



THE FUTURE OF CYBERSECURITY IS AT A&M CENTRAL TEXAS

As the importance of cybersecurity increases and threats multiply nationally and globally, Texas A&M University-Central Texas researchers work to uncover how to keep people, businesses, and governments safe, with the help of a \$4.2 million contract through the Department of Homeland Security and the United States Air Force.



A MESSAGE FROM OUR PRESIDENT

As Texas A&M University – Central Texas enters its second decade as a public, regional university, and a member of The Texas A&M University System, it continues to embrace and refine its unique role as the state’s only upper-level university. All of its undergraduates transfer into the university at the junior level, most from the region’s community colleges, but many as well from across the state and nation. Together with students entering graduate programs, they form an exceptionally diverse demographic of ethnicity, age, background, and educational pathways, with many of them military veterans and family members. Since 2009, more than 7,500 of them have earned undergraduate or graduate degrees, and the number is steadily growing.

By broadening educational access for its students, Texas A&M University–Central Texas is also fulfilling a commitment to the large expanse of Central Texas that it serves, and where 75% of its students reside. That commitment has been to strengthen the region’s workforce by providing exceptional pathways to educational scholarship for its students, including opportunities to engage in meaningful research. Those opportunities continue to expand at both the undergraduate and graduate levels, ranging from high level research in areas such as renewable energy and cybersecurity, to more regional applications of research focusing on the practical needs of local government, education, health care, and the military.

The growing range and quality of research on campus is directly attributable to the quality of faculty who have been attracted to the university, and to the academic leadership and support provided for them. Their scholarship and research, and that of their students, will have a lasting impact on the region, with planning now well under way for the development of an innovation district and research park that will foster public, private, and military collaboration in scholarship and research on the university’s campus for many years to come.

A handwritten signature in black ink that reads "Marc A. Nigliazzo". The signature is written in a cursive style.

Dr. Marc A. Nigliazzo
President

Texas A&M University - Central Texas



The Light

Bright Minds. Shining Research.

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A&M Central Texas researchers work to uncover how to keep people, businesses, and governments safe, with the help of a \$4.2 million contract through the Department of Homeland Security and the United States Air Force.



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One of our Associate Professors receives a \$150,000 USDA grant to facilitate Project TALENT.



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A Warm Welcome from the VP of Research and Economic Development

Thank you for joining us in our presentation of research highlights for the past year at Texas A&M University-Central Texas. As you read the research endeavors of our professors, staff and students, you will experience a great variation of diverse research topics, researcher backgrounds, and funding streams. We have come a long way from our research beginning as an independent university within the Texas A&M University System.

As we celebrate our first 10 years as Texas A&M University-Central Texas we also celebrate our many research accomplishments including our first independent grant from any external source only eight years ago, our first federal subcontracted grant or contract only four years ago, and our first federal grant or contract this past year. We have grown to over \$1,000,000 in external research funds per year in less than 10 years, and our current projection places us over double that amount per year by our 20 year celebration.

As you read “The Light” and the research stories, you will see our increasing number of research projects with external partners. Our research strategic plan includes many fascinating and benchmark research studies that include defense, alternative energy, healthcare, cybersecurity, and all of our current and future educational disciplines in our three colleges, the graduate school, and library.

We are also planning in conjunction with our community partners an innovation district and a university research park that will include the research endeavors noted above with a holistic living environment that focuses on “Work - Live - Play” for all involved. With our finance and administration division support in the planning stages, the university research park should break ground in the next few years and include local, national, and international companies seeking to improve their research and development at Texas A&M University-Central Texas.

Again - thank you for joining us in our presentation of our research highlights for the past year. We have a bright research future ahead of us. I leave you with a thought that molds our research plans “Education is the Catalyst for the Mind - Research is the Deepening of the Soul.”



Dr. Russell Porter
Professor of Business
Vice President of Research and Economic Development



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THERE ARE A LOT OF GREAT THINGS HAPPENING IN THE OFFICE OF RESEARCH AND ECONOMIC DEVELOPMENT!

Our Office of Research and Economic Development serves the whole university in their research endeavors. We assist with grant development, and this year we hosted a luncheon presentation by the Senior Grant Specialist at West Texas A&M on how to find and to start applying for funding support for faculty, staff, and student researchers. We maintain research funding and administration databases; during this past year A&M Central Texas averaged over \$1.4 million in grants and contract funds among the 3 colleges, the library, and the University Center for Applied Research and Engagement. Those funds came from federal and state agencies, from private foundations, from local and national companies, and from the A&M System itself. We also oversee all research compliance, including ethics review committees; our Institutional Review Board and the Institutional Biosafety Committee are in place and we are setting up for an Institutional Animal Care and Use Committee. We support research conference attendance by providing funds to the colleges for faculty conference and meeting travel and by acting as the liaison to the A&M Systems' annual Pathways student research conference and the biennial Texas Undergraduate Research Day. In addition, as part of the university's Warrior Week celebration, we hold a student research forum for those students who have presented at conferences or who are planning to present to showcase their research to the university community. Below you will find a listing of all of the individuals in the Office of Research and Economic Development.



Dr. Walter Murphy
Adjunct Faculty in Psychology
Executive Director for Research and Sponsored Programs, Deputy CRO, and Interim RCO

Office of Research and Economic Development

Dr. Russell Porter

Vice President of Research and Economic Development, IO/CRO

Dr. Walter Murphy

Executive Director for Research and Sponsored Programs, Deputy CRO, Interim RCO

Dr. Taylor Harvey

Regional Director of Texas A&M Engineering Experiment Station (TEES)

Dr. Dalila Salazar

Director of the University Center for Applied Research and Engagement (UCARE)

Dr. Michelle Dietert

Chair of the Institutional Review Board (IRB)

Dr. Julie Kresta
Chair of the Institutional Biosafety Committee (IBC) and Associate Director of Research Support

Dr. Laura Weiser-Erlandson

Chair of the Institutional Animal Care and Use Committee (IACUC) (Forthcoming)

Ms. LaTreice Frederick

Executive Assistant to the Vice President of Research and Economic Development

Ms. Brittany Jamison

Student Worker

University Center for Applied Research and Engagement (UCARE)

Dr. Dalila Salazar, Director

Dr. Jeff Kirk, Faculty Fellow

Dr. Barbara Altman, Faculty Fellow

Dr. Walter Murphy, Faculty Fellow

Dr. Vinay Gonela, Faculty Fellow

Dr. Taylor Harvey, Faculty Fellow

Mr. Elvis Ochoa, Research Associate (Former)

Ms. Claudia Marcela Mora Pineda, Graduate Research Assistant

Ms. Renee Faison, Undergraduate Research Assistant

Ms. Kayla Manning, Undergraduate Research Assistant

Institutional Review Board (IRB)

Dr. Michelle Dietert, Chair

Dr. Dalila Salazar, Vice Chair

Dr. Coady LaPierre, Member

Dr. Austin Vasek, Member

Dr. Samuel Fiala, Member

Dr. Liana Taylor, Member

Dr. Walter Murphy, Member

Dr. Anitha Chennamaneni, Member

Dr. Laura Weiser-Erlandson, Member

Dr. Anthony Fulmore, Member

Mr. Paul Turcotte, Member

Ms. Susan Bowden, Member

Rev. Samuel Powell, Member

Institutional Biosafety Committee (IBC)

Dr. Julie Kresta, Chair

Dr. Linh Pham, Member

Dr. Angela Patrick, Member

Dr. Bruce Whitney, Member

Dr. Walter Murphy, Member

Dr. Don Daniels, Member

Dr. Manish Aligeti, Member

Institutional Animal Care and Use Committee (IACUC)

Forthcoming Fall 2020

Dr. Laura Weiser-Erlandson, Chair



THE FUTURE OF CYBERSECURITY IS AT A&M CENTRAL TEXAS

Texas A&M University-Central Texas and Texas A&M University have been recently awarded a \$4.2 million cybersecurity contract from The Department of Homeland Security and the United States Air Force. Together with Texas A&M University Engineering Experiment Station (TEES) and Centex Technologies, this research contract will extend until September 2023. The primary investigator and co-investigator responsible for the contract are Drs. Anitha Chennamaneni and Taylor Harvey, respectively.

Congressman John Carter stated “I think it’s very appropriate that we should launch a cyber study right here on The Great Place. We are the war fighters, cyber is the new battle, the battlefield should be right here at A&M Central Texas.” Dr. Marc Nigliazzo, President of A&M Central Texas continues this thought, arguing “It’s not just the research but it’s the impact on the instructional capability of the institution as well and what we’ll be able to produce there. We already have Master’s degrees as it relates to cyber; now the research capability adds a greater scope and opportunity for the students as they go through the program.” Adding to this, Killeen Mayor Jose Segarra said “It’s a great thing for our city. As a community, it’s a great thing happening. It’s going to implement research, continue the growth of this great university, and I’m honored to be part of [it].”

This research extends our deep commitment to a strong and impactful research initiative here at A&M Central Texas. The scope of this new research award is to protect cyber infrastructure against external manipulation of hardware and software, specifically for cyberattacks targeting communications of law enforcement, fire, and EMS personnel; energy generation and water distribution; military defense and national infrastructure. Moreover, President Nigliazzo shared, “This research opportunity was initiated by Congressman John Carter and our pathway through the approval process was led by our own Dr. Russ Porter, who is Vice President of Research and Economic Development, with continuous support from the Texas A&M University System and from Congressman Carter’s office...The contract award will allow us to move toward the development of a cybersecurity research center on campus, opening the opportunity for a partnership with other Texas A&M University system institutions and agencies, while further strengthening our relationship with the Army’s Operational Test Command.”

In 2017 with the assistance of Representative Carter and Texas A&M Chancellor Sharp, and through the Chancellor’s Research Initiative, the University was able to purchase its Scanning Electron Microscope (SEM) which has proven to greatly expedite and strengthen our current level of research capabilities. President Nigliazzo said “Both of these gentlemen, Judge Carter and Chancellor Sharp, have also strengthened our regional capability to not only pursue sophisticated research but to move forward in planning the implementation of a regional research park on our campus.” Speaking towards this partnership with A&M Central Texas, Chancellor Sharp said “It’s particularly great because of our relationship with Fort Hood and because of the attitude of the entire Texas A&M system about veterans, about military service and the sacrifices that all those folks play...this is about making sure that we protect them and their secrets so they’re not in danger because somebody is looking inside all of our defense apparatuses because somebody slipped a chip in from a foreign government that is spying on us...[and] the place that will fix that is A&M Central Texas.” We are honored, greatly apt, and ready to tackle many of the existing issues in cyber security. Through this research award, A&M Central Texas will lead the charge forward, extending our advanced research towards discovering and resolving new and emerging cyber concerns.

*Information Source: President Nigliazzo’s Announcement on November 7, 2019; KWTX Story by Brandon Hamilton on November 11, 2019; and Cove Leader-Press by Brittany Fholer on November 14, 2019.



MEET THE PRINCIPAL INVESTIGATOR AND CO-INVESTIGATOR



Dr. Anitha Chennamaneni is Chair and Associate Professor of the Computer Information Systems in the College of Business Administration at Texas A&M University - Central Texas. Her research interests include Cybersecurity, Internet of things, Information Privacy, Data Analytics, Knowledge Management and Social Networking Technologies. She teaches classes in Information Systems, Cybersecurity, Big Data Analytics, Decision Support Systems & Business Intelligence, Database Management, Systems Analysis & Design, IT Project Management and Programming. Before embarking on her academic career, Dr. Chennamaneni worked in the IT industry over ten years for major companies in design, development, and implementation of Information Systems.



**College of Business
Administration**



Dr. Taylor Harvey is an Assistant Professor of Research in the College of Arts and Sciences at Texas A&M University - Central Texas and also serves as the TEES Regional Director for Central Texas and Co-Directs the Texas A&M Site of the National Science Foundation Industry/University Collaborative Research Center (I/UCRC) on Next Generation Photovoltaics. His primary area of research is semiconductor characterization with a focus on photovoltaics and cybersecurity. Before his current position, Dr. Harvey co-founded and led Lucelo Technologies, a printed solar start-up. Dr. Harvey received his PhD from the University of Texas at Austin in 2014.



**College of
Arts and Sciences**



THE TEXAS A&M UNIVERSITY SYSTEM



DR. JODY FRY RECEIVES THE DISTINGUISHED REGENTS PROFESSOR AWARD

The Texas A&M University System Board of Regents has designated 13 faculty members and eight agency service, extension, or research professionals within the A&M System as Regents Professors and Regents Fellows for 2018-2019. The Board established the Regents Professor Awards program in 1996 and the Regents Fellow Service Awards program in 1998 to recognize employees who have made exemplary contributions to their university or agency and to the people of Texas. The selection process for the awards begins with a call for nominations from the Chancellor. Final nominations are put forth to the chief executive officer of each respective entity. They are then subject to a System-level review consisting of academic vice chancellors and past recipients of the awards. Finally, nominations are forwarded to the Chancellor and the board for final approval.

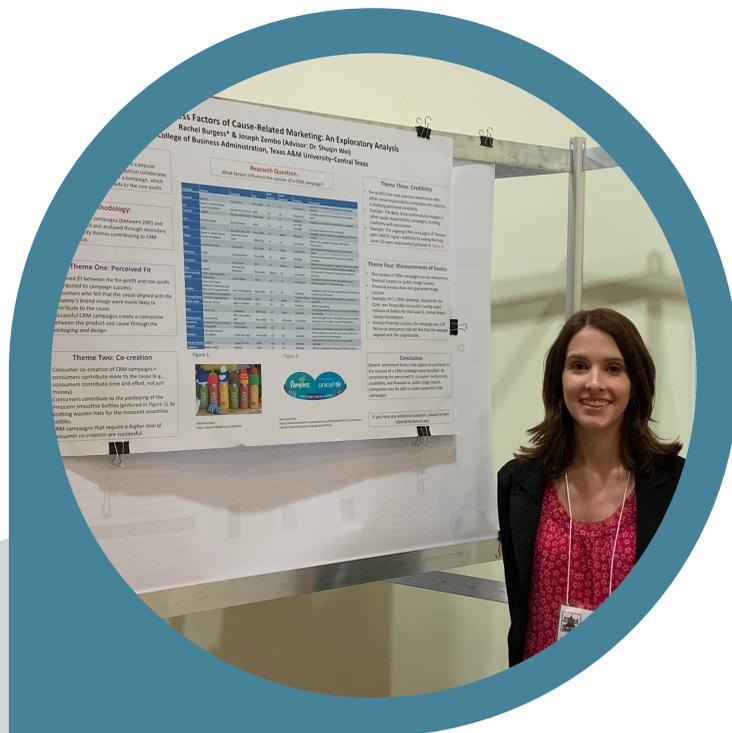
Speaking towards the honor and value of these awards, Elaine Mendoza, Chairman of The Texas A&M University System Board of Regents said “[They] recognize and honor the exemplary accomplishments and contributions of our faculty, extension or research professionals...Though they vary in focus and location, these individuals exemplify the commitment to excellence in research and service that sets A&M System employees apart.”

We are very proud that this year’s recipient of the Regents Professor Award is Dr. Louis Jody Fry, Professor of Management in the College of Business Administration at A&M Central Texas.

*Information Source: Original Press Release: The Texas A&M University System on October 31, 2019

MARKETING STUDENT REPRESENTS OUR UNIVERSITY AT TEXAS UNDERGRADUATE RESEARCH DAY

Ms. Rachel Burgess
Former Undergraduate Student
College of Business Administration



Rachel Burgess, Marketing and Impressions Coordinator with Gunter Financial Services—Raymond James, received a Bachelor of Business Administration in Marketing and a Bachelor of Business Administration in Management from A&M Central Texas in 2018.

Under the direction of Dr. Monica Shuqin Wei, Assistant Professor of Marketing in the Department of Management and Marketing at A&M Central Texas, and with contributions from A&M Central Texas, Business and Computer Information Systems Undergraduate student Joseph Zembo, Rachel conducted research for her project, “Identifying Success Factors of Cause-Related Marketing: An Exploratory Analysis.” To better understand the success factors behind popular Cause-Related Marketing (CRM) campaigns, a sampling of successful CRM campaigns from 2003 were analyzed through several variables (i.e. year of launch, host country, target consumers, prior CSR initiatives, and outcomes).

From this project, four major themes emerged: First, perceived fit between the for-profit and non-profit organization appears to be the most prominent factor. Consumers who felt that the cause aligned with the company’s brand image were more likely to support the campaign. Second, CRM campaigns with higher customer involvement resonate with consumers. Third, organizations that had previous social responsibility campaigns are more successful in building credibility. Finally, CRM success can be construed as financial success or public image success; financial success does not guarantee image success.

Rachel presented her research at the 2018 Pathways Conference and the 2019 Texas Undergraduate Research Day at the Texas State Capitol, in Austin Texas. The Texas Undergraduate Research Day, themed Transforming Texas through Undergraduate Research, was held at the Texas State Capitol in Austin Texas. Coordinated by the Council of Public University Presidents and the Independent Colleges and Universities of Texas, Inc., and in partnership with the Texas Association of Admission Professionals, this program showcased 75 research projects which highlighted for Texas legislatures how research conducted by undergraduate research students positively impacts Texas and Texans. Research was conducted across a wide variety of disciplines, reflecting the work of numerous undergraduate research students from over 50 academic and health related institutions, including public, private and/or independent universities and colleges. Student researchers selected to represent their respective institution at the Capitol were chosen by a faculty liaison who was appointed by their University President. Alongside their faculty advisors, the undergraduate student researchers presented their projects through high quality research poster displays. On this day, all participants were invited to tour the Capitol, attend committee hearings, and observe the daily meetings of the Senate and/or House of Representatives. Finally, students were encouraged to work alongside their respective institutions to schedule meetings with their legislators.



BIOLOGY STUDENT REPRESENTS OUR UNIVERSITY AT PATHWAYS STUDENT RESEARCH SYMPOSIUM



Ms. Renae Gosnell
Former Undergraduate Student
College of Arts and Sciences

Renae Gosnell graduated this past Fall 2019 with a Bachelor of Science in Biology at A & M Central Texas. She presented her research entitled, “Qualitative Analysis of Glyphosate in Home-Distilled and Commercial Liquors through Enzyme-Linked Immunosorbent Assay” at the 16th Annual Pathways Student Research Symposium.

Under the direction of Dr. Linh Pham, Assistant Professor of Chemistry in the Department of Science and Mathematics at A&M Central Texas, Renae notes through her research that exposure to glyphosate, an herbicide and desiccant widely used in agriculture, could potentially lead to an increased risk of cancer. Her experiment was designed to determine the trace presence of glyphosate in 34 home-distilled liquor samples collected from various parts of Texas, and 27 commercial liquor samples. The content of glyphosate in those samples was analyzed by Enzyme-Linked Immunosorbent Assay (ELISA). The data gathered were then compared to the acceptable limit established by the U.S Environmental Protection Agency (EPA).

Texas A&M International University proudly hosted the 16th Annual Pathways Student Research Symposium in Laredo Texas on November 7 and 8, 2019. The Pathways Student Research Symposium provides an opportunity for undergraduate and graduate students across multiple academic disciplines to present their research findings in a poster or oral format. The Symposium provides students with the valuable experience of networking and showcasing their research with faculty, judges, and other participants to supplement their education. Projects were judged by a minimum of two Texas A&M University System faculty members with expert knowledge in their perspective field.

*Information Source: tamiu.edu/pathways/.



COLLEGE OF ARTS AND SCIENCES

The high quality of the academic programs in the Arts and Sciences at A&M Central Texas is largely due to our commitment to research and scholarship. Our faculty are engaged scholars who view advancing discovery and creativity in their disciplines as fundamental to their teaching. Our faculty are recognized in their disciplines and several have gained national and even international reputations for their scholarly work. Considering the size of the institution our faculty are “boxing above their weight class.”

In the past year faculty in the Sciences have published on cancer research, nursing education and training, solar energy and materials science, and applied data science. Scholarship in the Social Sciences include studies of rural Social Work, conditions for rural women in Bangladesh, transgender studies, Texas Archeology, prosecution of sexual crimes against children, and drug treatment programs in prisons. The Humanities faculty have publications in film studies, Medieval and Modern Literature, Rhetoric, Presidential Studies, and Russian history and policy. Several of these publications are in top-tier journals and presses. A single year’s scholarly work in Arts and Sciences raises the profile for the university and enriches our contributions in the classroom. As scholars our faculty are equipped to develop student research skills and creative work. Our students receive an impactful and rigorous education.

Dean Jerry Jones

EXTRA! EXTRA! READ ALL ABOUT IT!

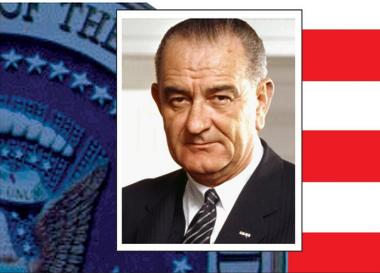
NEW BOOK EXPECTED TO BE COMPLETED IN 2020!

New York Times bestselling author and editor known for his extensive multilingual archival research, our very own Dr. Luke Nichter will release his current project sometime this year. Entitled *The Deputy: The Life of Henry Cabot Lodge, Jr.*, the book is expected to be published by Yale University Press in 2020.

Dr. Nichter is a Professor of History and Beck Family Senior Fellow at Texas A&M University-Central Texas, Book Review Editor for Presidential Studies Quarterly, and a National Endowment for the Humanities Public Scholar for 2017-2018. His area of specialty is the Cold War, the Presidency, and U.S. Political History, with a focus on the "long 1960s" from John F. Kennedy through Watergate.

Dr. Nichter has been a Visiting Fellow at the Norwegian Nobel Institute, an Andrew W. Mellon Fellow at the Massachusetts Historical Society, a Visiting Scholar at the University of Michigan's Eisenberg Institute for Historical Studies, a Senior Visiting Research Fellow at the University of Oxford's Rothermere American Institute, a Hansard Research Scholar at the London School of Economics, and a Visiting Scholar at Bowling Green State University. He is a former founding Executive Producer of C-SPAN's American History TV which launched in January 2011 and in 41 million homes.

NIXON TAPES: 1973



Lyndon B. Johnson
Pursuit of Populism,
Paradox of Power



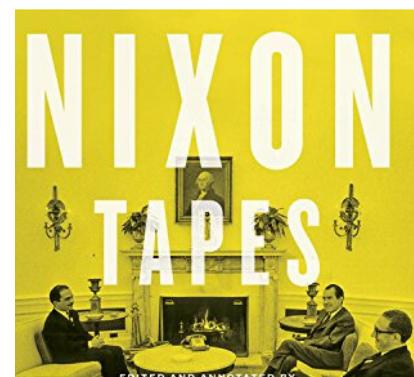
**Richard Nixon
and Europe**



Dr. Luke Nichter
Professor of History



George W. Bush



Richard M. Nixon

In the Arena: from Valley to Mountaintop

ON THE OPINIONS AND EXPERIENCES OF TRANSGENDER MILITARY SERVICE MEMBERS DURING A TIME OF UNCERTAINTY

As an Associate Professor of Sociology at A&M Central Texas, Dr. Michelle Dietert has spent much of her career focused on supporting diverse populations within her discipline through her research and pedagogical foci, as well as through her service to the University.

She has six publications in the area of gender studies focusing on the experiences of transgender individuals. Her most recent publication in 2019 is a book chapter “Gender Benders and Communitas” with her colleague in the book *Neither Here nor There: The Many Voices of Liminality*, edited by T. Carson and published by Lutterworth Press. *Neither Here nor There: The Many Voices of Liminality* draws together the expertise, experience, and insights of a coterie of authors, all of whom relate the core concepts of liminality to their unique contexts. Her chapter, “Gender Benders and Communitas” explores liminal spaces inhabited by transgender individuals and other gender non-conformists.

The expression of alternative forms of gender identity is often met with disdain and in some instances, violence in societies that do not recognize more than two genders. Individuals who refuse to conform in socially prescribed ways of gender expression often fall somewhere along a gender continuum between female and male. Others may not identify with either gender and assume an anti-gender stance. At least for a time, some gender variant individuals experience liminality as they transition from one gender identity to the other, if they choose to transition.

Her most recent presentation “The Opinions and Experiences of Transgender Military Service Members during a Time of Uncertainty: A Research Note” given in November 2019 at the International Biennial Conference of the Inter-University Seminar on Armed Forces and Society (IUS) in Reston, Virginia focused on documenting participant experiences during the Obama Administration’s policy on open service to the time leading up to the Trump Administration’s return to a military ban on transgender service. Findings include the following: (a) participant experiences with the Obama Administration’s DoD policy on transgender service, (b) participant thoughts on the cost of transgender related health care to the military, and (c) participant attitudes about whether or not their service negatively impacts unit cohesion and readiness. This study adds to research on how military policy changes in two over-lapping administrations affected the lives of transgender service members.

Dr. Dietert continues to engage in new research and conferences; her future research will examine the views of peers and Commanding Officers regarding experiences working with their transgender counterparts.



Dr. Michelle Dietert
Associate Professor of Sociology



COLLEGE OF EDUCATION

The College of Education has a multi-focused view of research; its webpage indicates that its vision is “to be an impactful force in preparing and supporting reflective practitioners who use education and professional training to transform the community and global society.” Because it encompasses programs including teaching and counseling, the COE’s research is applied, with practical implications. Work by its faculty and staff members includes an ongoing set of in-depth published reports with guidance for universities on measuring and increasing academic rigor, an in-press manuscript on teaching APA publication format to undergraduates through an in-class instructional game, a study in progress on supporting students with disabilities in higher education, and a recent COE-faculty-led Study Abroad trip that involved students in work comparing teaching in the United States and in China.

In addition to the applied research, many faculty members in the college are involved in basic research projects. These include a faculty-student study on eating disorders that the graduate student recently presented at a conference in London, an upcoming presentation on school principals as instructional leaders, and many masters theses in the Experimental Psychology program such as a project on attachment, emotion regulation, and academic success, which was recently submitted to a journal for peer review, and another on tone of voice and psychological reactance, whose author has moved on to a doctoral program in psychology.

Research grant submissions for those in the college also reflect the diversity of approaches, including two that are currently funded (a Sanford Inspire grant to support education and training for the military-connected community in Central Texas and a Texas Counseling Association grant for examining factors that support career longevity in Hispanic counselors), one that is transferring to the university with a new faculty member (a USDA-funded teacher training project on enhancing agricultural literacy), and two that have been submitted recently to funding agencies (one proposal to the Department of Health and Human Services to develop counselor training programs and another proposal to NSF on enhancing STEM training in local K-12 programs).

Finally, one outgrowth of research from the College of Education that directly reflects its stated vision is the University Center for Applied Research and Engagement (UCARE), which was started as a component of the college by the Founding Dean, Dr. Jeffery Kirk, along with faculty members from several programs across the university. The original plan for UCARE was to give graduate students, and some undergraduate students, the opportunity to engage in research that benefitted the community while applying the skills they were learning in their graduate courses. UCARE has grown into an integral part of the university’s commitment to the community and to graduate education for all the colleges, and it has recently moved under the umbrella of the Office of Research.

Interim Dean Kellie Cude



ON TEACHING AND LEARNING



President Nigliazzo and Dr. Lisa Bunkowski

Dr. Lisa Miles Bunkowski is an Assistant Professor of Higher Education Leadership. As the Director of A&M Central Texas' Faculty Center for Teaching and Learning (FCTL), she promotes teaching excellence and professional development opportunities that support the academic master plan and the University mission. She leads special FCTL initiatives related to our [Quality Enhancement Plan](#), support for new faculty, and a faculty learning community focused on the Scholarship of Teaching and Learning.

Her most recent publication is a forthcoming (2020) chapter, "Bridging the Distance: Examining the Evolution of Key Characteristics in Online Instructor Mentoring Programs for Geographically-Separated Adjunct Faculty" in the book *The Invisible Colleagues: Integrative Development for Remote Faculty in Higher Education*, edited by Dailey-Hebert, A., Donnelly-Sallee, E., & Mandernach, B. J.

In her chapter, Dr. Bunkowski argues geographically-separated adjunct faculty who teach for online programs often experience isolation as a result of minimal contact with their institutions (Ng, 2006; Fouche, 2006; Dolan, 2011; Maier, 2012). This can have a negative impact on their success and that of their students (Lloyd, Byrne, & McCoy, 2012). Distance learning leadership at Park University, a private, non-profit institution, recognized these challenges and has been providing peer mentoring to online undergraduate faculty for two decades. The pioneer program paired new online faculty with experienced faculty who were paid a small stipend for technical assistance and professional guidance (Park University, 2003). The robust Online Instructor Evaluation System (OIES) was developed soon after with the goal of mentoring and evaluating faculty teaching online (Mandernach, Donnelly, Dailey, & Schulte, 2005). In 2007, the mentoring component expanded with the Online Instructor Mentoring Program (OIMP) (Eskey & Roehrich, 2013). This chapter explores the rich history of mentoring online faculty in the undergraduate program at Park and compares key characteristics from the developmental stage of the OIMP, (2007-2009) and the current version of the OIMP as models for program design.

Dr. Bunkowski has additional research projects underway, notably her dissertation outcomes, completed in May 2019, which are currently being revised into three articles, one of which is currently under consideration.



Dr. Andria Schwegler
Associate Professor of Psychology

ACADEMIC RIGOR: A THREE PART SERIES AVAILABLE ON QUALITY MATTERS



qualitymatters.org

Academic Rigor: A Comprehensive *Part one of a three-part series*

Andria Foote Schwegler
Texas A&M University - Central Texas
September 12, 2019



qualitymatters.org

Contextualizing Academic Rigor *Part two of a three-part series*

Andria Foote Schwegler
Texas A&M University - Central Texas
October 11, 2019



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Aligning Institutional Processes to Support Academic Rigor *Part three of a three-part series*

Andria Foote Schwegler
Texas A&M University - Central Texas
October 25, 2019



A Quality Matters White Paper
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A Quality Matters White Paper
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A Quality Matters White Paper
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Awarded the Beck Family Senior Faculty Fellowship Award for the College of Education in 2019, Dr. Andria F. Schwegler is an Associate Professor of Psychology in the Counseling and Psychology Department at Texas A&M University–Central Texas. Dr. Schwegler is a QM Certified Peer Reviewer for online and blended courses and was invited to join the QM Research Colleagues beginning in January 2020.

She serves as the Graduate Coordinator for the Master of Science in Educational Psychology program, a role closely aligned with her publications related to the scholarship of teaching and learning including her most recent work on the Academic Rigor White Paper Series published by Quality Matters (QM), a nonprofit organization committed to quality assurance in education. Below Dr. Schwegler encapsulates the major contributions of her three distinct pieces in the Quality Matters (QM) white papers series. We encourage you to read the full white papers, available on the Quality Matters (QM) website.

The first white paper in the series, *Academic Rigor: A Comprehensive Definition*, acknowledges that discussions of academic rigor assume the purpose of higher education is to advance student learning despite current perceptions shifting from learning towards individuals' personal financial gains. When considering credentials in isolation of learning, academic rigor becomes vulnerable to negotiation, setting conditions to perpetuate existing inequities. Instead of basing notions of rigor on personal experiences or student characteristics, existing research is synthesized to define academic rigor as “intentionally crafted and sequenced learning activities and interactions that are supported by research and provide students the opportunity to create and demonstrate their own understanding or interpretation of information and support it with evidence” (Schwegler, 2019, p. 16). Advances in research on human learning and the scholarship of teaching and learning in the disciplines enable a definition of academic rigor that is grounded in empirical evidence that accommodates future research as our understanding of the conditions that facilitate learning for all students expands.

The second white paper in the series, *Contextualizing Academic Rigor*, situates it within a specific learning context and distinguishes rigor from the curriculum and from student learning. While curriculum is shaped by faculty consensus and how the academic content relates to the real world, academic rigor is determined by individual faculty members working in the learning context as they make decisions regarding teaching to foster learning. This context for academic rigor differentiates it from other variables and enables it to be observed, assessed, and open to continuous improvement.

The third white paper in the series, *Aligning Institutional Processes to Support Academic Rigor*, summarizes research regarding teacher-student interactions, students' evaluations of teaching, observations of teaching, annual faculty evaluations, assessment of student learning, and faculty professional development activities. These existing institutional processes may need to be reconsidered and revised to align with the definition of academic rigor to best support student learning.

\$150,000 USDA GRANT FOR PROJECT TALENT

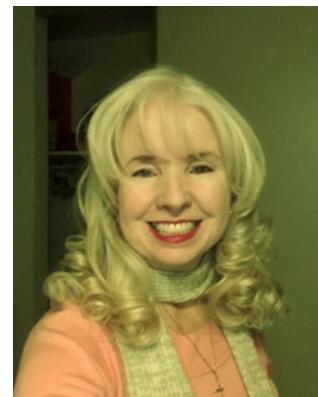


Dr. J. Elizabeth Casey, Associate Professor in the Department of Curriculum and Instruction at A&M Central Texas has recently been awarded \$150,000 in grant funding from the U.S. Department of Agriculture (USDA) in order to facilitate Project TALENT: Transforming Agricultural Literacy-learning & ENhancing Team-teaching.

The goal of Project TALENT seeks to provide an innovative Professional Development (PD) opportunity for in-service 5th through 9th grade STEM teachers working in the Central Texas area and serving a large population of under-served (i.e., rural, Hispanic, economically disadvantaged, ELLs, at-risk, migrant/transient) students.

The proposed TALENT Model will train in-service teachers to identify and extract real-world issues, with support from agricultural experts and business leaders. After summer training, teachers will incorporate ideas into classroom instruction to increase students' agricultural literacy knowledge using simulation, replication, and problem-based learning undergirded with AVID strategies, co-teaching (Cook & Friend, 2004), and the 5E model (Bybee, 1997). Project TALENT will engage teachers and students in current and relevant, real-world problems in real-time.

TALENT is a multidisciplinary innovation developed by educational experts to ensure an agricultural thread is emphasized in lesson plans (LPs) across STEM content to maximize agricultural focus and enhance students' agricultural literacy. In the TALENT Model approach, students will replicate a problem through simulation, role-play, model-building, and/or blueprints with support from academicians, in-service teachers, agricultural industry experts, and business leaders. Experts become part of the teaching, and students learn how to build their own network of knowledge to investigate problems from the folks who are actually working in the real-world, on real-time problems. This project will advance what happens in the classroom by making the classroom a "petri dish;" a lab for the real-world, addressing real-time problems.



Dr. J. Elizabeth Casey
Associate Professor of Curriculum and Instruction



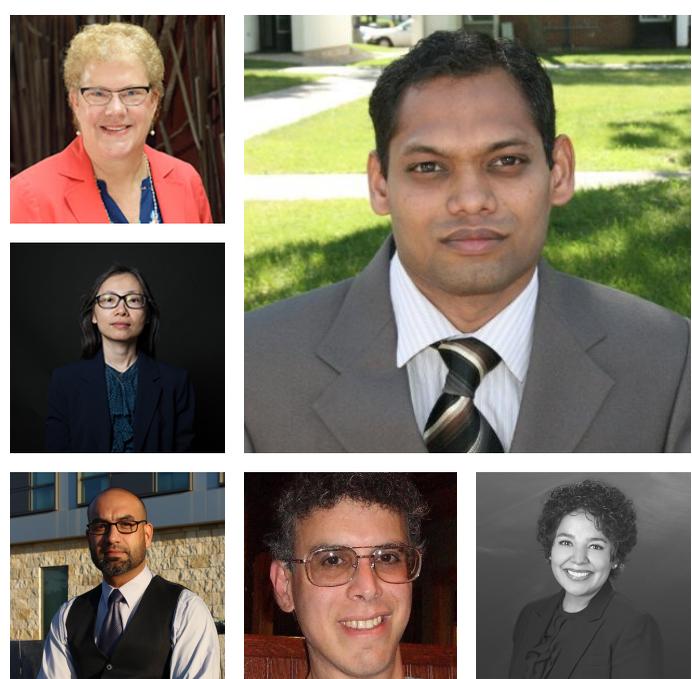


COLLEGE OF BUSINESS ADMINISTRATION

The development and dissemination of quality scholarship is important for faculty, students, the university, and society. For faculty, it is an essential part of the continuous improvement process and the attainment of tenure, as well as being able to teach graduate courses. The College of Business Administration (COBA) especially values faculty scholarship that is translated into the classroom learning environment to provide students with cutting edge knowledge in their field of study. For the university, quality scholarship can improve the overall reputation of the institution, which can lead to higher enrollments and additional funding opportunities. Scholarship benefits society in ways such as cultural advancement, quality of life improvements, and/or the creation of products or ideas that advance business innovation and productivity.

Within COBA, faculty scholarship is primarily targeted towards publication in quality peer reviewed journals, but can be publicly disseminated in conference proceedings, presentations, grants, and books to name a few. As COBA continues its path towards AACSB (Association to Advance Collegiate Schools of Business) accreditation, it has tried to raise the bar on both the quantity and quality of scholarship. COBA tracks each of these “intellectual contributions” and from 2014-2018 COBA faculty had almost 300 total intellectual contributions, including 81 peer reviewed journal publications. COBA is especially proud of the fact that approximately 20% of these publications were in journals that are recognized as being among the top journals in the faculty members’ fields. Preliminary data indicate that the exceptional quality trend continued in 2019 and is something we are proud of as a university.

Interim Dean Lucas Leafman



RAIN, RAIN, DON'T GO AWAY... WE WILL COLLECT YOU FOR ANOTHER DAY.

Together at Texas A&M University-Central Texas Dr. Vinay Gonela, Assistant Professor of Management in the College of Business Administration, Dr. Barbara Altman, Associate Professor of Management and Interim Associate Dean for the College of Business Administration, Dr. Jun Zhang, Professor of Aerospace, Industrial, and Mechanical Engineering at California Baptist University, Mr. Elvis Ochoa, Adjunct Lecturer, Dr. Walter Murphy, Executive Director for Research & Sponsored Programs, and Dr. Dalila Salazar, Assistant Professor of Marketing have published an article entitled, "Decentralized rainwater harvesting program for rural cities considering tax incentive schemes under stakeholder interests and purchasing power restrictions" in the *Journal of Cleaner Production*, an A-level sustainability journal.

The article focuses on implementing a decentralized rainwater harvesting (DRH) program for rural cities under stakeholder interests and purchasing power restrictions. The study is conducted by considering: (1) a no tax incentive scheme (NTIS); (2) a flat rate tax incentive scheme (FTIS); and (3) a progressive tax incentive scheme (PTIS). A three-stage decision framework is proposed. In the first stage, a water balance simulation model is developed to estimate the amount of rainwater that can be collected at individual households using different capacity rain barrels and to determine the threshold rain barrel capacity. In the second stage, the water balance simulation model is run multiple times with varying input parameters to obtain the probability distributions for rainwater used and water demand for different households using different capacity rain barrels, which are then used to generate scenarios for the third stage optimization model. In the third stage, a multi-objective stochastic mixed integer linear programming (Mo-SMILP) model is proposed that aims to determine the household participation rate and cumulative city-wide DRH capacity considering tax incentive schemes, stakeholder interests, and purchasing power restrictions. The proposed Mo-SMILP model is solved by using an improved augmented epsilon constraint method (AUGMECON 2) in order to understand the trade-off between city-wide household reliability, city-wide household savings, and city government savings. A case study of a small rural city in the State of Texas in the US is used to illustrate the effectiveness of the proposed decision framework. The results shows a significant decrease in city-wide household reliability when stakeholder interests and purchasing power are considered. In addition, the PTIS is best at improving city-wide household reliability and savings. NTIS and FTIS are best at improving city government savings depending on the household preference for reliability and savings.



A SECOND DOCTORATE? SURE, WHY NOT.

Dr. Anthony L. Fulmore is a Senior Lecturer of Accounting at Texas A & M University–Central Texas.

His primary research interests are financial accounting, audit, and ethics. Dr. Fulmore's most recent research project stems from his dissertation for his second doctoral degree entitled, "The Effects of Time Pressure and Client Importance on Auditors' Professional Skepticism." Detailing his research, Dr. Fulmore argues that auditors are required to maintain an appropriate level of professional skepticism during an audit. The lack of professional skepticism by auditors has been cited on numerous occasions by the Public Company Accounting Oversight Board (PCAOB) as a continued area of audit deficiency.

The purpose of his study is to examine the effects that time pressure (low budget and deadline pressure, high budget time pressure, and high deadline time pressure) and client importance (low and high) have on auditors' professional skepticism (skeptical judgment and skeptical action). Using agency theory, Dr. Fulmore predicts that auditors' professional skepticism will be compromised (i.e., reduced) by time pressure (budget and deadline). Using the resource dependence theory, he predicts that auditors' professional skepticism will be compromised (i.e. reduced) when an audit client is important to the profitability of the audit firm.

This study will use a 2 x 2 x 2 between-subjects design with practicing auditors as participants. A MANCOVA will be used to test the hypotheses. This research will contribute to the professional skepticism literature by providing additional antecedents that influence professional skepticism (skeptical judgment and skeptical action). Dr. Fulmore's dissertation study has both policy and practical implications on whether client importance and time pressure influence professional skepticism.



Dr. Anthony Fulmore
Senior Lecturer of Accounting

t h a n k y o u

Hello, Reader!

Thank you for joining us in reading the latest issue of *The Light*. My editorial team and I were incredibly excited to revamp this research publication wherein we are able to highlight the amazing scholarship endeavors of our talented faculty, staff, and students at Texas A&M University-Central Texas.

As I think about the magazine's vision, I contemplate it serving as a conduit for change. As we move forward in making this vision a reality, I invite you to read through this and any future issues of *The Light* and embrace its contents as a source of inspiration, growth, and, even, an avenue for potential idea-generation and/or future collaboration.

As the Director of the University Center for Applied Research and Engagement (UCARE), I am privileged and honored to be able to work with stellar subject matter experts within our University, across the Central Texas region, nationally, and internationally. I am delighted to be able to facilitate applied- and pure-research collaborations among all three of our colleges, graduate school, library, and public as well as private partners. Through this platform, I am certain more collaborations will sprout resulting from the dissemination of the notable research taking place on our campus.

I would like to formally thank each of our sponsors for their support in acknowledging the importance of research in our lives. I would also like to thank each of our editorial board members for the countless hours they contributed in making certain that the content in the issue draws your attention and engages your neurons!

I look forward to meeting with you again on these pages in our future issue. It is my hope that, like our scholars, you get out there and do great things! May your new year be filled with curiosity, wonder, and countless blessings!

Dr. Dalila Salazar
Managing Editor, Assistant Professor of Marketing, and Director of
the University Center for Applied Research and Engagement



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