Wright and Ruthanna Graves. She loved working with the powerhouse cast, but she also found herself falling, somewhat unexpectedly, for the nation-continent of Australia.

“I had never intended to stay, but I fell in love,” said Kadogo. Despite such wide-ranging assignments in Australia, Kadogo often notes one especially magical experience: “Ochre and Dust.”

“I have produced and directed in many places, but my seminal work was ‘Ochre and Dust,’” said Kadogo. “It is performed with Anangu women in the desert. It is seminal for me because I wanted to work with indigenous women who we never saw on the stage.”

“Ochre and Dust” centers on the government “handover” of the mountain Uluru to the Anangu people after more than a century of control by Euro-Australians. The Anangu who led the effort to reclaim Uluru included a group of “senior law women” (wise women of the indigenous Anangu community who serve as repositories of their people’s history and culture). These women are the focus of Kadogo’s piece.

“One of them, Nura Ward, became my friend and mentor,” Kadogo said. “She taught me bush knowledge. For two years, I traveled in and out of the central desert to be with these women and to hear their stories, to research and collect information — photos, sound, etc.”

Uluru, which is a UNESCO World Heritage site, “was handed back to Aboriginal people in 1983, and the senior women were there and part of the handover,” said Kadogo. Before and during the production of “Ochre and Dust,” the women invited Kadogo to participate in women-only ceremonies in the desert, shared their stories with her, and spent nights with her under the desert stars or in the Australia bush.

“Ochre and Dust” was eventually presented at the Perth and Adelaide Festivals, and also toured to the South Pacific International Festival of the Arts in New Caledonia and nationally in Australia.

“I consider “Ochre and Dust” my seminal work because it was my dreaming. I dreamt it and worked with two other significant artists — Heidrun Löhre, a German photographer, and Fiona Foley, an indigenous visual artist. I pushed the envelope on “Ochre and Dust” to cross cultural boundaries — to think that I could sleep in the desert over two years and learn about other cultural knowledge and then translate it into a Western-style performance.”

Besides its cross-cultural relevance, “Ochre” was important for another reason, said Kadogo. It forced her to commit to doing original work.

“Original work is important,” she said. “I think we don’t hear enough stories from individuals. We need more stories from the heart and from the imagination. The stories in popular media culture are becoming increasingly formulaic.”

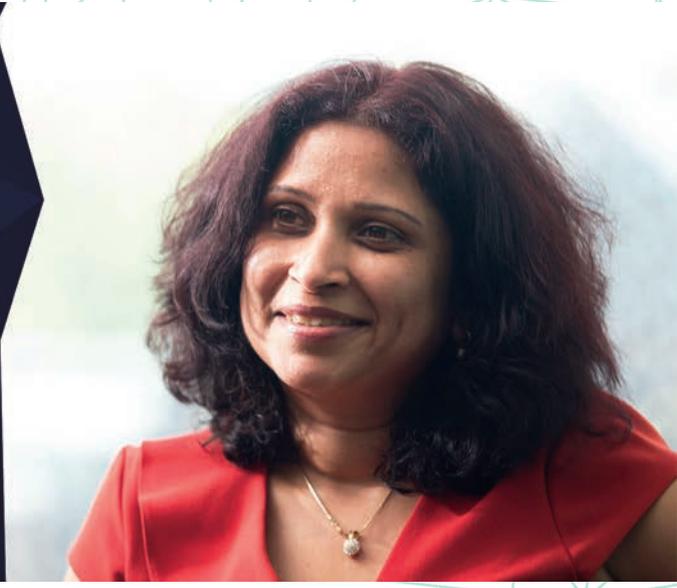
With her students at Spelman, Kadogo sometimes struggles to elicit stories that are original and true to the students’ own experiences.

“Often when I ask my students to tell me a story, I get back a version of a Hollywood story but none of it connects to their lives, and it’s often not original. There’s almost a fear of their own imaginations. So much of the work that I do is about creating spaces where students feel free to let their imaginations soar.”

Kadogo, who came to Spelman as a Distinguished Visiting Professor in the Arts before joining the faculty a year later, is willing to hear stories of all sorts, provided they are original, meaningful and possess their own brand of magic.

“Right before I came to Spelman, I was in Korea at Yong In University,” she recalled. “I don’t speak Korean, but I had a translator and I became more intuitive in the absence of language. There are so many ways to connect with the human spirit without words. It was a powerful experience — and full of imagination!”





Aditi Pai, Ph.D.

ASSOCIATE PROFESSOR
OF BIOLOGY AND CO-DIRECTOR,
TEACHING RESOURCES &
RESEARCH CENTER

Inclusive Pedagogy

Ignites Students’ Research Interests

“The idea is to learn biology by learning about oneself and not just one’s genes but the entire context: social, historical, and physical.”

—Dr. Pai

Aditi Pai, Ph.D., is fascinated by genes and their role in long-term evolution.

Her students at Spelman? Not so much.

“They are not highly motivated to work on long-term evolutionary genetics projects,” said Dr. Pai, an associate professor of biology and co-director of Spelman’s Teaching Resources and Research Center. “So, I’ve changed my teaching strategy to have them develop their own research. They usually end up working on sexual selection or communication studies — mating behavior or pheromones. They love that.”

As a biologist and a teacher, Dr. Pai has little patience for the ordinary, the run-of-the-mill, the usual. In the classroom and in the laboratory, if a technique doesn’t work, she throws it out and tries another. Evolve or die.

“I don’t repeat what others have done,” she said. “I’d rather develop my own teaching resources from scratch.”

From the beginning, her thirst for innovation served both Dr. Pai and biology well. Her post-doctoral research on the sexual conflict in flour beetles earned the biologist a three-year grant from the National Science Foundation. Interestingly, she worked in a lab focused on vector-borne diseases such as malaria and has worked on

host-parasite evolution in beetles as well. The experience convinced Dr. Pai that research needs more young scientists with a firm understanding of basic biology. So, she decided to seek a college teaching position. And that brought her to Spelman.

“I read a history of the place and became very excited about coming to the College for an interview,” said Dr. Pai. “I was looking for a place where both scholarship and teaching were taken seriously, and Spelman had invested a lot in developing in both areas.”

At Spelman, Dr. Pai found support for her forward-looking approach to research and teaching. She eventually emerged as a leader in the College’s push for “inclusive pedagogy.” This educational approach,

SPELMAN TOP OF THE CHARTS

TOP 20
BEST WOMEN'S
COLLEGES

TOP 35
BACHELOR'S
DEGREE

TOP INSTITUTIONS
TO PRODUCE
FULBRIGHT
FELLOWS

TOP 100
LIBERAL ARTS
COLLEGES

which focuses on validating the academic experience and contributions of individual students, was particularly attractive to the highly individualistic professor.

“The classroom experience is different for different people, depending on their backgrounds,” she said. “One of the great failures of the science curriculum is that it does not care about who is in the classroom.”

In contrast, CARE is at the very heart of Dr. Pai’s pedagogic approach. That’s CARE—as in Customized, Active, Real World/ Relevant, and Engaging — the five key goals Dr. Pai sets for herself when she’s preparing a class, interacting with a student or pressing for a curriculum change.

In fact, CARE was at the center of Dr. Pai’s unorthodox decision to employ a middle-school science project for a college biology class. The idea emerged during a meeting in which a group of scientists, artists and educators had been brainstorming ideas for a new biology curriculum that “all would perceive as relevant,” she remembered.

“The idea is to learn biology by learning about oneself,” she said. “And not just one’s genes but the entire context: social, historical and physical.”

The instructors finally settled on a curriculum project they dubbed “Who Am I?” The project is based on a middle-school curriculum modeled after the PBS television series “Finding Your Roots.” The show, which is hosted by Harvard University historian Henry Louis Gates Jr., Ph.D., features prominent personalities tracing their families’ histories.

Dr. Pai sought and received an NSF grant to underwrite “Who Am I?” and the project is now presented as part of the Introduction to Biology course, which has an enrollment of 110 students. Of that number, 80 did the “Who Am I?” project.

Dr. Pai sees the success of “Who Am I?” as a validation of her belief in out-of-the-box teaching tactics. She’d like to see other departments and majors explore alternative curricula and develop non-traditional techniques and projects.

“With additional funding, we could make the entire general education curriculum more immediately relevant,” said Dr. Pai. “I’ve had students from other majors barge into my office when they hear about what we’re doing. They want ‘Who Am I?’ to be available to any student because it engages them at multiple levels: critical thinking, synthesizing information from different areas.”

Despite her engagement as a champion of emerging pedagogies, Dr. Pai maintains an intense interest in research biology. She’s investigated everything from the influence of genetics on the battle of the sexes (turns out males and females may be evolutionarily predisposed to conflict because they have “selfish” genes intent on assuring their individual success) to host-parasite co-evolution (Dr. Pai has successfully produced strains of “host” beetles that vary in their resistance to a tapeworm parasite and provided them to collaborators). Heady stuff when you consider that Dr. Pai’s first dream didn’t involve biology; it was all about journalism.

“I wanted to report about the environment,” she said. “I studied zoology as an undergraduate student, but I found it boring — a sea of jargon. Then, at the end, I learned about evolution. My mind was blown.”

Dr. Pai shelved her journalism dreams and began what would become a lifelong affair with evolutionary biology. She said evolution helped her “understand the underlying principles of life.”

At Spelman, that understanding extends far beyond Dr. Pai’s research. Respected for her commitment to her students and her insightful approach to teaching, she was recognized with a Spelman Presidential Award for Excellence in scholarship (2009 and 2014). When she was a teaching assistant at the University at Buffalo, she was recognized with the Graduate School Excellence in Teaching award. There she was instrumental in developing training for international students on how to navigate American classrooms. Dr. Pai found that work both exciting and, at times, heartbreaking.

“I did surveys on what American classrooms felt like to international students and we were saddened at what they told us,” she recalled. “Many of them feel isolated and alone. They want more interaction with their American peers.” Dr. Pai sees such isolation in other areas of her work. As a woman of color in the male-dominated field of science, she has faced her share of bias and thoughtless prejudice.

After 10 years at Spelman, Dr. Pai looks back on her work with a sure sense of satisfaction and accomplishment. She’s pleased with all she’s achieved in her research and in the classroom, but she’s most gratified by projects such as “Who Am I?” that cut against the grain.

“I’m very proud of the things I’ve done that were outside the norm,” said Dr. Pai.

The Black Woman's Voice

in Transmedia Storytelling



Ayoka Chenzira, Ph.D.

DIVISION CHAIR FOR THE ARTS,

CHAIR OF THE DEPARTMENT OF ART & VISUAL

CULTURE, FOUNDING DIRECTOR OF THE

DIGITAL MOVING IMAGE SALON

Consider the scene: North Philadelphia, the early 1960s. There was time then for summer afternoons of sleek, post-modern automobiles gliding past red brick corridors, of vendors behind pushcarts hawking fresh collards, of neighborhood children arrayed in a semi-circle around a Mister Softee ice cream truck. Not all the children, though. Ayoka Chenzira, Ph.D., had no time for ice cream. Her mother's mahogany-furnished beauty parlor was bustling and, for Dr. Chenzira, that meant just one thing: stories!

"The women would come and tell their stories. I would secretly listen," said the noted independent filmmaker, transmedia artist, and division chair for the Arts at Spelman. "I learned about the external world through these women — women of the African diaspora."

In the decades since she sat enraptured in her mother's salon, Dr. Chenzira has found countless ways to translate the act of story-hearing into the art of storytelling. Among the first African-American women to make her mark as a filmmaker, she has drawn critical praise as the writer, producer, and director of a series of incisive, genre-bending works. Dr. Chenzira's most celebrated films include the satirical animated short "Hair Piece: A Film for Nappy-headed People" (widely regarded as the first animated film by an African-American woman); "Alma's Rainbow," a visually stunning rumination on love, work, and growing up; the animated "Zajota and the Boogie Spirit," which considers the importance of dance in the lives of Black people of the African Diaspora; and "Syvilla: They Dance to her Dream," which examines the life and work of Syvilla Fort, the protean dancer-choreographer who instructed Alvin Ailey and helped a generation of young actors, including Marlon Brando and James Dean, learn to dance.

Although the depth and breadth of her work has allowed Dr. Chenzira to avoid being artistically pigeonholed, her films, multimedia productions, and digital creations are,

nevertheless, clear and direct in their evocations of the lives, struggles, and achievements of African-American women. In fact, throughout her career, she has boldly asserted herself in artistic arenas that had previously been closed to women of color.

"I tell them [Spelman students] how difficult and time-consuming the course is going to be—like weight-lifting. But if they get to the finish line, they will weep with pride."

— Dr. Chenzira

Dr. Chenzira was one of the first African-American women to self-produce both a 35mm feature-length scripted film ("Alma's Rainbow") and to combine film, video and computer technology ("Zajota and the Boogie Spirit").

And, many of her films are in permanent collections, including the Museum of Modern Art, the Schomburg Center for Research in Black Culture, and the Whitney Museum of American Art.

Despite her status as a mold-breaker, Dr. Chenzira sees herself as part of a continuum of Black artists with a shared set of concerns and imperatives. "I am from a generation of Black filmmakers who were in conversation about how we redress negative stereotypes, what it means to be radical

as an artist, and how to serve as models for progressive thinking,” said Dr. Chenzira, who is also the chair of Spelman’s Department of Art & Visual Culture. “The conversation was initially less about art and more about how do we change the landscape. Later, I learned to think about these things and artmaking as a critical practice.”

Having already done much to alter the landscape of American cinema, Dr. Chenzira now focuses the lioness’ share of her creative energy on the vast datascares of the moving image with the computer as creative partner. As a “transmedia storyteller,” she has found innovative ways to extend and expand the narrative language she pioneered as a filmmaker. Not long after her arrival at Spelman, she wrote, produced, and directed the interactive multimedia stage play “Flying Over Purgatory,” starring Ruby Dee and Mabel Mafuya, a well-known South African singer and actress whom Dr. Chenzira brought to the United States. She directed the interactive stage play “Funnel Cake Flowers & the Urban Chameleons” at both the Atlanta Fringe Festival, the Atlanta Black Theatre Festival and the New York Fringe Festival during a sold-out, off-Broadway showing. And Dr. Chenzira and her daughter HaJ created “HERadventure,” an “interactive sci-fi fantasy film.” Part computer game and part movie, “HERadventure”

across platforms was in keeping with Dr. Chenzira’s view that art should reflect the modern ways people interact with each other and tell their stories. “Technology can be a game-changer,” she said. “It heightens the potential for Black people to participate in our own myth-making, storytelling, imagery.”

Dr. Chenzira also sees her Spelman students as the future arbiters of a broader, more complete depiction of Black life. When most of her students arrive for their first classes, they are unaware of the energy required to create a film or produce a multimedia artwork. “I tell them how difficult and time-consuming it is — like weight-lifting,” she said. “But if they get to the finish line, they will weep with pride.”

Dr. Chenzira makes sure that her students get plenty of help developing their creative chops. She conceived and developed Spelman’s award-winning Digital Moving Image Salon (DMIS), a film research and production laboratory, where she personally oversees a cadre of students, who as producers and research assistants, develop their own projects in film and interactive media and present the finished works at national and international showings.

Dr. Chenzira first learned to value the stories around her by listening to the women who congregated in her mother’s “beautiful y parlor.” However, her mother also ound other ways to feed her daughter’s s soul. “She had artistic sensibilities,” mbered. “She took me to muse- he opera, movies. She raised me in an adult world of art.”

realized early that no one was looking or Black women filmmakers. I needed to a career for myself; find like-minded s; find my own community,” she said.

o kick-start the process, Dr. Chenzira d an early version of the Apple comput- o create brochures promoting her films. sent the brochures to colleges around country offering screenings and lec- . It worked. The resulting lecture tour



exposed Dr. Chenzira and her work to a welcoming audience and helped the young filmmaker connect to other artists.

Since that first venture, Dr. Chenzira has built an enviable career as both an artist and a scholar. She holds a B.F.A. in film from New York University, a Ed.M. from Teachers College Columbia University and a Ph.D. from the Georgia Institute of Technology. Before joining Spelman as the first endowed professor in the arts, she chaired the Department of Media & Communication Arts at the City College of New York.

Dr. Chenzira arrived at Spelman in 2001, unconvinced that she wanted a full-time teaching job as part of her future. She had amassed a host of awards, garnered hundreds of thousands of dollars in grants and fellowships and had seen computers usher in an exciting new era of digital filmmaking and multimedia art — it was a great time to be a working artist. She even had an offer to lead a filmmaking program in South Africa. However, after first agreeing to assume the short-term endowed chair at Spelman, she agreed to stay, finding something in the College as cool and appealing as a cone of soft serve on a summer afternoon.

“I discovered the company of so many Black women in a way that had not occurred since my mother’s beauty parlor,” said Dr. Chenzira. “It was a totally new audience for creating, teaching and learning.”

SPELMAN TOP OF THE CHARTS

Spelman College
is among the
top 10 HBCUs
awarding the most
degrees in science
and engineering

The Next Level of #BlackComputing

The 'geek' stereotype is rather lackluster — unattractive, un-athletic, sexist super-smart male, who lacks common sense and social skills. But, that description is far from reality. Geek is the proud moniker for a generation of highly-educated, highly-skilled computer experts led by brilliant professionals such as Brandeis Marshall, Ph.D. Computing permeates nearly every field nowadays. Want proof? Consider Spelman College's annual, week-long technology exposition, the one spearheaded by Dr. Marshall as chair of the Computer and Inform Sciences Department. It is five days of lectures, industrial displays and scholarly presentations, called "Geek Week."



Brandeis Marshall, Ph.D.

ASSOCIATE PROFESSOR AND CHAIR
OF COMPUTER & INFORMATION SCIENCES

"I have a deep interest in mentoring undergraduates...There are so many career paths and options available to computer science students. I hope that I inspire them. I hope that they see their potential."

— Dr. Marshall

The fact is, Dr. Marshall has earned the right to call herself whatever she pleases. As an African-American woman, she shattered countless gender and racial barriers to earn a Ph.D. in Computer Science - a distinction shared with fewer than 90 other Black women. Dr. Marshall also has a distinguished scholarly background, having earned tenure at Purdue University before assuming her tenured position as associate professor at Spelman. Her involvement in

instructional and professional development is also exhaustive and includes memberships on the program committees for the ACM Richard Tapia Diversity in Computing Conference and on the committee for SuperComputing's Broader Engagement and Grace Hopper Celebration of Women in Computing. She's also the principal investigator of an HBCU-UP Targeted Infusion Project entitled Data Science eXtension, which aims to integrate data science fundamentals

in curriculum at Spelman and at Morehouse College, and she is also the Spelman principal investigator of a planning grant a dual institution research center in Socially Relevant Computing.

Dr. Marshall could rest on her laurels she's far more interested in the future in the past. As an instructor and mentor she often prods her students to pursue and careers in science, technology, engineering, and math, even when those fields appear daunting and exclusive.

"I have a deep interest in mentoring undergraduates at a liberal arts institution," she said. "There are so many career paths and options available to computer science students. I hope that I inspire them. I hope that they see their potential. I believe in them and that I can be a positive impact on their educational successes."

On her website, Dr. Marshall encourages prospective computer science students to ignore the stereotypes associated with the field. For instance, each fall semester, a handful of Spelmanites attend the Grace Hopper Celebration of Women in Computing Conference. Of course, Dr. Marshall asked her Fall 2014 Data Structures class if they had heard of Dr. Grace Murray Hopper, the conference's namesake. Unfortunately, they had not. She told them. The impromptu factoid resonated with the class. So each week thereafter, Dr. Marshall introduced them to a computer scientist who is Black. She named it the #BlackComputing series. She selected a mix of men and women, those in academia, industry and government, and a couple of Spelman alumnae for extra emphasis. Dr. Marshall and the class share interesting and professional details about the #BlackComputing person of the week. She has done the #BlackComputing series since.

"The urban myth that CS is only for White males and Asian males is by no



Although Dr. Marshall takes a special interest in helping young African-American women find their way in computer science, her own backstory is one that any computer enthusiast could love. She was in early middle school when her father brought home a Gateway computer.

"He was interested in the hardware," recalls Dr. Marshall. "I was interested in the software. I wanted to know how the icon appeared on the computer screen."

"Interested" is an understatement. By high school, Dr. Marshall was completing independent computer projects and had set her sights on a career in computer science. After high school, she entered the University of Rochester where she became a Ronald E. McNair Scholar (McNair, an African American, was a physicist and astronaut who perished in the Challenger disaster). She later earned her master's and doctorate at Rensselaer Polytechnic Institute.

For much of her research and professional career, Dr. Marshall has been focused on using computer science to address what she calls "real world data issues" including effective data management in business and health care, timely data acquisition for aviation, data and database security, and curricular development. Dr. Marshall, director of Spelman's Data Analytics and Exploration (da+e) Laboratory (a computer

and education environment for young women and students) has received federal, state, and industrial support for her work. In 2015, Dr. Marshall was pegged to lead the development of a center on socially relevant computing funded with a \$300,000 grant from the National Science Foundation. The center will be a joint effort of Spelman and Morehouse. In the classroom, Dr. Marshall works to intentionally share the "why" and the "how" for any concept. Problem-based instruction and real-world simulated projects are a staple in her courses. As a researcher, she is passionate about identifying and centralizing the Black Twitter commentary: blacktags, tweets and trending topics. "I view Black Twitter as significant to Black culture and extension of our cultural identity. It



is, maybe, the first legitimate platform that documents the voices, sentiments, joys and frustrations of Black community, by Blacks in real-time. How influential and empowering is that?" she said.

Dr. Marshall said appropriate funding is a critical part of the process of extending computer science to a more diverse range of students.

"There's a real need for student financial assistance," said Dr. Marshall. "If we had the money, I would create scholarships for students at Spelman...both need-based and need-blind."



Angelino Viceisza, Ph.D.

ASSISTANT PROFESSOR OF ECONOMICS

Entrepreneurship Promotes *Social Justice*

Journey to that vast frontier where the realities of grass-roots entrepreneurialism meet the mind-bending abstractions of game theory, and you'll find Angelino Viceisza, Ph.D. A Spelman assistant professor of economics, Dr. Viceisza is as interested in using economics as a tool for fighting poverty as he is in exploring intricate models of decision making in complex fiscal systems.

"My vision for research goes in a few different directions," said Dr. Viceisza, who holds a M.B.A. and a Ph.D. in economics. "I'm interested in entrepreneurship and innovation as pathways to wealth creation, pathways out of poverty. I'm also fascinated by game theory to model people's behavior and data collection through experiments and surveys to test such behavior."

At Spelman, Dr. Viceisza has found a venue for both interests. He recently bolstered an existing course in management and launched a general elective on management and entrepreneurship in which students develop ideas for new businesses (using so-called lean-startup methodology) and among others learn how to pitch those ideas to prospective funding partners. On the research and data collection side, Dr. Viceisza envisions what he calls the "Shark Tank Project." Based on the hit ABC television series in which aspiring entrepreneurs pitch their products to a panel of successful businesspeople, the "Shark Tank" project would require students to collect data reflecting how the show impacts entrepreneurs. Dr. Viceisza and a former economics major, Baylee Smith, C'2016, have already co-authored a paper under this umbrella. The article, which has been accepted at the journal *Small Business Economics*, finds that the amount of funding received on the ABC show is significantly associated with

entrepreneurial survival. The show seems to serve less so as a signal of quality to prospective investors. The larger project would also test Dr. Viceisza's hypothesis that the "Shark Tank" television show may actually encourage some viewers to go into business for themselves.

"The show impacts millions of viewers at home, becoming a factor in the cultivation of entrepreneurship in the U.S.," he said. "If we had the funding, we could do a comprehensive study of these factors." Dr. Viceisza and Dr. David Robinson (Duke University) recently received funding from the National Science Foundation (NSF Award Number 1664383) to explore related research questions.

Dr. Viceisza asserted that the lack of money is one of the great impediments to the study of money. That doesn't mean he hasn't had success attracting funding for his research. His scholarly studies and academic initiatives have also drawn support from

the German Federal Ministry for Economic Cooperation and Development, the Kauffman Foundation, the United States Agency for International Development, the U.S. Department of Education, and the World Bank. He also recently received NSF funding for a research project aimed at determining how much people pay in fees and other charges to send money to relatives in poor countries (important because the billions of dollars sent by private citizens improves the lives of the poor and potentially help lower taxpayer costs for foreign aid).

Still, Dr. Viceisza is convinced that economists (particularly those who collect primary data via experiments and surveys or need access to proprietary data) are often unable to pursue important research because needed funding is limited. For example, he believes that with adequate financial and human resources Spelman could develop a comprehensive approach to entrepre-

neurship and innovation as pathways out of poverty. This would comprise co-curricular research experiences and initiatives that take business development beyond the classroom, creating a pipeline of stakeholders in the ecosystem to pitch at business competitions, seek funding, create wealth, and contribute to economic development and growth in the long run.

While it's no surprise that an economist is concerned about how and where researchers secure the money they need to do their work, it is somewhat unusual to find one who sees economics not as a discrete discipline with purely objective aims and parameters but as part of a compendium of methods and means "all related to understanding how to get people to rise out of poverty," said Dr. Viceisza. He has completed post-doctoral work among poor people in developing countries. So when Dr. Viceisza thinks of banking, he thinks of micro-economics and small loans for subsistence farmers. And when he considers insurance, he envisions "products that protect against bad weather and bad crops and guarantee payments for those crops."

At Spelman, Dr. Viceisza has come into contact with other scholars who share his holistic academic vision and have helped him begin looking more closely at poverty in the United States and considering the complex role that scholars play in creating change.

"I want my research to inform policies and programs to help the poor to not be poor," said Dr. Viceisza. "Living an economically better life impacts other dimensions of a person's life. More money doesn't necessarily make you happier. But, it can help."

Dr. Viceisza's early views on economics were not so clear-cut. As an undergraduate student, he opted to follow his older sister into accounting. "I didn't know what I wanted to do," he recalled. It didn't take him long to figure out that he didn't want a career in accounting. Weighing his options,

he decided to enter Temple University's international M.B.A. program. Later, M.B.A. in hand, he took the advice of a former undergraduate faculty member and set out to earn a Ph.D. in economics.

"He remembered that I'd been good in statistics and encouraged me to go for a doctorate in economics," recalled Dr. Viceisza, who eventually enrolled at Boston University.

"Living an economically better life impacts other dimensions of a person's life. More money doesn't necessarily make you happier. But it can help."

—Dr. Viceisza

His initial effort to secure the doctorate was inauspicious. Unable to keep up with the economics program's rigorous quantitative requirements, Dr. Viceisza opted to step away from the doctorate and spend a year taking master's degree-level economics and math classes.

"It was the worst and the best year of my life," remembered Dr. Viceisza. "I felt like I was failing constantly, but I was building lots of quantitative skills. Real analysis was the most difficult, but I finished with an A – and learned a great deal."

With his math foundation solid, Dr. Viceisza attempted to rejoin the econom-

ics program at BU, but discovered that he lacked the funding. He opted to enroll at Georgia State, noting that he has family in the area and their financial support.

After earning his doctorate, Dr. Viceisza did post-doctoral work in Washington, D.C., but he kept his ear to the ground for teaching jobs in Atlanta. When he heard that Spelman was seeking an instructor, he applied.

"They wanted a Ph.D. in economics with an M.B.A.," said Dr. Viceisza. "It was ideal."

The economist said he would eventually like to get involved in curricular and co-curricular development at Spelman, fulfilling his vision of a more holistic approach to the teaching of economics. He's already utilizing that approach with the 10 students he's employed as research assistants, choosing them from a range of minors and helping them to see economics as part of a "whole process" requiring knowledge of disciplines and activities ranging from "project conception to data collection with human subjects," he said.

Given the College's push for innovations in classroom teaching and research, Spelman is ripe for a co-curricular explosion, added Dr. Viceisza. And with the funding needed to drive such ambition, Spelman could become an important outpost on that vast frontier where he is exploring both the realities of grass-roots entrepreneurialism and the mind-bending abstractions of game theory.





Yassin Jeilani, Ph.D.

ASSISTANT PROFESSOR
OF CHEMISTRY

Still, for Dr. Jeilani, an assistant professor of chemistry, a nanosecond is a snail's pace compared to the speed of the measurements he envisions for his Spelman students.

"If we had the funding, I would secure more sophisticated instrumentation that would allow our group to perform cutting-edge experiments in the picosecond time scale," said Dr. Jeilani, who teaches chemistry and biochemistry. "Students would be exposed to research that is usually done at the graduate level."

A picosecond is one-trillionth of a second; that's a little less than the switching time of the world's fastest transistor and somewhat less than the rotational correlation time of water. The bottom line is that Dr. Jeilani sees a strong correlation between the quality of the tools and techniques available to students and the quality of the science education they receive. He has compelling personal experience to back up that conclusion.

Raised in Somalia, Dr. Jeilani exhibited an early talent for math and science, but Somalia's civil war made it impossible for him to attend college in his homeland. Making his way to Egypt, Dr. Jeilani earned a bachelor's degree at the University of Cairo. He later migrated to the United States, settling in Maryland where he did post-baccalaureate studies while working full time in an environmental and analytical lab. One year later, he entered the graduate program in chemistry at Howard University where he earned a Ph.D.

Precision Instrumentation ADVANCES FACULTY & STUDENT RESEARCH

Yassin Jeilani, Ph.D., and his students in the Department of Chemistry and Biochemistry at Spelman College often conduct research involving calculations measured in nanoseconds. A nanosecond is one-billionth of a second; that's a little less time than it takes the average laptop to do a single cycle of computation, somewhat less time than it takes light to travel one foot in a vacuum, and considerably less time than it takes for the fusion reaction in a hydrogen bomb. In other words, a nanosecond is pretty darn fast.

Although his route to a doctorate was fraught with challenges, Dr. Jeilani looks back on his primary education as the spark that ignited his desire to pursue chemistry.

"My high school 10th grade science teacher had a great influence in stimulating my interest in science — he performed very exciting lab experiments," said Dr. Jeilani. "When I entered college in Cairo, I was incorrectly placed in a law school track. After spending one year on that track, I was able to enter the chemistry degree program. I still completed my degree in four years."

The love of science that kept Dr. Jeilani on track is central to his approach to teaching. That, and a strong belief in the power of inspiration.

"One of my great achievements is that I have inspired my students," he said. "I'm especially proud of two general chemistry students who were enrolled in my course and changed their majors to chemistry. I have also supported and mentored several undergraduates in research. One of my students persevered and won first place at a research conference at Louisiana State University after failing to place in a previous year's competition."

Dr. Jeilani has also co-authored six publications with students and established a competitive and independent research program to help students get more hands-on lab experience. That effort and much of his

research have been funded through a patchwork of private and government sources. Notable among these was a \$100,000 grant from computer giant Apple. The Apple HBCU 2016 Competitive Faculty Grant is part of a project titled "Transforming STEM Faculty Talent," which focuses on integrating advanced instructional technology to prepare talented science, technology, engineering and mathematics students for the workforce. The project, a joint initiative with the Thurgood Marshall College Fund, received proposals from faculty at 36 private and publicly-supported colleges and universities. Dr. Jeilani was one of just five applicants awarded the grant.

The Apple grant is a high-profile acknowledgement of Dr. Jeilani's continuing importance to the sciences at Spelman. Hired in 2005 for an Army-funded, post-doc position in the environmental science department, Dr. Jeilani had become the program's laboratory manager within a year. In 2011, he became a lecturer in Spelman's chemistry department and taught courses in general, organic and physical chemistry. In 2013, he was hired into a tenure-track position in Spelman's chemistry and biochemistry department.

The pace of Dr. Jeilani's immersion into Spelman's burgeoning science culture might not be best counted in picoseconds, but there's apparently no stopping his ambition for STEM studies at the College.

EXPLORATIONS IN *Biodiversity*



Yonas Tekle, Ph.D.

ASSOCIATE PROFESSOR OF BIOLOGY

Those who aspire to be leaders in the field of science instruction could do worse than to follow the example of Yonas Tekle, Ph.D., an associate professor of biology at Spelman College. A biologist with a lengthy list of research credits, Dr. Tekle specializes in the diversity, origin and relationships of medical and nonmedical microbes. However, as a teacher and mentor, his chief specialty is the important and often underrated science of putting his students first.

Dr. Tekle gladly works side by side with his students on important research projects, encouraging them to do the sort of high-profile work that many professors reserve for themselves. For example, Dr. Tekle and a student recently co-authored a peer-reviewed research article describing a new species of amoeba, with unusual sexual behavior, isolated from freshwater at Arabia Lake in Lithonia, Georgia. The student wasn't an inveterate research assistant or a senior seeking pre-graduation resume fodder. The student who helped introduce the world to *Cochliopodium arabinum* was biochemistry major Lydia Gorfu, C'2019 — at the time a sophomore in Dr. Tekle's 100-level bio class. For the recently tenured Dr. Tekle, Gorfu's success was an affirmation of his fondest hopes for all of his students.

"I consider my tenure at Spelman a special privilege to contribute to education and training of underrepresented groups in STEM fields, especially women," he said.

Dr. Tekle has co-authored several articles with other Spelman undergraduate students, some detailing research findings from projects funded by the National Institutes of Health and the National Science Foundation. Dr. Tekle said that such funding has allowed him to establish "a competitive and independent research program." However, grants and other financial support can be hard to come by, and he is often left scrambling for funding to advance his scientific and instructional objectives.

"Increased funding would allow me to expand my research program, hire post-docs and

launch research efforts and labs to a higher level of achievement," Dr. Tekle said. "I could mentor more undergraduates and expose them to more sophisticated equipment and instruments. Teaching would also be enhanced." In addition to this, more funds will enable Dr. Tekle to expound on the recent groundbreaking research findings he published on covert sexual behavior, also known as "parasexual" behavior, in amoebas (simple, unicellular microbial eukaryotes that move by extension of their cytoplasm-filled pseudopods, "false feet").

Dr. Tekle, in collaboration with his students, discovered unconventional ways of sexual-like behaviors using advanced cytological techniques and high-throughput sequencing. This sex-like behavior involves genomic fusion of a large number of cells and their genetic materials followed by subsequent segregation in what appears to restore the original genome size but with likely altered genome content. Similar processes are also observed in cancerous cells. Dr. Tekle believes that his work with amoebas might provide some important insights into how genome mixing and restoration could lead to adaptations to new environments or drug resistances in pathogenic organisms that utilize similar mechanisms.

When Dr. Tekle was a child growing up in Eritrea, improving the teaching of science wasn't high on his list of boyhood ambitions. Instead, he took an early interest in art and painting. However, by age 15, Dr. Tekle had become attracted to science. Noting the prospects for

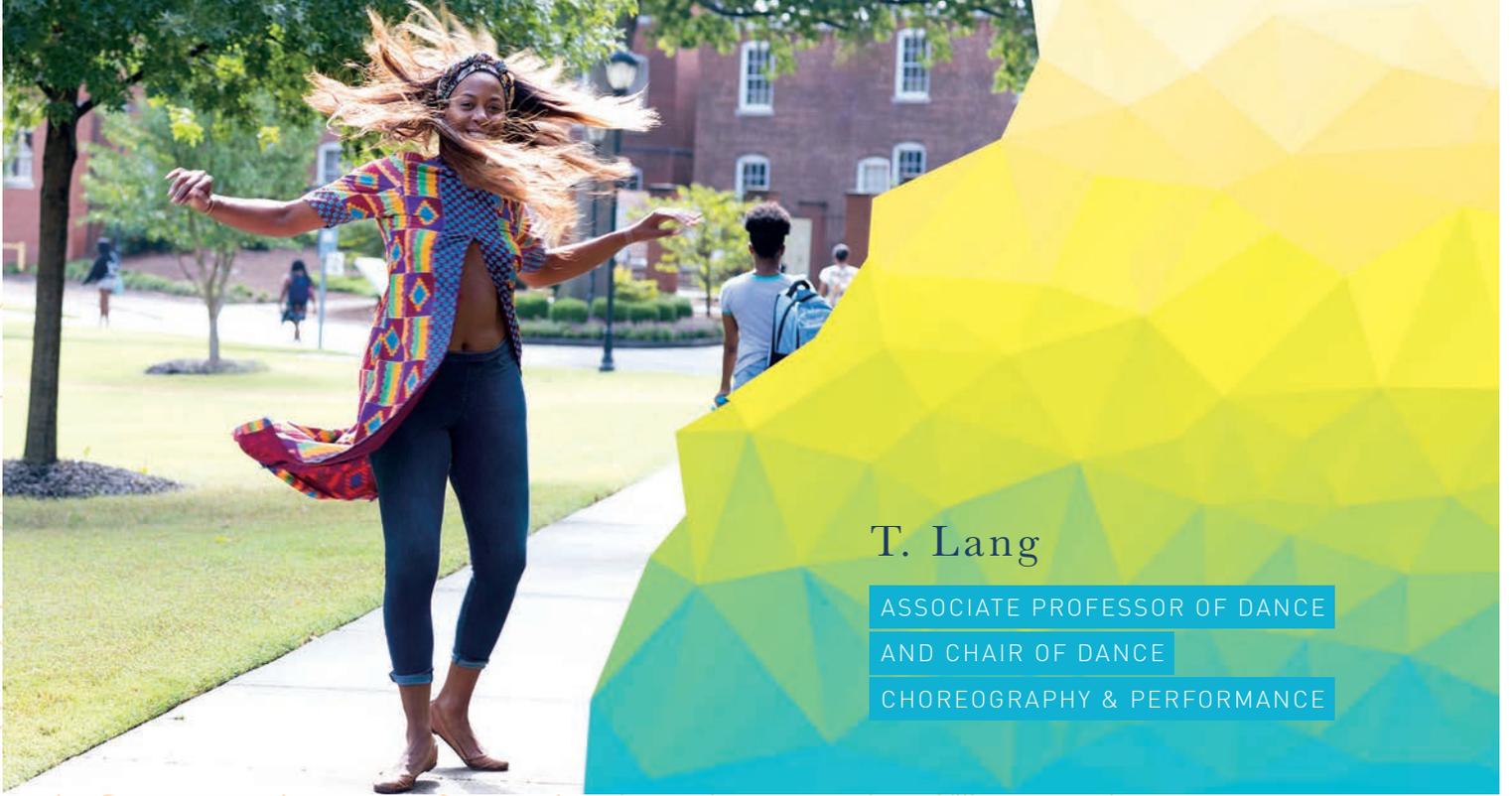
"a more practical career...I also performed well in my science courses," he said.

As an undergraduate student at the University of Asmara in Eritrea, Dr. Tekle completed an integrated science research program that stimulated his interest in obtaining a graduate degree. He eventually completed a Ph.D. at Uppsala University in Sweden and then did post-doctoral work at Smith College and Yale University. In 2009, he inquired about teaching positions at Spelman and learned that there were no openings. The following year, he applied and was offered a job. He was tenured in 2016. In the classroom, Dr. Tekle emphasizes "the basic principles of evolution" as a means of studying microbes, but he is also deeply fascinated by topics that exceed the limits of undergraduate study.

"I am particularly interested in integrating bioinformatics/phylogenetics with mathematical modeling in order to understand the evolution and epidemics of infectious diseases," he said.

Even when he's discussing arcane scientific research, Dr. Tekle can't help but recall the many Spelman students he has led toward that rarified work.

"I am very proud of the more than 100 students with whom I have had direct contact who are pursuing or have completed health professional or graduate degrees," he said. "Their accomplishments are greater than my personal achievements."



T. Lang

ASSOCIATE PROFESSOR OF DANCE
AND CHAIR OF DANCE
CHOREOGRAPHY & PERFORMANCE

ELEVATING Spelman Dance

“The students dissect old theories and methods and create new theories and methods, and then they go off to work in New York, Los Angeles, abroad, or remain in Atlanta, taking their studies and developing them further. It’s magical.”

—Prof. Lang

T.Lang has danced with the Metropolitan Opera Ballet, performed works by globally renowned choreographer Marlies Yearby, and choreographed and performed a series of critically praised works commissioned by Atlanta’s High Museum of Art and Flux Projects. Despite such high-caliber credentials, Lang, associate professor and chair of Spelman’s emergent Department of Dance Choreography & Performance, maintains a youthful appreciation for her earliest experiences on the boards.

“When I was 6, I choreographed my first evening-length work in the backyard of my parents’ home,” she said. “It was about Nadia Comăneci, the Romanian gymnast who was the first to be awarded a perfect score. I choreographed her story using Michael Jackson’s album “Off the Wall.” Not only did I choreograph, but I made invitations and tickets and had a street team help with promotion. There was not an empty seat in the backyard.”

In the years since her backyard “debut,” Lang has expanded her streetwise but classically informed approach to dance and choreography far beyond its early limits. Her current work is rich in social commentary and engages audiences in a shared pursuit of the unexpressed experiences of women of color. “I now dig deeper into those commentaries,” said Lang. “I’m interested in untold truths in American history — what’s been left out — how to extract those and add fact, fiction, and fantasy to create new dance experiences. I can see how

my curiosity, storytelling, collaborating and technology are coming together with my formal and untraditional dance training. I'm still doing what I did at age 6, but now it's all coming together and exploding."

As a teacher, Lang is intent on helping each of her students use dance to express their own identities. As those expressions become bolder and more confident, the students discover untapped abilities and ambitions, said Lang. "We are creating new movement vocabularies and new ways to be creative," she said. "The students dissect old theories and methods and create new theories and methods, and then they go off to work in New York, Los Angeles, abroad, or remain in Atlanta, taking their studies and developing them further. It's magical."

Lang's own education and career have been every bit as magical as the ones she helps her students create. She started by earning a bachelor's degree at the University of Illinois at Urbana-Champaign, followed by an M.F.A. in performance and choreography at New York University's Tisch School of the Arts. At Tisch, Lang choreographed two works she now describes as game changers: "Off Main, Veer Left," which was inspired by Sapphire's novel "Push," and "For Unmarried Girls Before They Wed." Both works helped

theme of love of self continues in my work," said Lang. "It's a connective thread."

Lang's time in New York also included a performance in a Metropolitan Opera Ballet production of "Romeo and Juliet." That show, which was staged by virtuoso New York choreographer Seán Curran, had an immense impact on Lang. "It's under Curran that I got the bug for dancing with large productions," she said. "From then on, I thought about how I would approach movement and collaboration for large works, if I had the opportunity."

Despite her early successes, Lang soon discovered some hard truths about the life of a dancer of color. "What I saw in the dance world is that the dance scene usually picks one Black male and one Black female to elevate," she said. "I wasn't willing to adhere to the game."

To flip the script, Lang opted to leave New York and to evolve from dancer to dancer-choreographer. Her 2008 move to Atlanta gave Lang the breathing room she needed, and in return Atlanta, impressed by the choreographer's deft melding of visceral story-telling and outsized multi-media presentations, paid her back in critical praise and prestigious commissions.

By 2011, Lang was being asked to take on high-profile work as "4 Little Girls," a collaboration with the Grammy-winning vocal group Sweet Honey in the Rock. The piece was presented during the Gala Concert at the unveiling of the King Monument in Washington, D.C.

The following year, Lang's production of "MOTHER/MUTHA" at the Goat Farm Arts Center attracted rave reviews for its wrenching dissection of the long history of objectification of African-American women and exploitation of capitalism.

In 2014, Lang created "Post Up," a series of pieces performed as visual installations, and collaborated with legendary dancer/choreographer Dianne McIntyre on the



"Doxology Ring Shout" at the National Black Arts Festival. Installments of the "Post Up" series, which was commissioned by the High Museum and the Goat Farm Arts Center, continued through 2015. That same year, Lang received a commission from the Flux Project for her collaboration with visual artist Nick Cave. The work "Nick Cave's Up Right Atlanta" earned 2015's Best Collaboration award from Creative Loafing Atlanta.

Another High Museum commission in 2016 and a Best Choreographer award from Creative Loafing left little doubt that Lang isn't a New York dancer who happens to work in Georgia; she's a bona fide superstar in her adopted home city. In fact, her move to Atlanta not only marked Lang's emergence as a force to be reckoned with in American dance, it also marked her final evolution from dancer-choreographer to dancer-choreographer-teacher.

"Working with Spelman students is so exciting," she said. "I wanted to go to Spelman as an undergraduate, but at that time there wasn't a dance department with a full program. It's come full circle now that I am chair of the new dance department. So, I'm where I wanted to be after all."





Jennifer Kovacs, Ph.D.

ASSISTANT PROFESSOR OF BIOLOGY

EVOLUTIONARY INSIGHTS

Yield Survival Strategies

In every science-fiction tale in which creepy, crawly insects are threatening to destroy the whole of human civilization, there's a character a lot like Spelman biologist Jennifer Kovacs, Ph.D. A brainy scientist tasked with figuring out how to stop the tiny critters, the character is often depicted as having an encyclopedic knowledge of arthropods matched only by her deep respect for the crawling creatures' resilience, determination and communalism.

"My research seeks to provide a better understanding of how unusual sources of selective pressures interact with more traditional forms of selection to shape arthropod evolution."

—Dr. Kovacs

It's safe to say that the real Dr. Kovacs doesn't get any calls asking her to figure out how to harness herds of giant wasps, but her mind is a virtual hive of knowledge about insects and more, particularly about the genetic and behavioral mechanisms that have helped such creatures survive dangers that have driven scores of other species to extinction.

"My research seeks to provide a better understanding of how unusual sources of selective pressures interact with more traditional forms of selection to shape arthropod evolution," said Dr. Kovacs.

That understanding has been pursued through intensive research that has yielded a stunning series of insightful papers exploring everything from the winter survival strategies of wasp queens to the movement of genetic material from fungi to insect pop-

ulations and the delicate interplay between the genetics and social lives of ants.

Esoteric as it may seem, Dr. Kovacs' research may ultimately provide insight into how our own species can better protect itself from genetic and social calamity.

"By studying these unique systems and the different interacting pressures they experience, we gain a much broader, richer and more realistic understanding of how all species and their genomes evolve," Dr. Kovacs said.

The biologist's work typically includes careful consideration of her subjects' sexual behavior, evolutionary changes and family relationships (yes, small groups of social insects form family-style units known as hives or colonies). That's no coincidence. Dr. Kovacs' early academic interests included anthropology and history.

SPELMAN TOP OF THE CHARTS

Spelman College
is among the
top 10 HBCUs
awarding the most
degrees in science
and engineering

“I began my college studies as a history major, but a college ecology course stimulated my interest in pursuing a biology degree,” said Dr. Kovacs, who did her undergraduate work at Agnes Scott College. “I ended up completing a double major in biology, and sociology and anthropology. I also completed research projects in both majors.”

Dr. Kovacs went on to earn a doctorate in biology at Georgia Tech. It was during her studies at Georgia Tech that Dr. Kovacs first met Aditi Pai, Ph.D., a veteran biological researcher, Spelman associate professor, and the College’s current co-director of the Teaching Research & Resource Center.

“She was involved in a joint research project on insect and evolutionary biology with my graduate mentor,” said Dr. Kovacs. “I collaborated with her and also collaborated and published with then-Spelman student, Elizabeth Johnson Pender, C’2008, while at Tech.”

Dr. Kovacs’ respect for Dr. Pai and others at Spelman led her to a Fellowship in Research and Science Teaching (FIRST) position at Emory University and Spelman College and eventually to a job as an assistant professor at Spelman. She recently published two papers with three Spelman and Morehouse College student co-authors.

Her efforts have not gone unrecognized. The College awarded Dr. Kovacs the Spelman

Academic Award for Teaching in the National Science Foundation’s Undergraduate Program granted biologist a \$300,000 Research Initiation Award and subsequent supplemental award to support her work with students. She has received previous funding from the Department of Homeland Security to apply Next-Generation Sequencing technology in the field of pollen forensics.

Dr. Kovacs’ most recent work includes a grant from the NSF-funded project identifying eukaryotic and bacterial genes that have been incorporated into the genomes of eukaryotes, a process known as horizontal gene transfer. She and her students are using bioinformatic tools to look for these horizontally transferred genes in the genomes of blood-feeding arthropods, including ticks and mosquitoes, as well as sap-sucking arthropods like aphids and spider mites. As part of this project, she is also sequencing the transcriptome and microbiome of the blood-feeding bird parasite *Protocalliphora sialia*, which represents a novel model of evolution of blood-feeding in flies. She and her undergraduate researchers have also started a collaborative project

with University of Rochester biology professor Jack Werren, Ph.D., that uses parasitoid *Nasonia* wasps to identify and characterize the genes associated with long-term learning and memory.

Dr. Kovacs has made the most of the funding she has procured so far, but said she still has unmet (and unfunded) educational ambitions for her students. “With more funding, I would have the opportunity to spend more time in training students outside the lab,” she said. “Field experiences are currently conducted right here in the city of Atlanta, as well as Boone, North Carolina. But with additional support they could be expanded to include the western United States, as well as other locations worldwide.”

“Seeing, really seeing, the world around me is what brought me to science,” continued Dr. Kovacs. “I love knowing some of the secrets that the natural world holds. Being able to recognize and observe and study all kinds of animals and plants and how they interact with each other, all the different behaviors and mechanisms that underlie those interactions, that’s really exciting to me. I really just want to share that excitement and those secrets with my students.”



Scholar Crafts

Inclusive History

An old gospel hymn admonishes the faithful to “study war no more.” Charissa Threat, Ph.D., an assistant professor of history at Spelman College, would respectfully counter that we should not only study war and conflict; we should learn from it.

Charissa Threat, Ph.D.

ASSISTANT PROFESSOR
OF HISTORY



“As I continue to practice and master my research craft, it also allows me to teach and explain the craft of history to my students and that helps to put my students on the road to becoming masters themselves, not just about history but about the world around them.”

— Dr. Threat

Dr. Threat, who grew up in and around military families in Southern California, has spent much of her career studying the social and cultural history of the United States in the 20th century, emphasizing race, gender, civil rights, and social justice, and how they intersect with the nation’s military history. While military history has long been viewed as the history of battles and strategy, Dr. Threat counts herself as part of a growing group of scholars who focus on broadening military history to include scholarship that is informed by the intersections of civil-military relations and race, gender and conflict. Her research has

often focused on the challenges faced by women, African Americans, and all those whose military contributions have been ignored, forgotten, or undermined.

Dr. Threat’s first book, “Nursing Civil Rights: Gender, Race, and the U.S. Army Nurse Corps” (University of Illinois Press, 2015) examined the intensely biased treatment faced by African-American women and white male nurses. The book has been awarded the 2017 Lavinia L. Dock Book Award from the American Association for the History of Nursing for outstanding research and writing. Her unique excavation

SPELMAN EXCELLENCE

91% of faculty members
have doctoral degrees
or the equivalent in their
fields

Faculty-to-student
ratio is 11:1

of the problems of white men working in a field the military had prescribed for women is especially revelatory, as is her straight-line association between the discriminatory practices of the Army and the nation's larger patterns of racial and gender bias.

In its review of the book, the Register of the Kentucky Historical Society noted Dr. Threat's highly original approach to her topic, expressing a view shared by many critics:

“By combining narratives of African-American women and White men and analyzing the Army Nurse Corps' policies regarding both race and gender, Threat links together gender and racial equality to provide a new framework in which to understand the 1960s Civil Rights Movement.”

Dr. Threat's insight and originality are also evident in her articles and book chapters, including “The Hands That Might Save Them: Gender, Race, and the Politics of Nursing During World War II” in the journal *Gender and History* (2012), “Does the Sex of the Practitioner Matter?: Nursing, Civil Rights and Discrimination in the Army Nurse Corps, 1947–1955” in “Integrating the U.S. Military: Race, Gender and Sexual Orientation Since World War II” (Johns Hopkins University Press, 2017) and “Patriotism is Neither Masculine nor Feminine: Gender and the Work of War” in “The Routledge Handbook of Gender, War and the U.S. Military” (Routledge Press, 2017).

Dr. Threat is currently at work on two new projects. The first is an article-length manuscript focused on community organizing and social justice activities in the post-World War II period with an interest in examining how national advocacy groups worked with each other to engage in civil rights activities. According to Dr. Threat, this project is important to understanding how multitudes of groups worked across racial, class, and even community lines to further social justice. The second project is a book-length manuscript tentatively titled, “Searching for Colored Pin-Up Girls: Race, Gender and Sexuality During World War II.” This project focuses on Black female pin-ups and the Second World War. It examines home-front activities, wartime participation, and investigates how images and activities of African-American women highlight debates about race and gendered identities and relationships during and after the Second World War.

For Dr. Threat, her published works and research are an expression of a belief in presenting history that is thorough, complex and incisive.

“History is not just about names and dates,” she said. “It is also about the craft and literary interpretation of history. It is about more than just learning what is

in general textbooks but thinking deeply about what is not and who is not in those textbooks.” This belief shapes the way Dr. Threat approaches her classroom and organizes her teaching.

As a teacher, she believes it is critical to help students understand not only how to study race, gender, and yes, war, but also how to express the lessons history teaches about all three. Studying the past is important for the profound knowledge it provides about the present and the future. “As I continue to practice and master my research craft, it also allows me to teach and explain the craft of history to my students,” said Dr. Threat. “And that helps to put my students on the road to becoming masters themselves, not just about history but about the world around them.” This is the goal she has for every student and class she works with at Spelman.

Dr. Threat has been honing her academic approach since her days as an undergraduate at the University of California-Santa Barbara where, although she began as a marine biology major, she quickly found her passion in history and has never looked back. She later earned her doctorate at the University of Iowa and served as an assistant professor at Northeastern University before joining Spelman in 2013.



PROBING THE FRONTIERS of Cancer Research



Leyte L. Winfield, Ph.D.

ASSOCIATE PROFESSOR
OF CHEMISTRY

Ask Spelman College medicinal chemist Leyte L. Winfield, Ph.D., to talk about what it will take to solve the big problem of drug-resistant cancers, and she'll tell you about something very small: molecules. "Over time, cancer drugs can become less effective because the underlying biology of a cancer can change," said Dr. Winfield. "But we've discovered in preliminary studies that certain molecular compounds can help overcome that resistance."

Dr. Winfield is an associate professor of chemistry and biochemistry at Spelman and served as the College's interim associate provost for research. Her work has helped the College take its place among leading academic institutions engaged in the struggle against cancer. Working in collaboration with researchers from Emory University, Xavier University, and colleagues at Spelman, Dr. Winfield has designed and synthesized dozens of compounds intended to address a range of problems posed by existing cancer therapies. Some of these compounds are aimed at getting around biological mutations related to cancer; others are aimed at selectively killing cancer cells while sustaining healthy cells; still others target advanced forms of cancers that fail to respond to the currently available treatments.

Despite the success of her inventions, Winfield acknowledges that the maladies that take an especially high toll on African Americans require diverse efforts reflecting a range of disciplines. Research has shown that stroke, asthma and certain forms of cancer kill Black people at rates significantly higher than those for Whites. Although the disparity is linked to a host of factors such as genetics, environment and a dearth of quality health care for Afri-

can Americans, there's also little doubt that innovative research could yield treatments that could lower the death rates from diseases that disproportionately impact Black people, according to Dr. Winfield. "There are many directions we must explore," she said. "For example, we have to consider not only how new drugs are designed but how they're delivered. ... Chemo usually requires going into a clinic. It would be good to have an oral pathway that did not require a clinic visit."

Dr. Winfield said that at least six of the new compounds — all benzimidazole derivatives of the drug celecoxib — have shown "favorable outcomes" in pre-clinical research. However, exhaustive animal and clinical studies would be required to get the compounds out of the lab and into the hands of physicians. And that costs money. So far, her work has netted more than a half million dollars in funding from the National Science Foundation, the National Institutes of Health, and the Department of Defense, but that won't be enough to complete the work. "We'd need an angel investor," said Dr. Winfield.

At Spelman, such investment would do more than produce new treatments; it would help cultivate a generation of African-American women deeply invested in science, technology, and mathematics. "Having students work in the lab is a great avenue for getting them interested in science," she said. "Students are mostly interested in pre-med, but discover that there are other paths to helping people and improving health — other careers in science."

Helping students understand that STEM can be more than an entrée into medicine isn't easy, Dr. Winfield said. Young African-American women who show a facility



for math and science often feel pressured to become physicians because of the prestige and high pay associated with a medical career. Some also feel obliged to go into medicine as a way of helping other people, she said. At times, such young women show little personal investment or agency in STEM. As a result, they overlook non-medical careers in science and math; miss out on the challenge and excitement of scientific research; or fail to undertake STEM careers that provide a sense of personal satisfaction and service.

Dr. Winfield said that to help students broaden their understanding of STEM, Spelman must create a “science identity” modeled on the College’s legacy of sisterhood. “Our students must learn to effectively support their peers,” she said. “And we, as teachers and administrators, must understand our students’ sense of agency, their mindsets, and their motivation for science.” The STEM “sisterhood” must also recognize and address the inherent challenges confronting women in the male-dominated world of scientific research, added Winfield: “Atlanta feels sometimes like being in a bubble of women of color in STEM. Go to other places and you realize that other female scientists do not have our experience and lack easy access to a professional community of peers.”

In fact, long-standing, anti-woman bias is so widespread at every level of the scientific community that Dr. Winfield and her Spelman colleague Kimberly Jackson, Ph.D., associate professor and chair, Chemistry and Biochemistry Department,

have developed a program to help aspiring student-scientists avoid the snares, pitfalls, and barriers they are likely to encounter in both graduate school and the workplace. With support from the National Institutes of Health, the BUILD (Building Infrastructure Leading to Diversity) program has as one of its chief goals to provide ongoing support for Spelman science students

“Having students work in the lab is a great avenue for getting them interested in science...Students are mostly interested in pre-med, but discover that there are other paths to helping people and improving health—other careers in science.”

—Dr. Winfield

after they leave the College. “We cultivate relationships in spaces where our students will be,” said Dr. Winfield. “With some, we continue our mentoring relationship throughout graduate school. We also form a co-mentoring relationship with graduate advisors; not so much for the science, but to address the student’s need for adjustment. It’s all part of a larger national conversation about how to diversify the STEM pipeline.”

Dr. Winfield also garnered financial support recently from the National Science Foundation, which awarded her a grant for \$1.5 million to devise additional ways to encourage Spelman students especially and African-American women in general to

become more invested in science and technology. Dr. Winfield said the funding isn’t merely a way of providing opportunities for Spelman students to find their way into STEM research; it is a means of mustering forces to combat a range of misrepresentations that undermine the presence of African-American women in STEM. The goal is to establish socially responsive and sustaining dialogs that present these women as agents of their own success and highlight Spelman’s success in cultivating this agency.

While it’s obvious that Dr. Winfield is a serious scientist engaged in important work, she can also be self-effacing when it comes to her early involvement with science. She said that as a high school student with an aptitude for math and science, her interest in research was limited to cosmetics and other consumer products. “I wanted to make lotions that would dissolve quicker on the skin and lipstick that didn’t make lips peel,” she said, before adding with a laugh: “I thought the Ponds Institute really existed.”

Dr. Winfield’s interest in cosmetics waned after a pharmaceutical chemist gave a talk to her high school class. “The speaker showed me that chemistry was a sound process for tackling diseases and improving life,” she said. “I knew I had to follow that path.”

Her path eventually brought her to Spelman, which she said shares her commitment to “nurturing excellence” and has supported her efforts to “mentor and train the next generation” of scientists. “In the years since I arrived, our basic expectation of sharing time and talent has evolved into preparing our students for the world they will enter and into making sure that world appreciates the talent they are getting,” said Dr. Winfield.

To some, mentoring, sharing, and preparing may seem small gestures when compared to the magnitude of the problems faced by women scientists. But Dr. Winfield proves that whether in the lab or in the classroom, small things can make a big difference.

Research Mentoring

Produces Next Generation of Women in STEM

For more than a decade, the parents of Kimberly Jackson, Ph.D., have been enjoying a restful, much-deserved retirement. Things might have turned out differently were it not for Dr. Jackson's research in cancer and certain disease-fighting plant extracts. Dr. Jackson's mother and father were both diagnosed with cancer in the months leading up to their retirement 15 years ago. Their lives were saved by various treatments and later preventive care that included drugs designed using anti-cancer agents derived from plants, said Dr. Jackson, a biochemist, and chair and associate professor of Spelman's Department of Chemistry and Biochemistry.

Kimberly Jackson, Ph.D.

ASSOCIATE PROFESSOR AND CHAIR
OF CHEMISTRY & BIOCHEMISTRY
AND DIRECTOR OF FOOD STUDIES PROGRAM



"If every member of the natural sciences took one student and mentored her closely, Spelman could single-handedly break open the STEM pathway and transform the way we look at science."

—Dr. Jackson

"The more I saw of my parents' fight for survival against their battle with cancer, the more I became familiar with anti-cancer agents derived from plants," said Dr. Jackson, who, as it turns out, was doing post-doctoral cancer research at Emory University at the time of her parents' diagnoses. "I learned a lot about drug discovery and natural products."

Now working to develop a new generation of cancer medications, Dr. Jackson has made important breakthroughs in her investigation of plant-based anti-cancer agents. Working with colleagues and student research assistants, she was able to demonstrate that dibenzoylmethane, a natural phytochemical found in licorice root, could stop the progression of prostate cancer. In one experiment, Dr. Jackson discovered that transgenic mice giv-

en a dibenzoylmethane compound showed no growth of malignant cells even though they possessed genetic traits that made them prone to prostate cancer. Her provisional patent for the compound was later picked up by another lab.

"There's still work to do," said Dr. Jackson. "For one thing, we need to understand how to stop the progression of advanced cancer which has metastasized to other areas." That work could also involve dibenzoylmethane, which may have the ability to affect the behavior of individual cells. To gain an understanding of how single cells deal with chemical changes that could influence their ability to battle cancer, Dr. Jackson spent three summers at Harvard University where she worked in collaboration with systems biolo-

gist Galit Lahav, Ph.D. Dr. Jackson said Dr. Lahav's laboratory at Harvard is equipped with specialized research tools (microscopes) that allowed her to "take videos of the cells 'talking' to each other."

Listening in on such "conversations" might offer important clues as to why some cells are able to fight cancer while others succumb to the disease. But the price tag for that eavesdropping is steep. Advanced equipment and leading-edge research facilities are as pricey as they are necessary, said Jackson. That means the biochemist and other Spelman researchers must sometimes go elsewhere to find the resources they need to do their best work.

Dr. Jackson is grateful for the funding she has received from supporters such as the National Institutes of Health, the National Science Foundation, UNCF, Mellon, the Marine Biological Laboratory, the American Society for Cell Biology, the American Association for Cancer Research, the Fulbright Foundation, and Harvard Medical School. However, she also notes that most of the grants she receives are restricted to active research, meaning she gets little outside support for her work in the classroom. That work, said Dr. Jackson, is critical in the training of new researchers with fresh ideas. And noting the heavy toll that cancer takes on African Americans, Jackson said it's appropriate that more of those researchers be culled from historically Black colleges and universities such as Spelman.

"One of my goals is to grow the population of women of color in STEM [science, technology, engineering, and math]," said Dr. Jackson. "We have to get more of our students into the Ph.D. pipeline. If every member of the natural sciences took one student and mentored her closely, Spelman could single-handedly break open the STEM pathway and transform the way we look at science."

Dr. Jackson has already begun picking apart that pipeline. In the past few years, she has developed a comprehensive research program aimed at channeling more Spelman students into graduate studies in science, mathematics and technology. Twelve of Jackson's former

students are currently working on Ph.D.s, all at doctoral/research-institutions and all in the biomedical or chemical sciences. Each of those students is a product of intensive mentoring, hands-on research opportunities, and innovative curricula designed by Dr. Jackson and other Spelman faculty members.

"I wanted to change the narrative for our science students," she said, noting that the "narrative" often centered on the academic and social challenges faced by young African-American women when they enter the natural sciences. "Now we focus on our students' assets, not their deficits."

With adequate funding, Spelman could place more students on the path to doctoral studies in science by beefing up research assistantships and enhancing interdisciplinary studies, which expose a broad array of students to the sciences, Jackson said. In the meantime, Spelman isn't just sitting on the sidelines waiting. Each day, faculty and administrators stretch the College's existing resources to create new ways of helping students develop their potential, said Jackson. For example, she and other Spelman faculty members are currently developing an interdisciplinary food studies program that will expose all non-science students to the multifaceted world of food chemistry. "In one class, we have an anthropologist teaching about Southern and soul food from a cultural and scientific perspective," said Dr. Jackson, who directs the food studies program. "Other HBCUs have food science programs — but not interdisciplinary food studies."

Her emphasis on interdisciplinary learning comes from direct experience. Although Dr. Jackson always had an interest in science, her early ambition was to become a musician. She changed her mind after she made two discoveries: she "didn't have a good ear for musical interpretation;" and she was able to "understand atoms and molecules as everyday things." Dr. Jackson credits the second discovery to some dead-on instruction from her high school chemistry teacher. "Mrs. Ingram made chemistry so

much fun," she remembered. "With her, it was natural, easy."

After high school, Dr. Jackson set off for college aiming to become a physician, but summer research programs at Princeton and the National Institutes of Health propelled her into biochemistry. Graduate studies at Georgia Tech and Clark Atlanta University, research training in Finland on a Fogarty Fellowship, the Emory post-doc in cancer biology, and a yearlong fellowship at the Centers for Disease Control and Prevention in cancer prevention and control, all placed Dr. Jackson in a strong position to seek a post at Spelman. But even before she got the job, Dr. Jackson had already earned her spurs as a teacher by taking science out of the lab and directly to kids.

"I would go to Techwood Homes and Perry Homes (Atlanta public housing communities) to do demonstrations in chemistry at the Boys & Girls Clubs of America," she recalled. "I would also do experiments at Fernbank [Museum of Natural History]. I wanted to excite children about science and help them see that scientists look differently than what they may have seen." Her appearances at Fernbank eventually evolved into her becoming a member of the Atlanta Metro Chapter of the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers and helping host "Super Science Saturday" with approximately 300 K-12 Atlanta students attending annually.

The kind of visionary thinking that created both Super Science Sunday and a cancer-fighting drug derived from licorice is welcomed and encouraged at Spelman, said Dr. Jackson. "I don't think there's any other place that would have allowed me to grow in scholarship, while at the same time providing me the flexibility to teach using whatever format that works best for my students," she said. "To have found this intellectual community — and not just in STEM, but in social sciences and humanities — is for me proof of the concept that one can grow and evolve in a place like this."

Building Intellectual Bridges

for Social Progress

How effectively a nation addresses the historical challenges arising from racial, gender, class and religious bias has long been a litmus test for the relative civility and socio-political sophistication of that nation's people. Spelman professor Pushpa Parekh, Ph.D., said there's yet another way to measure a nation's egalitarianism: its treatment of people with disabilities.

Pushpa N. Parekh, Ph.D.

PROFESSOR OF ENGLISH AND DIRECTOR OF
AFRICAN DIASPORA & THE WORLD PROGRAM



“These perspectives have the potential to allow for critical distinctions between practices (sociocultural, biomedical, humanistic, as well as human rights-centered) that empower and those that further oppress people.”

—Dr. Parekh

Dr. Parekh, a professor of English and director of Spelman's African Diaspora and the World Program, has long been focused on the problems of oppressed people. Her writing and research often survey the experiences of immigrant women in the United States and the literature of women in post-colonial Asia. Lately, however, Dr. Parekh has directed her scholarly lens toward the complex relationship between disabilities and social injustice, most notably in India and Pakistan.

In a proposed survey essay titled “Inscribed in the ‘Fugitive Skin’: Decolonial Feminist Disability Intersections in South Asian Women's Writing,” Dr. Parekh argues that the work of women writers who focus on disabilities offers a powerful critique of the “neocolonial failures of the state and its promise of ‘development.’”

Dr. Parekh suggests that by basing their fiction and non-fiction writings on a panoply of historical, political, societal, cultural,

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- **College for students of color who participate in study abroad programs**

scientific and technological influences, women writers in South Asia are able to link disability issues with broader geo-political concerns. She has examined this nexus through her scholarly special edition of *Wagadu: A Journal of Transnational Women's and Gender Studies*, published as a book, "Intersecting Gender and Disability Perspectives in Rethinking Postcolonial Identities."

"These perspectives have the potential to allow for critical distinctions between practices (sociocultural, biomedical, humanistic, as well as human rights-centered) that empower and those that further oppress people," said Dr. Parekh.

"Inscribed in the 'Fugitive Skin' " will serve as a chapter in the *Modern Language Association* volume on *South Asian Women*, edited by Deepika Bahri, Ph.D., and Filippo Menozzi, Ph.D., and is the most recent work in Dr. Parekh's deep catalog of scholarly publications. Although most of her writings are non-fiction, Dr. Parekh, whose earliest areas of research included 19th and 20th Century British literature, remains a committed author of both poetry and short fiction. In 2009, she published a verse series titled "Kolam: The Art of Remembering" and in August 2016, her poem "Peace Is..." won third prize at the 2016 West Coast Tagore Society Poetry Festival in Vancouver.

In the classroom, Dr. Parekh employs her skills as a researcher; her commitment to

social justice, and her acute ear for language as instructional tools to help students engage with literature that falls outside the scope of their daily experiences.

For example, she recently developed a new course, "Contemporary India: Literature and the Political" in which students conduct a major research project titled "Building Cross-Cultural Strategic Alliances and Partnerships in Global Times." The project is designed to encourage students to think about the commonalities and alliances between Indians/Indian Americans and Africans/African Americans on a host of social and women's issues. As part of the project, students will develop WordPress sites to share information uncovered during their research.

Dr. Parekh has also begun encouraging her students to examine the works of South Asian writers from the added perspectives of ability and disability. She said such study is necessary "to fill a void left by critical examination of these writers that occurred solely through the lenses of postcolonial, transnational, feminist or developmental studies."

A fixture on Spelman's campus since her 1990 arrival, Dr. Parekh is a living example of how Indian Americans and African Americans can build constructive alliances. Raised in India, Dr. Parekh is intensely interested in issues affecting all people who suffered slavery and oppression related to European colonialism in Asia, Africa and the Americas. She is a regular presenter at national and international conferences on postcolonialism and is the co-editor of "Postcolonial African Writers: A Bio-Bibliographical Critical Sourcebook."

Dr. Parekh's absolute commitment to cross-cultural communication, insightful teaching and thoroughgoing scholarship has earned her both recognition and a series of increasingly challenging posts at Spelman. In 1997, she was presented

the Spelman College Presidential Award for Scholarly Achievement; in 2013, she received the Presidential Award for Distinguished Service, and she is also a recipient of the 2016 Spelman College Presidential Award for Teaching in the senior faculty category. She served for over a decade as the director of the Ethel Waddell Githii Honors Program before being named director of the African Diaspora and the World Program.

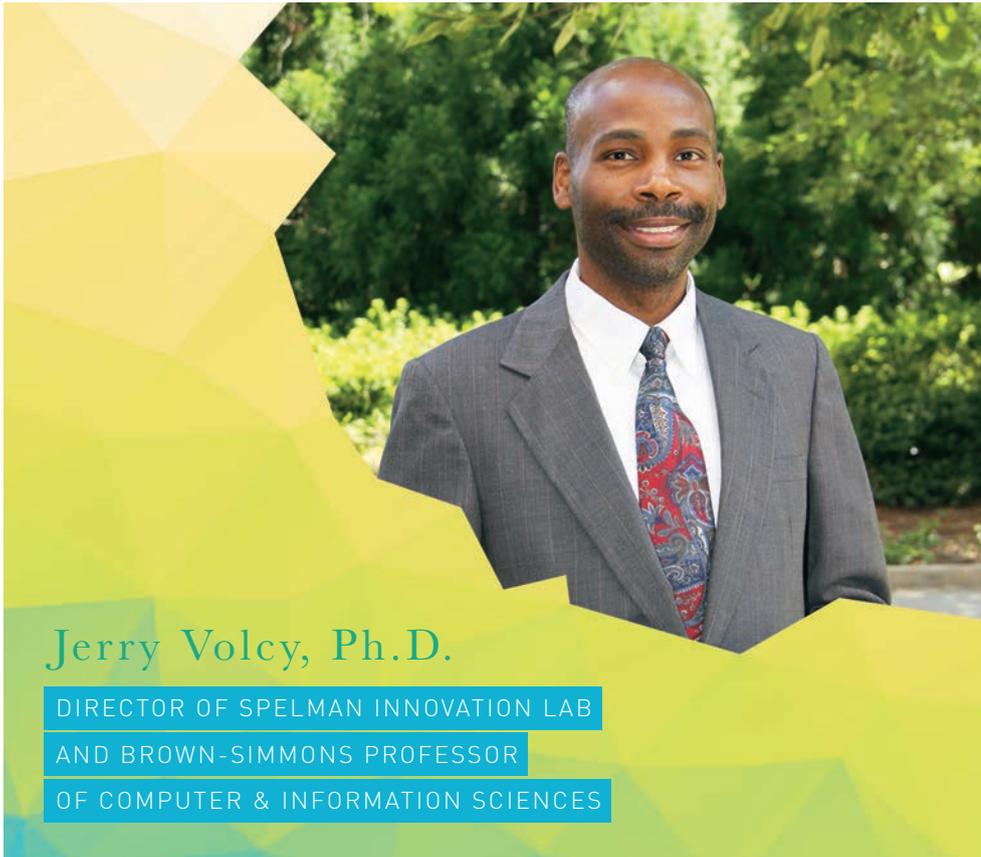
Dr. Parekh values the recognitions she has received at Spelman but said the real reward comes with "the unfolding of my life experiences and the stimulation I've gained from interacting with the world around me — colleagues, students and the community."

And then, of course, there's literature — the force that compels and heartens her, that motivates and enriches her, the force that gives her a sense of both joy and responsibility.

"I am as moved by the plethora of imaginary worlds in books as by the lyricism of an old village folklorist," she said. "The impetus lies mostly in my desire to be finely tuned to the nuanced richness of literature — especially literature emerging from contexts of postcolonial struggles and marginalized identities."



Tomorrow's Workforce



Jerry Volcy, Ph.D.

DIRECTOR OF SPELMAN INNOVATION LAB
AND BROWN-SIMMONS PROFESSOR
OF COMPUTER & INFORMATION SCIENCES

Jerry Volcy, Ph.D. is an engineer — through and through. So, a conversation with him is likely to be peppered with ideas and concepts that soar far above the heads of the uninitiated. However, if you can steer Spelman College’s Brown-Simmons Professor of Computing and Information Sciences away from such esoteric topics as nanometer level measurements and machine vision, he’ll speak quite plainly about another topic he considers important: the challenge of bringing young African-American women into engineering and other scientific fields.

“Up until recently, girls have not had the same exposure or the same push to get them involved in the STEM fields,” said Dr. Volcy. “It’s a real thing when we say African-American girls haven’t seen their likeness in certain fields.”

Since joining Spelman in 2014, Dr. Volcy has become an advocate for his students and other women seeking to breach STEM’s silicon ceiling. A former firmware engineer for Lucent Technologies, he has had first-hand experience with “the good old boys network” he said dominates corporate science and limits the involvement of women.

“A group of men from a team will explicitly say – and I have heard this – ‘We are not going to bring women onto the team because it will change the culture,’ ” said Dr. Volcy.

In STEM-based companies, such exclusion isn’t just deleterious to women, who are denied good paying positions and the opportunity to engage in exciting design and research projects, it’s just plain stupid, said Dr. Volcy.

“Most products in the world are designed by and for men,” he said. “There’s a market that’s unaddressed for products designed by and for women. Men take a product, shrink it and make it pink - that’s their version of a product for women.”

Building better products begins by building a more diverse workforce and that means placing more women into the STEM pipeline, a job for which Spelman is superbly equipped, said Dr. Volcy. Indeed, the College’s investments in technology training have been impressive as evidenced by the sophistication of its new, research-centric Innovation Lab and the stunning success of its popular, internationally-known robotics team SpelBots.

Dr. Volcy, who directs the Innovation Lab, said he’s “looking forward to seeing what the women at Spelman design and build” in the lab, adding “we have lots of technology in the space for them to begin to think, problem solve and build.” However, the lab and the SpelBots are more than instructional tools, said Dr. Volcy. They serve to excite young girls about their own potential to engage in STEM.

“We take robots that students program and showcase them to middle and elementary schools to start a conversation,” Dr. Volcy said. “Last year we went to a school in Chicago and the principal said ‘We’ve never seen four African-American female scientists in one room.’ I told her, ‘We’ve got sixty copies of them back home on campus. Her jaw dropped.’”

Turning those “copies” into bona fide scientists and engineers is costly work. The expense of building and equipping labs and locating and hiring qualified STEM professionals to teach classes and head research facilities can push a college budget to the breaking point. Scientists and engineers with advanced degrees are

in high demand in both government and private industry. That work is often light when compared to the demands of a college teaching career. Meanwhile, companies of almost every size are able to outbid most colleges for qualified professionals. Dr. Volcy notes that he took “a significant reduction of pay in leaving industry and coming to the academy.” In the end, the pay cut meant little when compared to “the reward and the impact of teaching at Spelman,” he said. However, the College’s ability to attract the next Dr. Jerry Volcy may rest as much on the size of the checks it can cut as on the quality of the professional experience it provides.

For his part, Dr. Volcy learned early in life how to get results under less-than-favorable circumstances. When he was just 13, he volunteered to repair a broken water pump on his mother’s car; never mind that he’d never repaired anything more complicated than a blown fuse.

“The process of installing a water pump is a mess because there are so many parts that you have to remove before you can get to the pump, and then you have to do it in reverse – put all of the parts back,” he recalls. “It took a day and a half, but when I turned on the ignition, the car worked. Someone said, ‘You should be an engineer — a mechanical engineer.’ So that became my standard. I would just say it over and over: I’m going to be a mechanical engineer.”

Dr. Volcy’s parents, both Haitian immigrants, had wanted their son to become a doctor or lawyer, but once he settled on engineering, they agreed to let him attend the New Jersey Institute of Technology. The school wasn’t far from their home and it seemed to “pump out engineers all day long, so off I went to study,” Dr. Volcy said.

His interest in mechanical engineering was eventually superseded by a growing

fascination with computers and programming. By the time he began his graduate work at Georgia Tech he was intent on studying machine vision, a hybrid of mechanical engineering and computer science. Those studies put Dr. Volcy on a career path that ultimately included work as both a computer scientist and a firmware engineer.

“Firmware engineering is the borderline between electrical engineering and computer science,” he explained. “You are programming the processors inside devices like phones, watches microwaves, computers, scanners, etc.”

Dr. Volcy eventually took his broad-based knowledge and experience to Lucent Technologies where he worked in the intelligent machines and controls laboratory. In his spare time, Dr. Volcy did small consulting jobs. That work took on a life of its own in 2006 when Lucent shut down and Dr. Volcy and other employees were left “on the street.”

“All the people that I worked with were scattered around but became points of contact – they were in places where if there was an embedded firmware job, I was their guy,” Dr. Volcy said. “I was able

to set up a successful consulting business.”

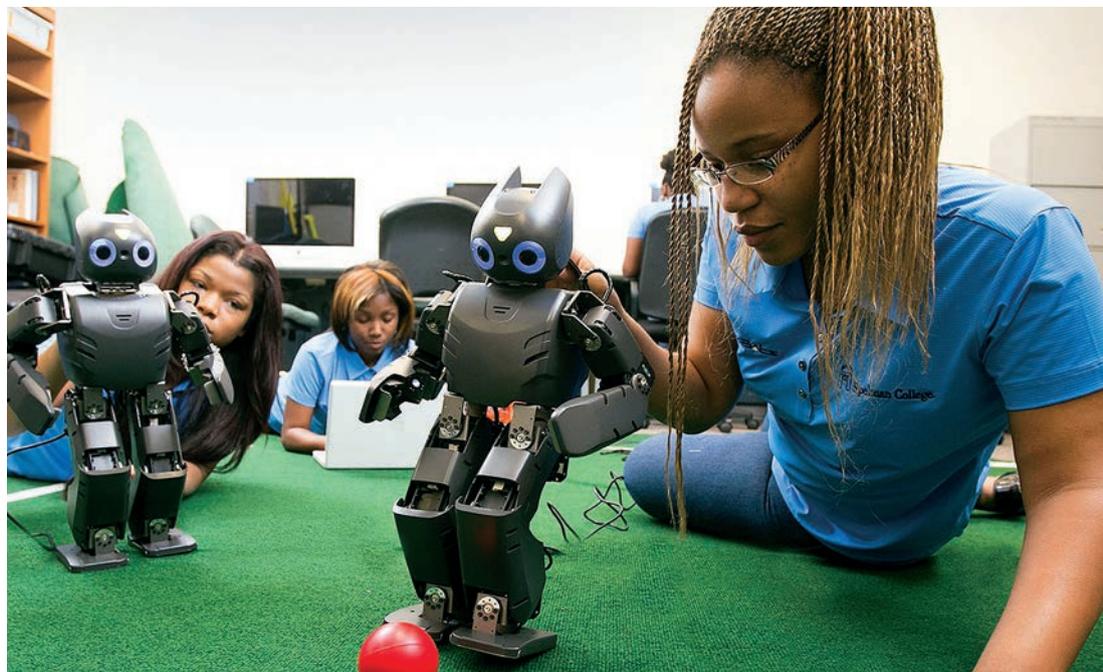
Around the same time, Spelman was looking for someone to teach a class in computer science. Dr. Volcy, who had “always been interested in passing on knowledge,” took the job. He intended to teach the course for one semester but felt compelled to stay when he was offered a full-time position.

“I had a revelation,” he said. “I was a professional firmware engineer in an industry where there were no Black people and no women. So each time I taught my class, I was leaving that industry and coming to an institution where the audience was young Black women. I was living in two worlds that had no point of intersection and that bothered me.”

The solution: become a bridge between the two worlds.

Now, Dr. Volcy is committed to helping Spelman students translate their own STEM ambitions into real world successes.

“That’s what drives me to stay here,” he said. “I can change the dynamics of ‘no representation of minority women in the field’ to a point where Spelman graduates can go out into that other world and do well.”





Patricia Ventura, Ph.D.

ASSOCIATE PROFESSOR OF ENGLISH

Unmasking and Resisting

OPPRESSION IN POPULAR CULTURE

The teaching and scholarship of Patricia Ventura, Ph.D., cuts a wide-ranging path. While in her teaching she offers classes on topics such as documentary film and reality television, American mythologies, critical theory, and feminist film criticism, her scholarship focuses on representations of politics and violence in everyday culture. Her teaching and scholarly interests are broad, but they are united by the goals of analyzing the representation of oppression in American popular culture and the strategies people use to resist that culture.

For example, Dr. Ventura has published scholarship analyzing how reality TV shows were part of the effort to win the U.S. public's support for the Iraq War; how torture functions in programs such as "Scandal" and "24;" and how sexism connects with racism in the show "Mad Men." These analyses illustrate how television makes violence and racism seem natural. But if pop culture is used to maintain status quo, it is also appropriated to challenge dominant culture, and her work focuses on those efforts as well. For example, Dr. Ventura is currently editing two collections of scholarship focusing on utopia and race in political movements, novels, and movies. These studies illustrate how oppressed people create alternative perspectives that they use to inspire resistance.

Her book, "Neoliberal Culture: Living with American Neoliberalism" (published in 2012 and reissued in 2017), reflects this push and pull. On the one hand, the text analyzes the repressive cultural products of neoliberalism — the economic and political perspective favoring free markets at the cost of people's well-being — but, on the other hand, the text shows ways that people resist economic and cultural oppression both in small "termite strategies" that eat away at the dominant structures and in large group actions that confront power structures head on.

She is working to help her students develop a clearer understanding of American cultural expressions of

violence and cruelty while helping them to envision alternative futures. This work happens through various assignments. In one project for her seminar on critical theory, students excavate the often-hidden history of racial violence in the United States by creating entries with GPS data of lynching sites with information, maps and photos of victims on The Clio, an interactive history web portal and phone app.

"These can include lynching sites in which historical societies have installed public tributes," said Dr. Ventura, "but with so few commemorative installations, the bulk of our work features unmarked locations at which our Clio entry may be the only public marker of the tragic events that occurred there." When Dr. Ventura's students have completed their research, they will add it to Clio's database, which attracts around 30,000 users a month. The goal of such work is to promote recognition of racial violence as a means to rewrite the history that too many Americans choose to forget.

Dr. Ventura argued, "Today's social movements, such as Black Lives Matter and the Women's March, have refocused national attention on violence and the denial of whole segments of the population to 'the right to have rights,' in the words of philosopher Hannah Arendt. My goal is to play whatever small role I can in that project through my teaching and research to expose and resist ways in which violence and rightlessness are promoted in the United States."



Myra Burnett, Ph.D.

VICE PRESIDENT OF INSTITUTIONAL RESEARCH
PLANNING, AND EFFECTIVENESS

As director of the Office of Institutional Research, Planning, and Effectiveness, which is a unit of the Office of the Provost, I take great pride in presenting this inaugural publication celebrating Spelman's diverse and innovative faculty.

The Office of Institutional Research, Planning, and Effectiveness coordinates projects related to institutional performance and student achievement. We believe this publication and the ones that follow will further 'Elevate the Spelman Difference' in exceptional student outcomes and faculty expertise.

I extend heartfelt thanks to the following Spelman faculty and staff who joined me in conducting interviews of our faculty colleagues: Albert Thompson, Jr., Ph.D., professor of chemistry, division chair of Science and Mathematics, and interim chair of Environmental and Health Sciences; Tinaz Pavri, Ph.D., professor of political science, division chair for Social Sciences and Education, and founding director and chair of the Asian Studies Program; and Ayoka Chenzira, Ph.D., division chair for the Arts, chair of Art & Visual Culture, and founding director of the Digital Moving Image Salon. And warmest thanks to wordsmith William R. Macklin who edited the interviews.

More to come!

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