

KENNESAW STATE UNIVERSITY

The Graduate College Magazine

Summer 2018

KSU FACULTY

DR. DAVID BUCKMAN

RESEARCH THAT ENHANCES THE STUDENT EXPERIENCE

DR. SUSAN RAINES'

**COLLABORATIVE RESEARCH
INFLUENCES**

GEORGIA SUPREME COURT POLICY

GRADUATE STUDENT'S
**BIOINNOVATION
RESEARCH**

DR. TOMMY JACKSON

RESEARCH IMPACT:

**NO. 1 RANKED PHYSICIST
WORLDWIDE**

DR. NIKOLAOS KIDONAKIS

RESEARCH THAT MATTERS

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The Graduate College Magazine



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The Graduate College-Kennesaw State University

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A NOTE FROM THE DEAN



Before Kennesaw State University and Southern Polytechnic State University merged, both had achieved national recognition for the quality of teaching. Both institutions also had a tradition of research and creative activity closely aligned with their culture of relevance, purpose and application. While KSU and SPSU often lacked the committed resources and dedicated research mission of similarly-sized institutions, the best intellectual work produced by faculty and students made immediate and durable positive impacts on Georgia’s citizens, public and private sectors, governmental services, industries, and communities.

Today, the “New U” of Kennesaw State holds to and builds upon that tradition. This issue of The Graduate College Magazine highlights examples of that research. The theme of the edition is research that matters, aligning with the research legacy of KSU and SPSU — and the foreseeable future of research and creative activity at the “New U.” As you can see from the exemplars featured in this edition, our faculty and students are engaged in research that will not only be measured by “traditional” academic standards, but in the positive, relevant impact it has on our region, state and nation. Whether researching ways to extend the lifespan of tri-colored bats, improving Georgia’s judicial policies and practices relating to domestic violence incidents, or working to raise awareness of pay

inequalities and their potential impacts in higher education, a common theme is the achievement of authentic, tangible benefits.

Further continuing our institutional tradition, Kennesaw State University is dedicated not only to cultivating a generation of researchers and academic innovators but researchers committed to purposefully disseminating their knowledge and enabling others to expand upon it.

We are proud to honor this work in our second issue of The Graduate College Magazine.

Mike L. Dishman, J.D., Ed.D.
Professor of Education Policy & Governance
Dean of The Graduate College



A NOTE FROM THE EDITOR-IN-CHIEF



Dear Friends of The Graduate College,

The Graduate College Magazine is dedicated to recognizing and promoting the accomplishments of our Graduate Faculty, students and professional staff.

This second issue of The Graduate College Magazine offers a glimpse of some of the extraordinary examples of our mission to promote excellence in graduate research and creative activity. "[Research That Enhances the Student Experience](#)" brings pay equity awareness to the University System of Georgia and raises awareness of the state's allocation of education funds.

Also in this issue, "[Dr. Susan Raines' Collaborative Research Influences Georgia Supreme Court Policy](#)" details the impact one professor's study has on implementing new laws to protect parties in mediation. "[Dr. Timothy Hedeem Receives National Recognition for Ombuds Research](#)" recognizes the role ombudsmen play at Kennesaw State University and how our university

ombudsmen's research influences other ombuds offices. In "[BioInnovation Research](#)," we investigate tri-colored bat ecology in coastal Georgia and the associated impact of white-nose syndrome through the efforts of our graduate students.

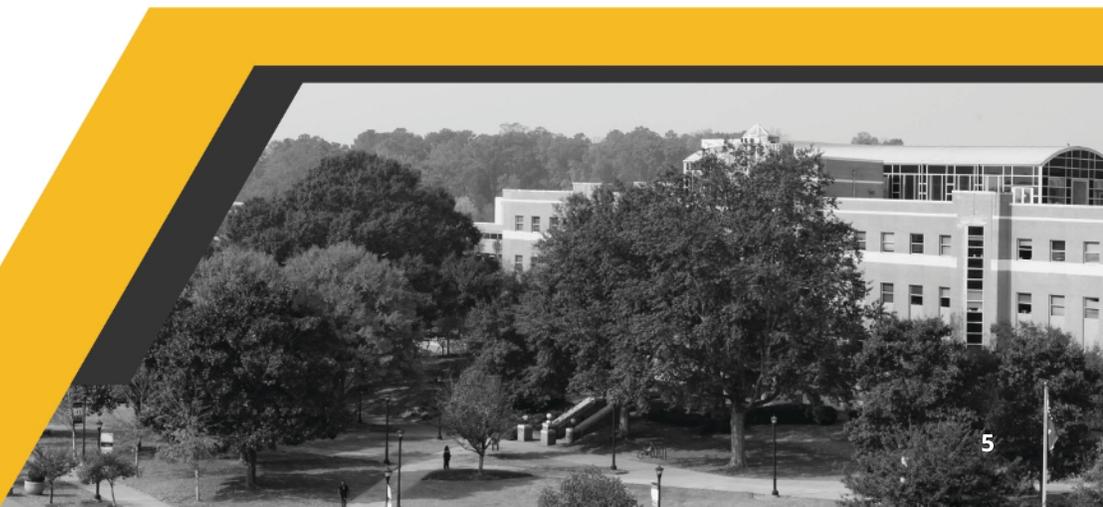
Our goal of supporting all graduate students is demonstrated in "[Building a Bridge to Graduate Research](#)," where we explain how the efforts of our undergraduate programs are building the foundations for students to enter and succeed in our graduate programs.

In addition, this issue provides several stories promoting the success of faculty as progressive innovators. "[2018 3MT® Winners](#)" demonstrates the impressive ability of our graduate students to summarize their scholarly research in the Three-Minute Thesis research communication competition. In "[Alumni: Serving KSU and the Cobb County Community](#)," we feature the success of one of our most prominent alumni and his dedication to KSU. Moreover, in our new section titled, "[Research Impact, No. 1 Ranked Physicist Worldwide](#)" we feature research that has received national and regional recognition.

We hope you enjoy reading The Graduate College Magazine.

A handwritten signature in black ink that reads "Loretta Daniels". The signature is fluid and cursive.

Loretta Daniels, MSCM
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RESEARCH THAT ENHANCES THE STUDENT EXPERIENCE



Dr. David Buckman

Professor of Educational Leadership



Dr. Tommy Jackson

University College Advising Director



five degrees: a Ph.D. in adult education with higher education administration at Auburn University, a Master of Adult Education at Auburn University, a Master of Business Administration at Kennesaw State University, a Master of Public Administration at Kennesaw State University, and a Bachelor of Arts in public administration at Auburn University. Since his tenure at KSU, Jackson has worked to improve his students' educational experience. "I

Dr. David Buckman and Dr. Tommy Jackson are working to inspire students and faculty at Kennesaw State University.

In his second year at KSU, Buckman, assistant professor of educational leadership, earned all four of his degrees at the University of South Carolina: Ph.D. in educational administration, Ed.S. in educational leadership, Master of Educational Leadership, and Bachelor of Science in physical education.

Buckman uses his education, knowledge, and experience in the education field to help his students succeed. "I try to put people in the best position they can be educationally to accomplish their academic and professional goals. If you want to be a school administrator, I'm going to provide you the knowledge and skills to do so and to do it well."

Buckman makes himself available to his students and is willing to help his doctoral graduate students find opportunities for authorships for those planning to enter the professoriate. "I am open to collaborating with all

interested faculty and staff members; however, I prefer to help doctoral students by having them participate in the writing process and gain authorship — typically as third author," explained Buckman. "I feel these graduate students are the individuals who need these types of opportunities to become marketable and to better position themselves in the academy."

"I enjoy enriching lives by delivering services that enhance students' academic experience," said Jackson.

When he is not teaching educational leadership courses or advanced quantitative statistics, Buckman is conducting research on topics in the area of school human resources and school finance and writing articles with university peers, specifically Dr. Tommy Jackson, director of advising for University College. Jackson, too, has an impressive background that lends well to his passion of helping students succeed academically. During the past few years, Jackson has earned

enjoy enriching lives by delivering services that enhance students' academic experience," said Jackson.

Along with building the academic support program for football at KSU, Jackson is working to make the University a hub of diversity. With funding through the Office of Diversity, Jackson and his research partners — Dr. Richard Mosholder, associate professor of psychology, and student assistants Edmund Tella and Chris Dancy — are creating socially catalytic spaces for African American male students to work with professional African American males. "This is an opportunity for us to build something for African American males and is designed to help African American males grow beyond where we've been the last few decades," said Jackson. "I passionately hope to see Black males come to this institution and receive a superb education; moreover, I hope this institution becomes a place that Black males want to attend and becomes an institution that epitomizes diversity." While this program is in its embryonic stage, it is set to make a lasting impact for KSU. With programs like these,

Jackson hopes to make KSU a campus that advocates for diversity: “My goal is to continue to build programs as an advocate for diversity, to be an advocate for change ... I really want to be a beacon of hope.”

Buckman and Jackson’s desire to help their students also extends to their peers. The two are collaborating on research meant to bring pay equity awareness to the University System of Georgia and raise awareness of the state’s allocation of education funds.

Recently, Buckman and Jackson published *Priorities and Pressing State Issues Affecting P-12 and Higher Education in the prestigious Journal of Education Finance*, reporting on the Georgia budget for education. Their research found that state funding for full-time students in the University System of Georgia has decreased by 50 percent since 2001, which has resulted in the rise of tuition and the subsequent mergers between institutions.

By publishing their report, Buckman and Jackson hope to make citizens aware of where the state’s allotted education funds are going. “I just think it’s important for citizens to know where our dollars are. You want to be aware of how the state spends our money on education,” said Jackson. “When you look at how states allocate their funds, you have to realize ... where your money is, is

also where your priorities and values lie; reducing funding suggests a lot.” The two scholars also presented their report on April 4 in Tulsa, Oklahoma, at the National Education Finance Conference.

Currently, the duo is working on a research study bringing finance and

are any discrepancies in terms of professor demographics and characteristics.”

“[Professors] are responsible for helping our next generation of leaders, and professors are valued in society ... so, let’s find a way to make sure that everyone’s pay is equitable,



[Professors] are responsible for helping our next generation of leaders, and professors are valued in society ... so, let’s find a way to make sure that everyone’s pay is equitable, and everyone is on a level playing field.

human resources together. Their study examines pay equity in Georgia’s university system. “We surveyed over 400 professors throughout the state about their pay and ran a regression analysis to determine if there are any discrepancies in pay based on gender, race and age,” explained Buckman. “It can be viewed as a service to the field as well as a service to Georgia professors to identify what’s going on with our pay and determine if there

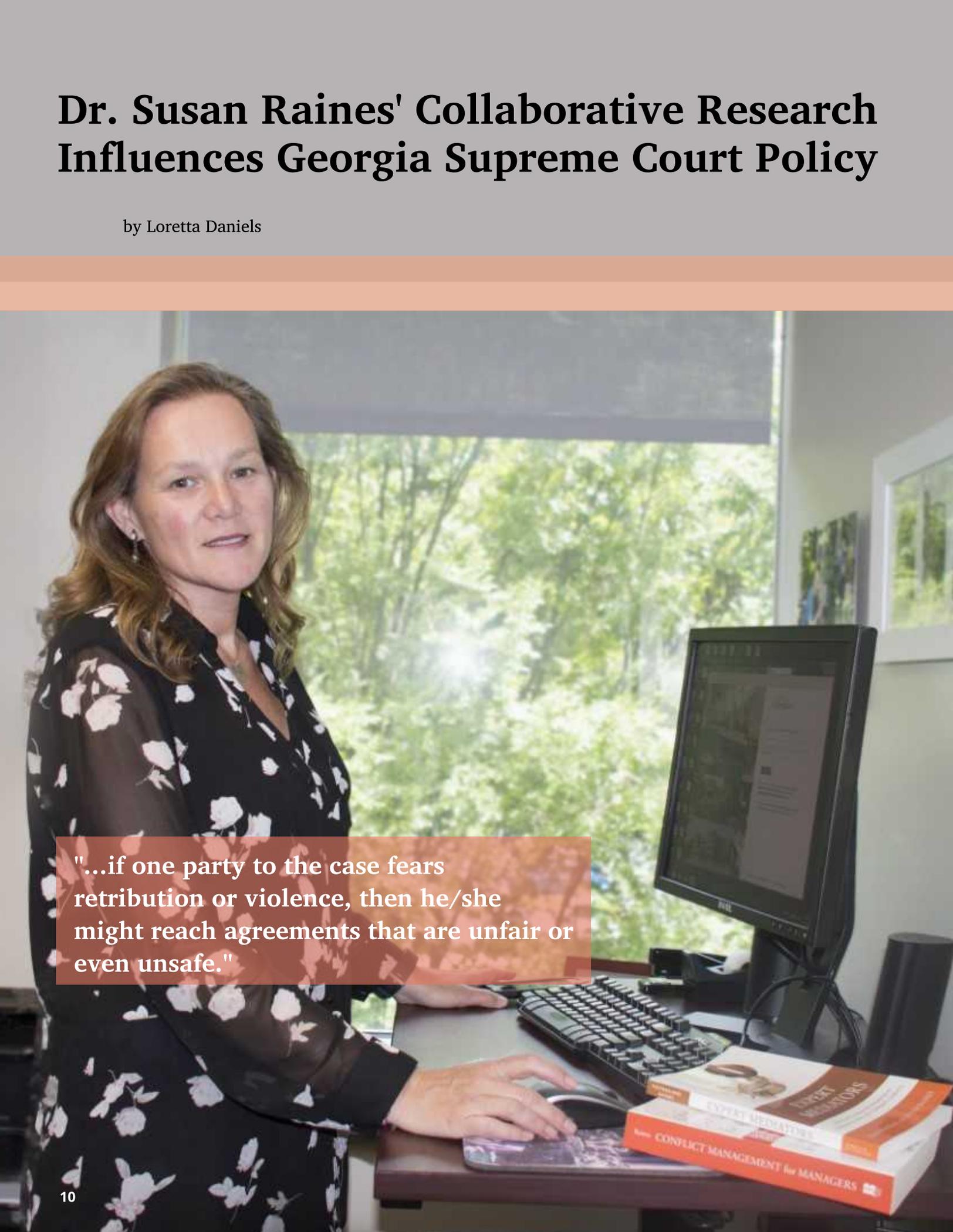
and everyone is on a level playing field,” added Jackson. “I’m all about fair pay.”

They plan to submit their findings once again to the *Journal of Education Finance*.

Regardless of their job titles or their position in society, Buckman and Jackson are focused on helping those around them. “It’s about the people; it’s always about the people,” stated Jackson. “And if you keep people first, no matter what you do, what you major in or what your profession is, you’ll do great.”

Dr. Susan Raines' Collaborative Research Influences Georgia Supreme Court Policy

by Loretta Daniels

A photograph of Dr. Susan Raines, a woman with shoulder-length brown hair, wearing a black dress with a white floral pattern. She is standing at her desk, looking towards the camera. The desk has a computer monitor, keyboard, mouse, and several books. A large window in the background shows a view of green trees. A semi-transparent orange box with white text is overlaid on the lower left portion of the image.

"...if one party to the case fears retribution or violence, then he/she might reach agreements that are unfair or even unsafe."

The Georgia Supreme Court Rules Committee will vote on the implementation of new rules in August to screen cases for domestic violence before the parties attend mediation. This recommendation comes as a result of collaborative research headed up by Dr. Susan Raines at Kennesaw State University.

The Georgia Commission of Family Violence (GCFV) voted on June 22 to recommend the approval of new court rules designed to screen cases for domestic violence before the parties attend mediation.

Raines, the associate director of KSU's School of Conflict Management, Peacebuilding & Development, was awarded a \$4,000 grant from the dean of Humanities and Social Sciences to support the research — a small investment for a big impact on families and family law professionals in Georgia.

"What can we do better?" was one of the questions posed by Raines. Nationwide victims of domestic abuse are at higher risks of violence once they decide to leave their abusers — in 2017, Georgia had 149 domestic violence fatalities.

The fact that in the state of Georgia, nearly all divorce cases are sent to mediation before they can be heard by a judge is why Raines decided to teach graduate students to be mediators and peacemakers both nationally and internationally. "In mediation, the parties are encouraged to negotiate agreements related to their parenting schedules, property division and child support matters. However, if one party to the case fears retribution or violence, then he/she might reach agreements that are unfair or even unsafe. Divorce and custody litigation is difficult under normal circumstances, but when there is a history of coercion, control and violence, then there is increased risk of harm or even death to victims and their children," said Raines.

According to Raines, in 2008, a woman in Athens, Georgia, was beaten to death by her husband after leaving divorce mediation. He then killed himself. The fight was a result of them arguing over \$6,000 in home equity division. A more recent account occurred this year on June 20, when an attorney was killed by his client's husband in a divorce matter. "Mediators, attorneys and court personnel need a better way to identify those cases where domestic violence poses a danger to parties and those seeking to help," said Raines.

As a result of such tragic incidents, the Georgia Commission on Domestic Violence (GCDV) meets regularly to bring together victims' advocates, shelter operators, judges, academics, and others seeking to find better ways to prevent and address domestic violence.

For the past three years, Raines has worked with a task force of the GCFV to create new screening rules to better identify those cases where domestic violence has previously occurred in order to determine whether and how to mediate these cases safely and free from coercion (see task force members, pictured below). These screening questions came, in part, from a 2016 study by Raines and her team of KSU researchers based on a survey given to more than 50 parties to family law mediation.

The study examined the correlation between domestic violence risk factors and perceptions of safety, satisfaction and settlement rates in Georgia's court-ordered mediations. "For example, if there have been 'verbal threats of violence' from one spouse to another, the chances of settling the case in mediation drop from 65 percent to 27 percent. This is an even greater impact than a history of actual violence, which dropped settlement rates in these cases from 66 percent to 46 percent," said Raines. This information points to the importance that coercion and fear have on domestic violence victims, rather than solely examining the impact of actual physical violence.

The GCDV is optimistic that these rules will be approved and increase the safety of parties and family law professionals in mediation.



Left to Right: Judge Auslander, Raye Rawls (UGA), Joan Prittie (Project Safe), Tracy Johnson (Director, Georgia Office of Dispute Resolution), Jennifer Thomas (GCFV), Peggy Wilson, Judge Morris.

DR. TIMOTHY HEDEEN RECEIVES NATIONAL RECOGNITION FOR OMBUDS RESEARCH

by Ashley Crisler



Professor of Conflict Management and University Ombudsman Dr. Timothy Hedeem received national recognition for his research on ombuds practitioners and programs, including a comprehensive study of ombuds offices in federal agencies.

The Administrative Conference of the United States (ACUS), a public-private partnership that advises the federal government, commissioned an interdisciplinary team to understand how federal ombuds serve their constituents. These may include agency employees and contractors, military service members and their families, intelligence analysts, vendors, and citizens.

“My contributions to the ACUS project were the development and analysis of extensive online surveys of federal agency ombudsman offices,” said Hedeem. “We identified a wide-range of office functions and types, including offices ensuring intelligence work is credible and rigorous to those supporting families of Navy or Coast Guard service members, from offices resolving concerns from government vendors to those assisting employees to address workplace concerns.”

This 2016 report, *The Use of Ombuds in Federal Agencies*, is gaining renewed attention in recent Congressional testimony and prestigious publications, as the National Academies of Science, Engineering, and Medicine cite the report to support their argument for ombuds offices as valuable responses to sexual harassment.

Currently, Hedeem is working with graduate research assistant Charles Elliott to analyze survey data from the International Ombudsman Association, a membership organization of ombuds. Kennesaw State University’s office is just such an office, chartered to ensure that

any member of the KSU community can seek confidential assistance in handling disputes, making decisions or getting sensitive information where it needs to go. This includes students, staff and faculty who seek information or support to resolve uncertainty or intractable problems.

Hedeem and Elliott are working alongside Dr. Mary Rowe of Massachusetts Institute of Technology and Dr. Jennifer Schneider of the University of South Florida to analyze the 2018 Practice & Compensation Survey. “This survey represents the world’s largest survey of practicing ombuds and provides an important snapshot of contemporary professional practice — which types of cases are most prevalent, which services do ombuds provide most often, which concerns are deemed the most serious — across a range of contexts, including higher education, corporations, government and major international non-governmental organizations.

“Another line of research explores the ombuds’ role in managing organizational risk, which takes many forms: financial risk, reputational risk, compliance risk, operational risk, among others. Ombuds offices provide a critical resource to individuals throughout an organization — as an informal, impartial and confidential service — and they assist people in considering both options and implications, as well as ensuring that important information gets where it needs to go,” explained Hedeem.

He hopes to use the survey to help enhance current and future ombuds offices: “The number of ombuds offices around the country (if not the world) is growing, and I hope to inform their development with valuable research findings. Ombuds “visitors” — that’s our term for individuals who call on us — often wish to maintain anonymity, whether seeking our assistance to

understand a difficult situation and explore their options or trying to figure out how to handle sensitive information. Given this emphasis on keeping confidences, it’s difficult to learn or share about ombuds practice; thus my research seeks to address this need.”

Despite the growth in ombuds offices, many people lack a clear understanding of what ombuds are for and how they work. “With almost every visitor, we listen first, seeking to help the visitor make sense of their situation, and then we’ll consider what to do next,” Hedeem explained. “In some cases, our greatest contribution is to provide information which a visitor would be reluctant to seek from a supervisor or peer, while with others, we’ll together identify a range of options for the visitor to consider.”

The ombuds may offer referrals to relevant organizational resources on campus, whether for counseling, mediation or advice. Hedeem adds that many visitors value the ombuds office because it allows them to retain control of how they would prefer to move forward; sometimes the ombuds will coach someone on how to approach a conversation or negotiation or will review draft correspondence so that it can best convey a concern or request.

Hedeem is available to consult with members of the KSU community whenever they might encounter questions or problems, especially those who are complicated or not explicitly addressed by policy. The KSU ombuds office does not maintain any records identifying with whom they have worked and reports only patterns or themes of concern to the KSU president. Visit the ombuds.kennesaw.edu for more information.

BIOINNOVATION

Graduate Student Conducts BioInnovation Research

by Ashley Crisler

Kelly Lutsch, graduate student in the Master of Science in Integrative Biology program, is working with KSU's BioInnovation Lab to investigate tri-colored bat ecology in coastal Georgia and the associated impact of white-nose syndrome (WNS).

According to the BioInnovation Lab's research, "Pseudogymnoascus destructans is a psychrophilic fungus responsible for white-nose syndrome in bats. Named for the white mycelial growth on the skin of the

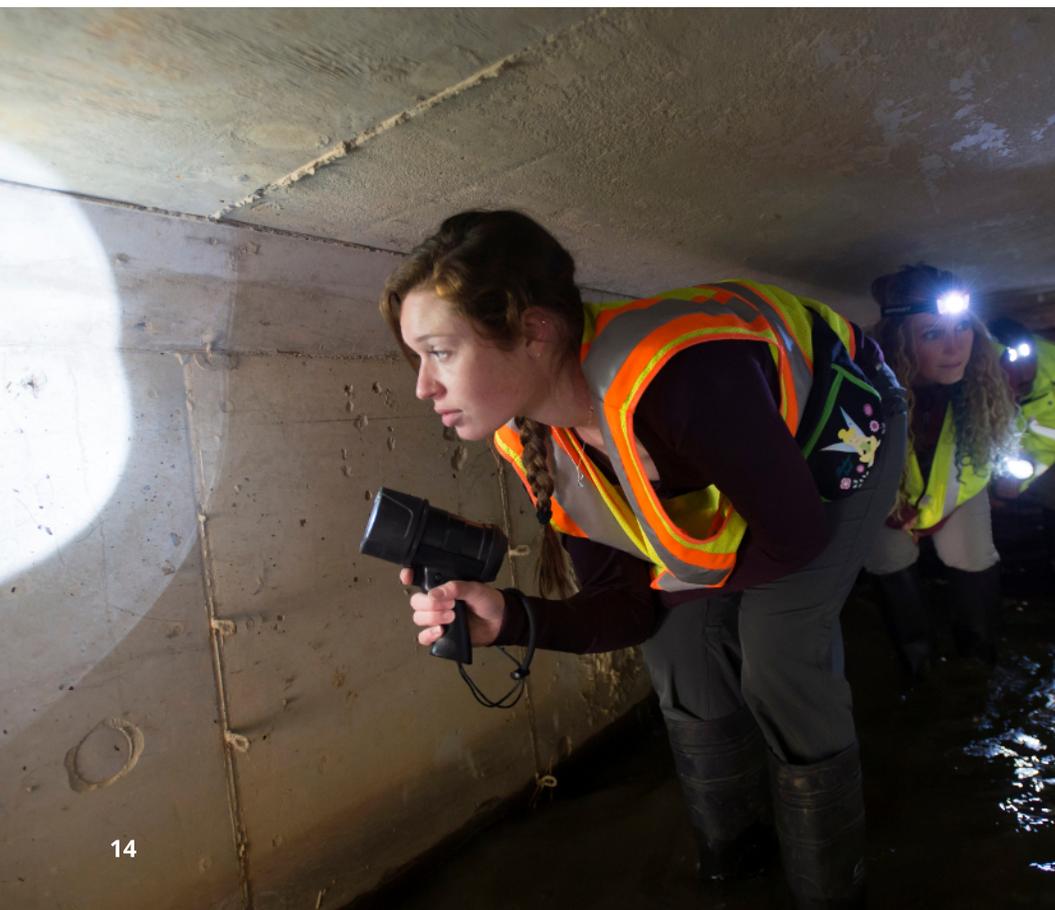
muzzle, ears and wings, WNS usually presents itself during winter, while bats are in a state of hibernation." Typically, during hibernation, bats' metabolisms are suppressed, which allows them to reduce the amount of energy they spend and survive until spring. When infected, however, the bats expend their energy trying to fight the infection and are unable to make it through the winter. Click [here](#) to read more about this research.

In an effort to save these North

American bats from dying out, Lutsch and the BioInnovation Lab are conducting a study on Georgia's bat habitats to learn about how white-nose syndrome is spread.

In a recent article by Tiffany Capuano on the BioInnovation Lab's efforts to save North American bats, Capuano shares the steps involved in the study. "With a \$30,000 grant from the U. S. Fish and Wildlife Service and the Wildlife Management Institute, the team identifies bat species, counts them and evaluates the prevalence of white-nose syndrome within transportation infrastructures along the state's major routes, including Interstates 75, 95 and 16," writes Capuano. "The researchers enter the roadway tunnels and, without disturbing a hibernating colony, quickly identify the species, look for obvious signs of white-nose syndrome and carefully collect samples from the bats, if within reach, or the walls to check for fungal spores and determine its prevalence at that particular site." Click [here](#) to read Capuano's full article.

Lutsch spent the winter conducting research for her thesis, "Assessing Culverts and Bridges as Roosting Habitats for Tri-colored Bats (*Perimyotis subflavus*) and the Prevalence of *P. destructans* in Coastal Georgia." She surveyed



RESEARCH



“I chose to pursue this research because it is a glaring knowledge gap in bat ecology, and it is important we know how bats use anthropogenic structures.”

interstate culverts for bat presence during hibernation and maternity season and collected bat species and environmental data about the surrounding habitat in the hopes of expanding the state’s understanding of bat ecology.

“I chose to pursue this research because it is a glaring knowledge gap in bat ecology, and it is important we know how bats use anthropogenic structures,” stated Lutsch. “I would like to see similar projects facilitated in other states so we can make comparisons across the country.”

In addition to learning about bat habitats and population, Lutsch collected samples from each bat, looking for any evidence of white-nose syndrome.

“During the hibernation season, I am swabbing the animals and substrate for the causative agent of white-nose syndrome, *Psuedogymnoascus destructans*,” explained Lutsch. “These swabs will be processed using qPCR to determine fungal presence and quantify fungal burden.

“We swab the bat and the substrate (culvert walls) using sterile cotton

swabs. To standardize the process, all swabs are collected the same. Swabs are passed along the surface five times, twirling as you go. The muzzle and forearm of the bat are swabbed. All swabs are stored in sterile vials and labeled with the site number, the species type it was collected from and the date.”

qPCR (quantitative polymerase chain reaction) is used to detect *Pseudogymnoascus destructans*. “It allows for a precise quantification of DNA samples,” said Lutsch. “DNA is extracted from swabs collected in the field and then amplified using the qPCR. The number of cycles it takes to amplify *P. destructans* DNA, compared to a previously established standard curve, confirms presence of the fungus and quantifies the fungal burden.”

Although Lutsch’s team is still in the process of analyzing the swabs, their findings are already impacting researchers’ understanding of how white-nose syndrome spreads across colonies, ensuring the continued survival of North American bats.

“As impacted species continue to decline due to WNS, they will be

listed under the Endangered Species Act. This creates significant challenges for the Department of Transportations (DOT) as their ongoing projects and maintenance work will be impacted by regulatory requirements associated with protected species roosting in transportation associated infrastructures (culverts and bridges),” explained Dr. Christopher Cornelison, head of the BioInnovation Lab. “It turns out that transportation infrastructure is important bat habitat, although we rarely consider man-made structures habitat.

“Accordingly, the results from this project will be used to determine how significant these sites are to our state’s most heavily impacted bat species as well as inform DOTs about seasonal usage of these sites so that projects and maintenance can be scheduled in a way to reduce the disturbance to these imperiled species.”

Research shows that there is only half as much variation in student achievement between schools as there is among classrooms in the same school. If you want your child to get the best education possible, it is actually more important to get him assigned to a great teacher than to a great school.

– Bill Gates

RESEARCH IMPACT

Research impact is the effect research has beyond academia. The type of impact Graduate Faculty and staff research might have is specific to each project, and therefore, like research, impact is wide-ranging and varied. Some of the key areas of research impact include:

- Cultural
- Economic
- Environmental
- Social
- Health and well-being
- Policy influence and change
- Legal
- Technological developments

NO. 1 RANKED PHYSICIST WORLDWIDE

by Loretta Daniels

Dr. Nikolaos Kidonakis, a theoretical particle physicist and professor of physics, has been ranked No. 1 worldwide in fundamental physics since 2010 in a comprehensive study based on his individual citations, paper rank and author rank. Since 1993, he has also ranked No. 1 in the hep-ph arXiv, an electronic repository of papers on high-energy physics phenomenology.

Kidonakis' research is in theoretical high-energy particle physics, mainly in top quark physics, top-antitop and single-top production, Higgs, W and Z production, perturbative Quantum Chromodynamics, soft-gluon resummation, and high-energy phenomenology at the Large Hadron Collider (LHC) at CERN — the European Laboratory for Particle Physics — and at the Tevatron Collider at Fermilab.

His research has been funded for many years with grants from the National Science Foundation. In addition to Kidonakis, Marco Guzzi, who joined Kennesaw State last year as assistant professor of theoretical particle physics, is a co-author on a paper that has been ranked No. 8 as a top-referred paper among all papers with fewer than 10 authors since 2010.



Dr. Nikolaos Kidonakis



Q. Please describe for the layperson the significance of being ranked the No. 1 physicist in fundamental physics in a worldwide comprehensive study by CERN physicists for the past eight years.

A. This is a tremendous distinction. The study has ranked over 70,000 physicists from over 7,500 institutions using a citation analysis of 1.27 million papers and 30 million references in the INSPIRE database in various fields of fundamental physics for the past half century and beyond. To be ranked No. 1 across INSPIRE under several categories since 2010 and also No. 1 in my subfield of theoretical particle physics in many categories over long time periods is enormously significant.

Q. Prior to joining KSU, where did you work, and why Kennesaw State University?

A. I was educated at Caltech, Cambridge University and SUNY Stony Brook and had postdoctoral positions at Edinburgh University, Florida State University and Cambridge University before coming to KSU. I like that KSU has been a

rapidly growing university in many different directions for a long time and has been on an upward trajectory in research.

Q. Please explain the significance of being ranked No. 1 under three different methods: individual citations, paper rank and overall author rank.

A. Research papers can have widely varying numbers of authors, from a single author to hundreds or even thousands of coauthors. Also different papers can have large variations in numbers of references. To take into account these variations and to make meaningful comparisons, the above study introduced the concept of Individual Citations, which provide a normalization over simple citation numbers. Individual Citations are the total number of citations divided by the number of coauthors in each paper and by the number of references in each citing paper. It is thus very significant that I am ranked No. 1 in Individual Citations. The study also introduced Paper Rank and Author Rank, which use the PageRank algorithm (developed for Google) to gauge the impact of papers and authors, so again, it is very significant that I am ranked No. 1 worldwide by these measures.

Q. Please share a few details regarding elementary particles in physics.

A. I have worked on numerous topics in particle physics, but I am particularly interested in the top quark and the Higgs boson. The top quark is the heaviest known elementary particle and was discovered in 1995 in proton-antiproton collisions at the Tevatron Collider in Fermilab. The Higgs boson was discovered in proton-proton collisions at the Large Hadron Collider at CERN in 2012, and it is associated with the mechanism that provides mass to the other elementary particles. My research involves the development of formalisms and techniques in quantum field theory to describe the strong interactions of quarks and gluons and theoretical calculations that predict the production of top quarks, Higgs bosons and other elementary particles in high-energy collisions.

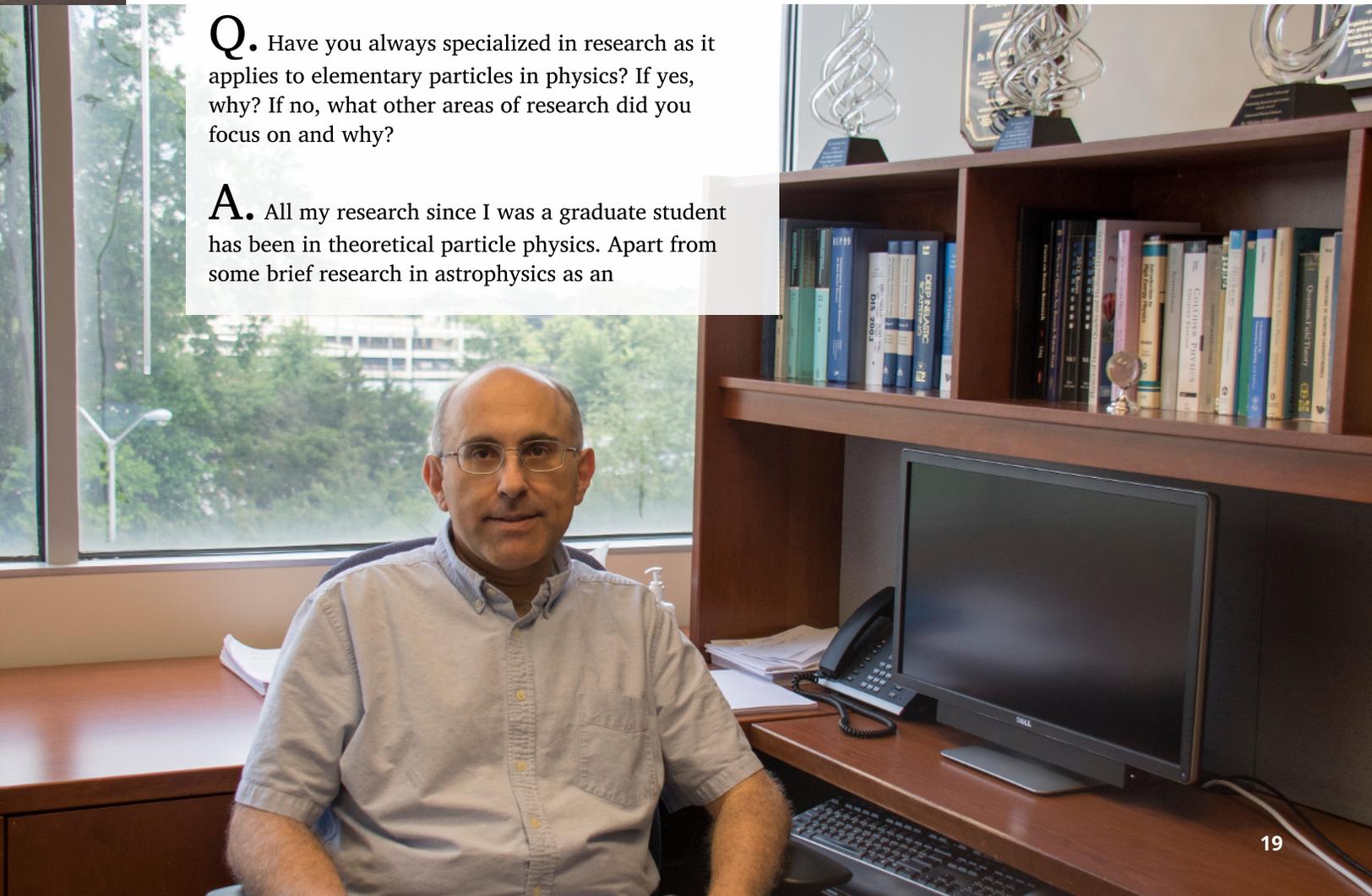
Q. Have you always specialized in research as it applies to elementary particles in physics? If yes, why? If no, what other areas of research did you focus on and why?

A. All my research since I was a graduate student has been in theoretical particle physics. Apart from some brief research in astrophysics as an

undergraduate at Caltech, elementary particles is the field that I am most interested in and have worked on. This is so because this research field addresses the most fundamental questions about the basic constituents of matter and their interactions at the smallest distance scales.

Q. What advice would you give to future physicists who strive to research with the intent of making an impact?

A. My advice is to find a topic that you love and are excited about and to work on it with all the energy and passion that you can muster. Theoretical particle physics is an intellectually stimulating and challenging field, and it attracts exceptionally talented people. Therefore, to make an impact requires very high ability in physics and mathematics, determination, focus and hard work.



STUDENT SPOTLIGHT

by Loretta Daniels



SANJOOSH AKKINENI

Sanjoosh Akkineni is a second-year Ph.D. student in Analytics and Data Science who received his master's degree in computer science with a concentration in data analytics from KSU in 2017. He recently won third prize, along with his Ph.D. colleagues, during KSU Analytics Day 2018 for developing an optimal travel route using advanced statistical software and Google Maps, which helped raise a record \$165,557 for Bert's Big Adventure charity fundraiser.

Akkineni, president of the Graduate Student Association (2016–2018) was also awarded the

Udacity Google Developer Scholarship for the year 2018. As an active student body member, Akkineni was recognized as a Student of the Year Finalist at Kennesaw State University 2016–2017.

When asked why he selected the Ph.D. in Analytics and Data Science program, he responded, "I want a career that forces you to continuously learn, to master certain skills and to go in-depth with your knowledge. My favorite qualities of this program are the pace and diversity. There are many students of all ages, backgrounds and origins. To me, the background of the students in our class is the most valuable and unique asset in our program." The program is comprised of students from various industries bringing their knowledge and experiences to the classroom. "In addition, we have professors from different departments who specialize in different analytics tools." The practicum projects provide students the opportunity to work with industry partners, which also provides valuable experience in real-world analytics situations.

It was evident that Akkineni finds much value in the program: "I thrive in the collaborative environment and learn from my classmates, who bring an incredibly

diverse set of skills and backgrounds. The opportunity to collaborate is invaluable and motivating. As I look toward the workforce, I believe these skills are important, as analytics is a team sport."

One of the defining features of the Ph.D. in Analytics and Data Science program at KSU is a belief in positive failure. The students learn something new, try it, inevitably make mistakes and then become better practitioners by understanding their errors and correcting them. "We are encouraged and expected to experiment and ask questions. Coupled with regular opportunities to apply our knowledge, I cannot think of a better way to prepare for a career in analytics," said Akkineni. The program emphasizes student learning and real-world problem solving with data that comes from industry partners. He has learned that understanding and manipulating data before one gets into model building often takes more time, and it serves as the rudder for future problem solving. The courses and projects offered in the program will enhance his abilities and prepare him for future challenges.

Akkineni's immediate goal will be to work as a skilled data scientist or research analyst. He is excited about using data analysis to map and understand systems and relationships and is open to any industry with complex systems. "I also want to consult with smaller businesses that may not be able to afford full-time analytic staff. I hope to empower organizations to better serve their populations, make better decisions, and improve workflow efficiency and ROI (return on investment)." Akkineni's long-term goal is to take a leading role in data manipulation and analysis in developing countries, where big-data management and analysis is desperately needed in healthcare, energy grid, transportation, manufacturing and agriculture.

"It's truly a blessing to have accomplished so many of my dreams over the years, but I couldn't have done it without the support and love of my family, friends and support from Kennesaw State University."

FACULTY SPOTLIGHT

by Loretta Daniels

Dr. Debarati Sen, online coordinator of geography and anthropology and associate professor of conflict management and anthropology, recently published "[Everyday Sustainability](#)," a book that takes readers to ground zero of market-based sustainability initiatives — Darjeeling, India — where Fair Trade ostensibly promises gender justice to minority Nepali women engaged in organic tea production. These female tea farmers and plantation workers have distinct entrepreneurial strategies and everyday practices of social justice that sometimes dovetail with or rub against the tenets of the emerging global morality market. Sen questions why women beneficiaries of transnational justice-making projects remain skeptical about the potential for economic and social empowerment through Fair Trade while simultaneously seeking to use the movement to give voice to their situated demands for mobility, economic advancement and community-level social justice. It is the first book-length feminist ethnographic exploration of women tea producers' political lives under Fair Trade in the South

Asia/Eastern Himalayan region.

In engaging with the Fair Trade movement and associated

processes of organic certification from transnational feminist and postcolonial frameworks, Sen suggests that "[Everyday Sustainability](#)" closes a major gap in recent studies of the Fair Trade movement and other market-based sustainability initiatives. "It stands out among existing studies on Fair Trade because of its comparative focus on women wage laborers in tea plantations and smallholder women tea farmers in non-plantation areas. Further it focuses on issues of gender justice, an area severely unattended within research on sustainable development. Moreover, the paucity of research on women's economic lives, activisms and postcolonial developments in Darjeeling has made it attractive to scholars of South Asia," said Sen.

The book's original contributions in research include generating longitudinal ethnographic data on the complexities of creating gender-inclusive growth and development at the local, national and transnational scales while drawing grounded data from some of the poorest regions in India.

"I was very excited since this was an industry conference, and I would be sharing information from my book with producers, marketing executives and merchant CEOs."

"I am deeply engaged in social justice work in and outside the classroom. My book most recently won the International Studies Association's book award for the Global Development Section, and I was the recipient of KSU's Commission on Racial and Ethnic Diversity (CORED) R.O.H.



Social Justice Award in 2017." Sen now

DR. DEBARATI SEN

chairs CORED with a colleague and has made strategic collaborative interventions last year upholding CORED's mission of inclusiveness.

Sen spoke at the World Tea Expo in Las Vegas in mid-June. "I was very excited since this was an industry conference, and I would

be sharing information from my book with producers, marketing executives and merchant CEOs. My two talks highlighted how we can better understand women's lives in tea producing locations and how we can support women entrepreneurs."

When asked what she hopes to achieve during her tenure at KSU, Sen responded, "I just completed my sixth year at KSU. I hope to continue my work of teaching and working on race and gender issues to make KSU a place of pride for our students. We are serving a county whose demographic is changing fast and in the context of workplace, demands for more awareness about diverse groups of people. I hope my research and teaching, along with my service, will train students so that they can be true professionals who are not afraid to speak up and demand their rightful place in their own communities and beyond."

BUILDING A BRIDGE TO GRADUATE RESEARCH

by Ashley Crisler



As the Program Coordinator for the Department of Social Work and Human Services, Dr. Jennifer Wade-Berg works to prepare undergraduate students for life after their bachelor's degree, whether that is taking a job in their career field or moving toward graduate education.

"We typically prepare students to work in the field of human services in order to assist with the direct provision of services for clients or managing those programs," explained Wade-Berg. "In the end, we are training our students to not only be entry-level professionals in the field, but a good number of our students are also now going to graduate school as well to advance their studies."

According to Wade-Berg, most students with undergraduate degrees in the area of human services who move to higher-level education seek degrees in social work, public administration, public health, youth studies and child advocacy, making research a pivotal part of their education. "We do our best to highlight and advocate for students to engage in research, particularly applied research projects in the field or ethnographic studies so they can take those experiences and then translate them later on into the kinds of work that graduate students will be doing."

Wade-Berg uses her extensive research

abilities to bring programs to underrepresented students to ensure all students succeed here at KSU and have the skills necessary to move on into higher-level education. "I'm bringing external funding into the institution to establish scholarships and/or recruitment/retention-based services. My focus is centered around underrepresented students. I then take the information that I learned and feed that back into my research and curriculum undertakings," Wade-Berg explained.

The knowledge gained from the research has contributed to the academic and co-curricular foundation for students who will contribute to their success as undergraduates and ultimately bridge

"We do our best to highlight and advocate for students to engage in research, particularly applied research projects in the field or ethnographic studies."

them into graduate studies and graduate research. This process has led into helping her establish grants and programs to

benefit the University, continuing the research cycle. With this system, Wade-Berg has brought in several million dollars to KSU, including \$1.8 million in funding from The Goizueta Foundation, \$3.2 million [from the Department of Education's First in the World grant](#) and the \$1.25 million from The Coca-Cola Foundation for [first-generation student scholarships](#).

Not only is she providing real-life examples of how research can impact the professional and educational field, but she is also helping to recruit and retain underrepresented students and promote them to graduate education, ensuring KSU remains a campus centered on diversity.

Wade-Berg, who is the program administrator for the First in the World grant funded KSU's Transfer Advocate Gateway, works with transfer students to help them make the step from an associate degree to a baccalaureate

degree, and hopefully, to a graduate degree. "Students who go from an associate degree to a baccalaureate degree tend to be very serious about their studies and tend to know that graduation is where they want to go and where they want to be and tend to have a career path that they have set for themselves, including some graduate-level education," stated Wade-Berg. "We definitely try to provide resources and workshops for those students. The external funding allows us to fund graduate research assistantships. For our transfer students, we collaborate with campus partners to host graduate workshops that aid students with taking the GRE, GMAT or other graduate testing and provide information on how to apply to graduate school. Similar programming occurs with our Recruitment, Retention, and Progression to Graduation program (RRPG) for Hispanic/Latino program.

"If we can get underrepresented students to stay engaged and go onto graduate education, then we may be able to help grow the pipeline for the next generation of faculty as well," added Wade-Berg. "I'm hoping that we can grab and hold onto our brightest students and help them become our future colleagues as well."

In the future, she hopes to use the results of her research and grants to bring new programs and create more opportunities for allowing undergraduate students to complete their master's degrees while enrolled at KSU (i.e., the [Accelerated Bachelor's Master's Degree program](#)). "I think the opportunity that exists that I look forward to exploring is looking at the richness and the depth of the data that's been produced from these grants that I've had and then also the work that's being done in an effort to create some innovative programming for The Graduate College," she explained. "I think that's the future."

2018 3MT® Winners

by Ashley Crisler



The Graduate College witnessed its largest group of students participating in the 2018 University of Queensland Three Minute Thesis (3MT™) competition, a research communication contest with 16 participants.

Three Minute Thesis (3MT®) celebrates the exciting research conducted by masters and doctoral students around the world. The research competition was developed to cultivate students' academic, presentation and research communication skills.

This year's first, second and third place winners all had something in common: they are all women in STEM-related fields of study. First place winner, Kelsey Clearman, a graduate student in



Kelsey Clearman

[integrative biology](#), presented her thesis on induced pluripotent stem cells, new technology in the field of regenerative medicine. Her research focuses on using an adapter system to induce pluripotency through direct delivery of factors. Clearman plans to continue her experiments involving stem cells and personalized regenerative medicine and intends to apply for her Ph.D. in the fall to continue her research.

Runner-up Erica Strobe, a graduate student in integrative biology, presented her thesis on the effects of drift macroalgae on sediment nitrogen cycling in seagrass beds in St. Joseph's Bay, Florida. Her research centers around nitrogen cycling in seagrass ecosystems



Erica Strobe

and how macroalgae may be impacting it. She hopes to use her findings to convey the need for more nitrogen research in seagrass beds and show management agencies the negative impact of nutrient pollution.

People's choice Srivarna Janney, a [computer science](#) major, presented her thesis on using new algorithms to speed up MRI scanning. Her research's aims to improve on the current CS-MRI scan process by using three newly developed algorithms. Janney plans to reach out to companies that create MRI equipment to implement the developed algorithms in the MRI hardware. She has been accepted into KSU's [Analytics and Data Science](#) Ph.D. program and plans to further develop her algorithms.



Srivarna Janney



by Heather Hankins

SERVING KSU AND THE COBB COUNTY COMMUNITY

"It's pretty cool to be able to teach alongside the people who taught you."

Nearly 15 years ago, Steven Ellis walked across the stage at KSU to receive his degree in political science. Today, Ellis, the assistant solicitor for Cobb County Solicitor General's Office and president of Kennesaw State University's Alumni Association, remains deeply involved with KSU and the Cobb County community.

In a recent interview, Ellis describes why he uses his education and professional community to contribute to the success of KSU students. Growing up in Cobb County, Ellis did not expect to like Kennesaw State University as much as he did. He entered his freshman year assuming he would transfer after two semesters. However, KSU allowed him to meld what he was learning with real-world application, and he was hooked. "I intertwined my involvement with my academic life. It was such a great experience being able to take what I had learned as a political science student and apply it in a real-world campaign (for student government president)," said Ellis.

Being heavily involved with student government and Phi Kappa Phi, Ellis spent his time at KSU taking action to shape the campus as KSU started to welcome residents. If KSU offered a law school, he would have continued his education with the university. While he earned his law degree from John Marshall Law School, he still considers himself a lifelong KSU Owl.

In his current role as an assistant solicitor for the Cobb County Solicitor General's office, which covers traffic court as well as Title 16 court, Ellis is in traffic court every day presenting cases to either a judge or a six-person jury. His office works closely with law enforcement, the district attorney's office and judges, ensuring efficient movement of cases. "We are about justice. Sometimes justice means sending someone to jail; sometimes it means giving them probation; sometimes it means dismissing their case," Ellis explained.

When not in court, Ellis serves as his office's public information officer and coordinates the intern program. As if all that wasn't a full day's work, he teaches an American government course as a part-time professor at KSU. The course, Introduction to American Government,

allows Ellis to invite politicians and government employees to speak to the students and offer a glimpse and insight of their day-to-day responsibilities. "It's pretty cool to be able to teach alongside the people who taught you."

Ellis' 12 years of service on KSU's Alumni Association's Board of Directors (eight years as a member and four years as president) has been a path well-taken. "I'm 37, so you do the math. That's a big portion of my life that I've been involved and affiliated with KSU, and I hope to be for the next 50 plus years," said Ellis.

He represents the Alumni Association at commencement, serves as an alumni representative on presidential search committees, and works with the administration to coordinate alumni association efforts. As president of the first consolidated KSU board with directors from both legacy schools, KSU and Southern Polytechnic State University (SPSU), Ellis has an unobstructed view of all of the changes and challenges KSU has gone through in the past eight years. As a result, he stresses that people, even his SPSU alum father, are starting to see that "we are all KSU, and we are all moving forward together."

"That's the path that I've taken: student, alumni, part-time faculty member and being part of the KSU community," stated Ellis.

Ellis has plenty of advice for KSU's students, "We've come a long way and accomplished so much in a short amount of time."

His advice:

- Go ahead and get your graduate degree done with; don't put it off to get married and have a family.
- Stay connected to the school.
- Understand that change is difficult.
- Know that the institution is growing, will

experience growing pains and will have some upheaval, but it does not diminish the value of your diploma nor does it take away from your cherished experiences you've had here as a student.

- Be proud to be part of this institution.

However, the most important advice Ellis offers is this: "Kennesaw State University doesn't exist in a bubble. We are in a vibrant community, and we are a very integral part of that community. What happens on campus has ramifications beyond that community. We are a vital part of the University System of Georgia. Our alumni are leaders in a diverse and wide area of careers. Actions you take today on this campus will reverberate for a long time. We are at a critical time in the history of this school."



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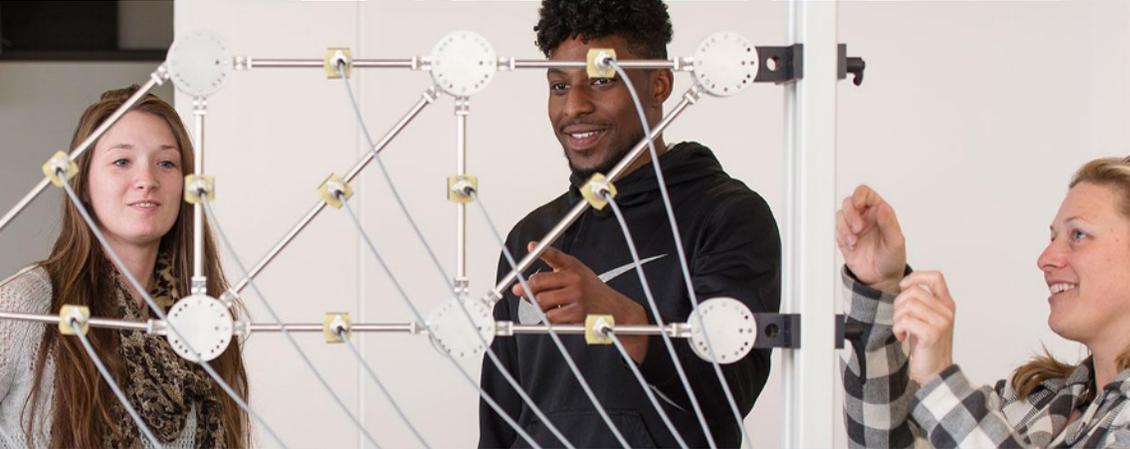
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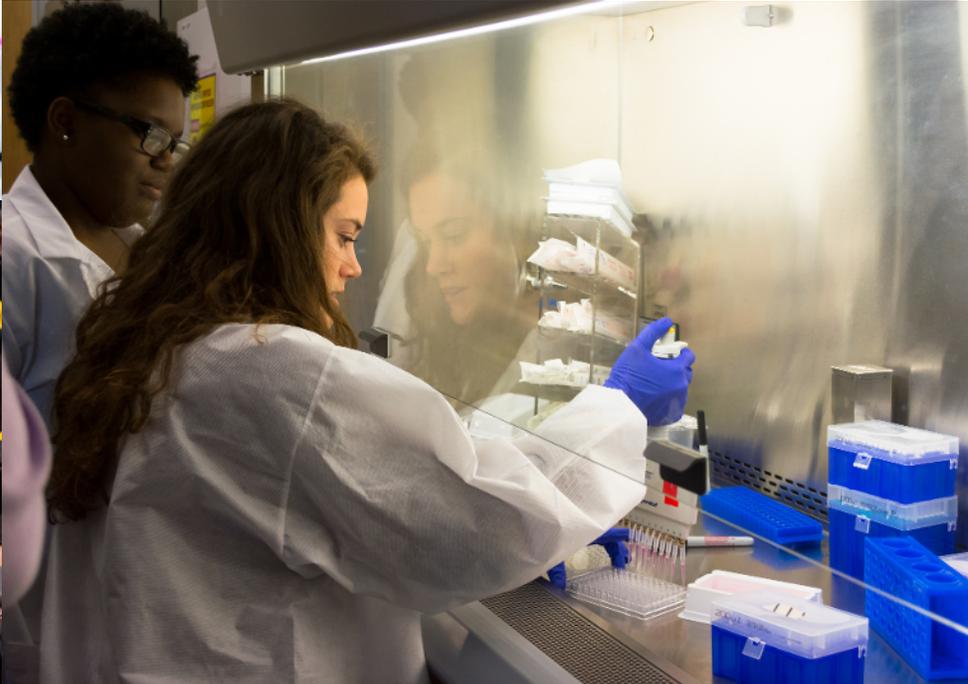
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