Item 1. Research Report

- Focus on Faculty
- Research Metrics
- Significant Awards

Focus on Faculty

College by College - Notable Faculty Achievements - Dollars alone do not give a complete indication of institutional research and scholarly productivity. National awards and quality publications also contribute to faculty and institutional reputation. Each college was requested to send a brief write-up of three top faculty with high research and scholarly productivity. This section includes the write-ups received.

College of Agriculture, Forestry and Life Sciences

Robert Baldwin, PhD

Associate Professor

Department of Forestry and Environmental Conservation

People need nature. They need it physically – for water, game, timber and soils. They need it psychologically and spiritually, as natural and wild places help replenish the soul, create educational opportunities for children, and places for staying active. Natural areas near where we live and work stimulate the economy. Not only through timber and agricultural products, but a knowledge-based economy. Beautiful landscapes attract high-tech business. People want to settle in a green Upstate, near the wild Low Country, and the Green Heart of South Carolina (Congaree-Wateree). Rob Baldwin is a landscape ecologist. He studies how landscapes can be arranged, like a jigsaw puzzle of farms, forests, towns, and rivers, in order to keep a diversity of ecosystems and their services. His work combines ecology, economics, and policy. He does this using geographical information systems and field work. His students are employed in government, academia, and private industry.

Bulleted list of accomplishments:

- $3.5 million in grants and contracts received
- 65 published papers, book chapters, books
- 20 papers co-authored with students
- Mentored 5 post-doctoral scholars
- Advised a dozen graduate students; all graduates employed
- Taught over a thousand undergraduates
- Advised 200 students in the ENR-Conservation Biology major
- Served on the Faculty Senate, Lead college Senator
- University Grievance Board
- Reviewed 70 papers for peer-reviewed journals
- Edited more than 20 papers
- Inaugural Margaret H. Lloyd-SmartState Endowed Chair, a $4 million private-public partnership for land conservation
- Initiated research and teaching on Margaret Lloyd property, largest single land gift to Clemson
- Working with Dean Askew on additional land gift-education opportunities

- Initiated Cowasee Basin Research Initiative, to help landowners near Columbia get paid for ecosystem services
- Working with Dean Wright to create the Auburn-Clemson-LSU-Missouri Tiger University Consortium, for Tiger landscape conservation education in India
- National Science Foundation funding

Paul L. Dawson, PhD

Associate Professor

Department of Food, Nutrition and Packaging Sciences

Paul Dawson is a Food Scientist that studies ways to improve food safety and quality. His research has spanned food production through final packaging of many food products taking place on the farm, food production facilities, and in the laboratory. He works directly with the industry through the Cooperative Extension Service and through funded research projects.

Current research includes a USDA-funded study developing biosensors to detect bacteria in food manufacturing, another industry-funded project to reduce Campylobacter spp. in poultry and a long term agreement with Electrolux studying the effects of freezing and refrigeration on food quality. Recent studies also include using peach by-products (skin) to develop an antioxidant powder, using animal co-products for natural preservatives and active packaging. Paul teaches undergraduate courses covering Food Chemistry as well as Food Resources and Society. He also teaches 2 graduate courses on Food Chemistry and Food Rheology while serving as Graduate Coordinator for 2 MS and 1 PhD program in the department. He has been heavily involved in the Creative Inquiry program for over 10 years publishing several papers based on research from these teams gaining worldwide recognition. Dawson has authored/coauthored 113 refereed scientific publications, 18 technical book chapters and 152 scientific abstracts. Paul has over 150 interviews in the popular media including appearances on National Public Radio, CNN, Headlines News, MSNBC, Canadian Broadcasting Company, Fox News Channel, CBS Radio News and an appearance on Michael Feldman's *Whad'Ya Know?* Radio Show. Articles based on his research have appeared in the *New York Times, Washington Post, Wall Street Journal, Associated Press, National Geographic, Chicago Tribune, Woman's Day, Prevention Magazine, Oprah's Health Magazine, London Sunday Times, Men's Health, USA Today, Cosmopolitan, Harper's Magazine, Reader's Digest UK and HGTV magazine.* Over 50 interviews have been broadcast across the US and internationally in Canada, Australia, Austria, Spain and Ireland. Paul currently has a book contract with Norton Publishing to complete a book on Food Myths.

<u>Bulleted list of accomplishments:</u>

- Scientific Advisory Council member for the Global Cold Chain Alliance (an International Food Refrigeration/Freezing Organization).

- Godley-Snell Awardee for Agricultural Research
- Nominated for USDA Excellence in College and University Teaching Award
- Major Advisor for over 40 graduate students, plus 23 non-thesis advisees, 70 graduate committees and over 100 undergraduate research students.
- $3.7 million in total research funding generated

Sachin Rustgi, PhD

Assistant Professor

Department of Plant and Environmental Sciences

Sachin Rustgi is currently an Assistant Professor in Molecular Breeding with the Dept. of Plant and Environmental Sciences. He is also an Adjunct Assistant Professor with the Dept. of Crop and Soil Sciences with Washington State University, Pullman, WA. Rustgi's research largely focuses on the improvement of nutritional value in small grain cereals such as wheat and barley, and legumes like peanuts and soybean. His work focuses on the elimination or detoxification of antinutritional factors and enrichment of health-promoting elements. To achieve these goals, he has developed a multidisciplinary team of experts within and outside of Clemson. His research has resulted in a number of high impact publications in internationally recognized journals including the Proceedings of the National Academy of Sciences USA, Frontiers in Plant Sciences, Journal of Experimental Botany and Plant Molecular Biology, to name a few. In addition to it, Rustgi authored two monographic books on his research. In view of his academic contributions, he was invited to join as a member of the Wheat Initiative Expert Working Group on Wheat Quality for Processing and Health, and the American Society for Nutrition. Since 2009, his work has been cited approximately 2300 times. He has an h-index of 19 and i10-index of 25. His research group includes a Master's student, technician, and three undergraduate research interns.

<u>Bulleted list of accomplishments:</u>

- Delivered an invited talk in the International Symposium on the roles and challenges of agricultural biotechnology for sustainable improvement of food security at the Konkuk University in Seoul, South Korea
- Presented at the 2nd Clemson University Research Symposium at Clemson.
- Delivered a guest lecture in the undergraduate level course on the 'Agricultural Biotechnology' (PES 3350)
- Gave an interview to Mr. Seth Thomas of WSU, Pullman for a news article, entitled 'Natural plant defense could help fight cancer, protect crops', focused on his research
- Published 8 peer-reviewed journal articles including 2 articles each in the Proceedings of the National Academy of Sciences USA (impact factor 9.432) and the Frontiers in Plant Sciences (impact factor 4.495), 1 invited book chapter and 1 newsletter article
- Received a $26,493 research grant from BAYER Crop Science (PI)
- Received two research grants (total $20,905) from Cotton Incorporated (PI)

- Received a $11,045 research grant from the SC Peanut Board (PI)
- Received a $34,968 research grant from the CU Division of Research (PI)
- Serving as associate editor in the BMC Genetics (impact factor = 2.152), and review editor in the Frontiers in Genomic Assay Technology
- Taught Special Topics in Agronomy (PES 8900 001)

College of Architecture, Arts and Humanities

Cynthia Haynes, PhD

Associate Professor

Department of English

Cynthia Haynes is Director of First-Year Composition and Associate Professor of English. Her research interests are rhetoric, composition, multimodal pedagogy, virtual worlds, critical theory, computer games studies, serious design, and the rhetoric of war and terrorism. Her projects range from teaching rhetoric in virtual learning environments (MOOs, MMRPG's), and along with Jan Rune Holmevik she co-chairs the RCID PhD program Serious Games Colloquium. She is currently working on a book manuscript, Beta Rhetoric: Writing, Technology, and Deconstruction.

Bulleted list of accomplishments:

- Professor Haynes' most recent book, *The Homesick Phone Book* (Southern Illinois University Press), has won the annual book award from the Rhetoric Society of America. In this work, Haynes "examines the relationship of rhetoric to such atrocities. Aiming to disrupt conventional modes of rhetoric, logic, argument, and the teaching of writing, Haynes illuminates rhetoric's ties to horrific acts of violence and the state of perpetual conflict around the world, both in the Holocaust era and more recently.

- Each chapter, marked by a physical address, functions as a kind of expanded phone book entry, with a discussion of violent events at a particular location giving way to explorations of larger questions related to rhetoric and violence. At the core of the work is Haynes's call for a writing pedagogy based on abstraction that would allow students to appeal to emotional and ethical grounds in composing arguments. Written in a lyrical style, the book weaves rhetorical theories, poetics, philosophy, works of art, and personal experience into a complex, compelling, and innovative mode of writing. Ultimately, *The Homesick Phone Book* demonstrates how scholars of rhetoric and writing studies can break their dependence on conventional argument and logic to discover what might be possible if we dive into and become lost within the very concepts and events that frighten and terrorize us."

Tharon Howard, PhD

Associate Professor

Department of English

Tharon W. Howard is Director of the MATRF and teaches in the Master of Arts in Professional Communication and the Ph.D. in Rhetoric(s), Communication, and Information Design programs at Clemson University. Howard is a nationally recognized leader in the field of usability testing research. As Director of the Clemson University Usability Testing Facility, he has conducted sponsored research aimed at improving and creating new software interfaces, online document designs, and information architectures for clients including IBM, NCR Corp., AT&T, Microsoft, etc.

Bulleted list of accomplishments:

- Howard has won the 2017 Ken Rainey Award for Excellence in Research from the Society of Technical Communication. The award was presented in May 2017 at the organization's annual summit meeting in Washington, D.C.
- In bestowing the award, the society cited Howard for his passion for research that has resulted in "significant improvement to technical communication, especially to practice." The society defines technical communication as the process of conveying complex information in a way people can understand and use.
- "Your award recognizes your focused, original and significant research program in usability and user experience that has had a highly significant impact on industry practice and has earned you a well-deserved national and international reputation in the field," according to the society.
- Howard teaches in the Master of Arts in Professional Communication program and the Rhetorics, Communication, and Information Design doctoral program at Clemson. In 2011, he was the recipient of the Society of Technical Communication's J.R. Gould Award for Excellence in Teaching Technical Communication.
- As director of the Clemson University Usability Testing Facility, Howard has conducted sponsored research aimed at improving and creating new software interfaces, online document designs and information architecture for clients including Pearson Higher Education, IBM, NCR Corp. and AT&T. For his work promoting the importance of usability in both industry and technical communication, Howard was awarded the Usability Professionals Association's "Extraordinary Service Award."

Maribel Morey, PhD

Assistant Professor

Department of History

Maribel Morey is a twentieth-century U.S. historian with particular interests in the history of U.S. philanthropy, the sociology of knowledge on race and ethnicity, and public policymaking on minority groups. Currently, she is on a fellowship with the Carnegie Endowment, working on two book manuscripts detailing elite foundations' changing approaches to racial inequality in the United States throughout the span of the twentieth century.

Maribel's work has been published in journals such as Law, Culture, & the Humanities, New York University Law Review, and Reviews in American History. She is a co-founder and editor of HistPhil, a new web publication on the history of philanthropy. She is also a contributor for The Atlantic Online and Stanford Social Innovation Review.

Bulleted list of accomplishments:

- The spring 2017 issue of Humanity includes a dossier on Swedish economist Gunnar Myrdal (1898-1987) for which Professor Morey co-authored the introduction and authored an article. In January 2016, she was invited to attend a Gunnar Myrdal workshop at Harvard Law School, and this Humanity dossier is the result of the conversations that started in that meeting. Morey is invited to speak at two events in May — the 2017 meeting of the Stockholm Philanthropy Symposium and the public seminar inaugurating the new guest scholar program in philanthropy studies at Ersta Sköndal Bräcke University College, also in Stockholm.

College of Behavioral, Social and Health Sciences

Bryan E. Denham, PhD

Department Chair

Campbell Professor of Sports Communication

Department of Communication

Bryan Denham recently completed his 18th year as a member of the Clemson faculty. He studies interrelationships among public policymakers, members of the news media, and the broader public, focusing on issues such as performance-enhancing substance use in sports and dietary supplement regulation. Denham has published more than 50 peer-reviewed journal articles, 50 non-peer-reviewed essays and reviews, and 35 commercial magazine articles. He teaches courses in sports communication, empirical research methods, mass communication theory, and mass communication history and criticism. Denham received a Bachelor of Arts in journalism and political science from Indiana University, a Master of Arts in communications from California State University, Fullerton, and a PhD in communications and applied statistics from the University of Tennessee.

Bulleted list of accomplishments:

- Guided transition of the Department of Communication from the College of Architecture, Arts and Humanities to the College of Behavioral, Social and Health Sciences.
- Recently worked with department faculty toward successfully hiring of two tenure-track assistant professors to begin in August 2017. Also worked with the Honors College toward recruitment of National Scholar in sports communication, to enroll in August 2017.
- Published studies in Journalism & Mass Communication Quarterly, Journal of Health and Social Behavior, Sociology of Sport Journal, Journal of Sport & Social Issues, Journal of Child and Adolescent Substance Abuse, and International Journal of Sport Communication.
- Published scholarly text Categorical Statistics for Communication Research (Wiley).
- Published commentary in the Journal of the American Medical Association.
- In 2016-17, refereed 43 manuscripts for 23 scholarly journals in social and health sciences.
- Wrote entry on sports communication for Oxford Bibliographies Online.
- Recognized 3 straight years for service to Journalism & Mass Communication Quarterly.
- Implemented Brooks graduate stipends for students studying sports communication.
- Appeared in two Inside Clemson video productions, discussing issues in sports media and sports psychology.

Eric R. Muth, PhD

Professor, and Associate Dean for Research and Graduate Studies

Department of Psychology

College of Behavioral, Social and Health Sciences

Eric received his PhD in Experimental Psychology from The Pennsylvania State University in 1997. Following his graduate studies, he served as an Aerospace Experimental Psychologist at the Naval Aerospace Medical Research Laboratory from 1997-2000, studying night vision, motion sickness, and training and simulation. Eric came to Clemson University in 2000. His current work focuses on developing solutions that improve human performance and health. He is an expert in wearable health technologies, virtual environments, and motion sickness. He has been associated with over 4 million dollars in funded research, including funding from the National Institutes of Health, the National Aeronautics and Space Administration, the Office of Naval Research, the Defense Advanced Research Projects Agency, and several corporate sponsors. He co-founded the Human Factors Research Institute at Clemson University. He is the co-developer of the bite counter and co-owner of the university start-up company Bite Technologies. He has over 100 publications in a variety of scientific journals, book chapters, and proceedings papers, as well as is a co-author on 2 patents. Eric has graduated 7 PhD students, has continuously been involved with an undergraduate research team, and serves as the academic advisor to Alpha Sigma Phi fraternity.

<u>Bulleted list of accomplishments:</u>

- $1.5 million R01 grant from NIH (Hoover/Muth); "Using Context to Validate and Improve Wrist-Tracking Measures of Eating Activity"
- $300K grant from Bite Technologies (Muth/Hoover), Assessing the Bite Counter as a Tool for Food Intake Monitoring: Phase II"
- $27K grant from University of South Carolina (Muth/Hoover), Increasing Dietary Self-Monitoring and Weight Loss in an mHealth Intervention
- Publication: A Hoover, E Muth, Y Dong and J Scisco, "Device and Method for Detecting Eating Activities", USA, Patent No. 9,685,097, filed June 2014, granted June 20, 2017.
- Publication: Jasper PW, James MT, Hoover AW & Muth ER (2016). Effects of bite count feedback and goal setting on consumption in young adults. Journal of the Academy of Nutrition and Dietetics, 116, 1785-1793 DOI: 10.1016/j.jand.2016.05.004.
- Publication: Salley JN, Hoover AW, Wilson ML and Muth ER (2016). Comparison between human and bite-based methods of estimating caloric intake. J Acad Nutri Diet, 116, 1568-1577.
- Alexander von Humboldt Foundation Research Fellow (2008-09)
- Faculty Scholar, Clemson University School of Health Research(2015)
- Robert S. Kennedy Award for Excellence in Aviation Research (2010)
- College of Engineering and Science Collaboration Award (with Dr. Hoover, 2009)

William H. Quinn, PhD

Professor and Coordinator of Youth Development Programs

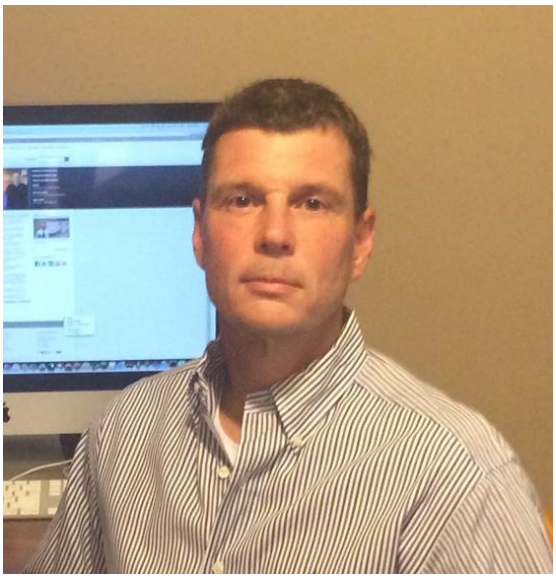
Dept. of Parks, Recreation and Tourism Management

William Quinn is a youth development leader and educator who studies family environments to promote children and youth to thrive. He serves as Coordinator for two online academic degree programs, the M.S. in Youth Development Leadership, and the B.S. in Youth Development Studies https://www.clemson.edu/online/programs/youth_dev.html. Quinn teaches courses in Foundations of Youth Development, Youth Development and the Family, Developing Youth Development Programs, and The Profession of Youth Development Leadership. He is a Fellow of the American Association for Marriage and Family Therapy and a licensed family therapist. He has created the best practice Family Solutions Program (www.families4change.org), a multiple family group program for youth at risk. The FSP has been implemented across multiple states and beyond in juvenile courts and justice agencies as well as school districts to resolve truancy and foster academic success. FSP outcomes include lower juvenile re-offense rates and parent stress, and increases in school attendance, greater family cohesion and child well-being. Quinn is a PI with Clemson colleagues on two program evaluation projects ($95,000 and $56,000) sponsored by the Boys and Girls Clubs of America. Previous funded projects include the National Institute on Drug Abuse to study the effects of family intervention for adolescent substance abuse, U.S. Office of Juvenile Justice and Delinquency Prevention to design and evaluate family intervention for juvenile offenses, and the U.S. Centers for Disease Control and Violence and Injury Prevention to design and evaluate multiple family group intervention for aggressive and socially influential middle school students in four cities.

<u>Bulleted list of accomplishments:</u>

- Initiated and expanded the M.S. and B.S. online degree programs in Youth Development.
- Award for a Decade of Significant Contributions to the Dept. of Juvenile Justice of South Carolina (2006-2016).
- Trained 125 S.C. D.J.J. staff to be Certified Family Solutions Program Leaders and deliver FSP to over 3,000 youth first- offenders and their families in South Carolina.
- Lewis Foundation Grant 2012-2017 ($350,000 over 6 years) to implement and evaluate the Family Solutions Program in South Carolina Schools.
- Selected to serve as a Higher Education consultant to the U. S. Dept. of Education for online professional education for Out-of-School Time programs (2016 and 2017).
- Received $125,000 from the U.S. Dept. of HUD to study family transition and well-being in public housing communities.
- Published articles in four refereed journals and two book chapters.

College of Business



Scott L. Baier, PhD

Professor and Chair

John E. Walker Department of Economics

Scott Baier is an economist that specializes in international trade and economic growth. His research focuses on the impact of trade agreements on trade, income and economic well-being. His current research focuses in assessing the impact of international trade agreements and trade flows on low income workers. He has worked with the Congressional Budget Office, the International Trade Commission, the Executive Office of the President, and as a Visiting Scholar with the Federal Reserve Bank of Atlanta. According to Research Papers in Economics (RepEC), Baier is ranked in the top five percent of all economists in terms of impact. He is currently the Chair of the Department of Economics. He has also served as a College representative on the Athletic Council, and as a representative on the College of Business and Behavioral Sciences Dean Search Committee.

Bulleted list of accomplishments:

- Worked as a consultant with the Congressional Budget Office on quantifying the impacts of the Trans-Pacific Partnership (TPP) agreement.
- Worked as a consultant with the United States International Trade Commission (US-ITC) on understanding the impacts of trade on wages and the distribution of incomes
- Co-Authored a Chapter in the Handbook of International Trade and Transportation scheduled to be published in 2018.
- Keynote speaker at University of Nottingham on the impact of Brexit on the United Kingdom, the European Union and the rest of the world.
- Research on trade agreements highlighted on the website VoxEU http://voxeu.org/article/heterogeneous-impact-free-trade-agreements
- Associate Editor of the Review of International Economics.
- Selected as one of the four members to be on the Steering Committee for the Midwest International Group. The Midwest International Group holds biannual meetings in the Midwest where scholars from across the world present research related to international economics and economic theory.

Major Brock M. Lusk

Assistant Professor of Aerospace Studies

Department of Aerospace Studies

Major Brock M. Lusk is the Operations Officer and an Assistant Professor of Aerospace Studies at Air Force ROTC Detachment 770. Major Lusk is responsible for motivating, training, and counseling Air Force officer candidates through all aspects of the ROTC process to include leadership laboratory and field training preparation. He instructs junior- and senior-level courses.

Major Lusk graduated from Clemson University in 2002 with a Bachelor of Arts in History and in 2015 with a Master of Arts in History. After graduating Officer's Space Prerequisite Training and Ballistic Missile Early Warning System IQT, Major Lusk reported to the 12th Space Warning Squadron at Thule Air Base, Greenland, where he served as a Missile Warning Crew Commander and Instructor. In 2003, he began service with the 10th Missile Squadron as a Missile Combat Crewmember. When deployed to the field, he was in command of 10 nuclear-armed Minuteman III Intercontinental Ballistic Missiles.

Major Lusk was mobilized by U.S. Central Command from 2007 - 2009 to support Operation IRAQI FREEDOM as the J-2 Iraq Energy Security Team Chief and deployed to Multi-National Force-Iraq C-2 as the Infrastructure Team Chief. He was mobilized in 2009, deploying as the Officer in Charge of Intelligence (S-2) for Detachment 3, 732d Expeditionary Security Forces Squadron stationed in Baghdad, Iraq. Major Lusk was mobilized from 2009 - 2010 and 2011 - 2013 to support Special Operations Command Central. He deployed multiple times across the Arabian Peninsula in support of Operations ENDURING FREEDOM, NEW DAWN and SPARTAN SHIELD. In 2012, he deployed for seven months as the Director of Intelligence (J-2) for Special Operations Command Forward–Yemen supporting Operation ENDURING FREEDOM.

Bulleted list of accomplishments:

- Recipient of the College of Business Teaching/Service Collaboration Award, 2017
- Selected for the 2016 Clemson "Roaring 10" by the Clemson Young Alumni Council
- Winner of the Air Force ROTC Southeast Region Operations Officer of the Year, 2016
- Member of the Clemson Corps Board of Directors
- Dedicated hundreds of hours of time researching Clemson University's rich military heritage—led to the discovery of seven additional alumni whose names qualified to be added to the Scroll of Honor as well as a previously unknown fourth Medal of Honor recipient

Zeki Simsek, PhD

Professor

Department of Management

Zeki Simsek is a Professor of Management and Gressette Chair of Business Strategy and Planning at the College of Business. Prior to this appointment he held the Eversource Scholar of Technological Entrepreneurship and Ackerman Scholar at the University of Connecticut.

Simsek's research focuses on strategic leadership, innovation, and entrepreneurship. His papers regularly appear in the field's premier outlets such as the Academy of Management Journal, Strategic Management Journal, Organization Science, Journal of Applied Psychology, and Journal of Management, among others. The New England Journal of Entrepreneurship in 2016 recognized Simsek as one of the most influential authors globally in entrepreneurship research in the 21st century as a result of his research output in top-tier management journals from 2000 to 2015.

An award winning teacher, Simsek has taught executives, masters, undergraduates, and Ph.D. students. Through his venture consulting class, he and his students have provided evidenced based solutions to address the pressing problems or nascent opportunities for hundreds of small to medium-sized firms.

Simsek is currently the Chair of Management Dept. TPR Committee, and has held numerous departmental, school, and university-level committees and faculty council positions. In part as recognition of these efforts across the spectrum from the school and university to community levels, and in part for his scholarly achievements, Simsek received the Research Excellence, as well as Distinguished Service awards at the University of Connecticut prior to joining Clemson in 2016.

Simsek currently teaches in the MBA program, and is leading the effort on a new Ph.D. specialization in the College of Business. He also serves as an associate editor of the Academy of Management Journal (the flagship empirical journal in management), and on the editorial boards of Strategic Management Journal and Academy of Management Discoveries.

<u>Bulleted list of accomplishments:</u>

- Gressette Chair of Business Strategy and Planning
- Recognized as one of the most influential authors globally in entrepreneurship research in the 21st century
- Associate Editor of Academy of Management Journal — the flagship empirical journal in management
- Published works have received over 5000 citations
- Invited as Distinguished Professor to schools across the globe
- Invited to talks and scholarly workshops at universities across the globe
- Served on the editorial review board of eight journals in the field of management
- Co-chair of the 17th European Academy of Management Conference Track on Top Management Teams & Business Elites

College of Education

Jonda C. McNair, PhD

Professor

Department of Education and Human Development

Jonda McNair specializes in children's literature with an emphasis on books written by and about African Americans. Her scholarship has appeared in numerous journals such as *Review of Educational Research*, *Language Arts*, *Young Children*, *The Reading Teacher*, *Children's Literature in Education*, and *The Journal of Negro Education.*

Bulleted list of accomplishments:

- Elected to serve on the 2019 Caldecott Award Committee - The Caldecott Medal is given annually by the American Library Association to the most distinguished American picture book.
- Chosen to serve as a coeditor of *Language Arts*, a leading journal in the field of literacy education that is affiliated with the National Council of Teachers of English.
- Chosen to serve as the department editor for the "Integrating Children's Literature" column in *The Reading Teacher*, a leading journal in the field of literacy education
- Worked with students in November of 2016 to prepare gift bags for children affiliated with the Upstate Homeless Coalition
- Serves as the faculty advisor for the Clemson University IRA (International Reading Association) Student Council.
- Created and disseminated a newsletter in the fall and spring semesters, via the Creative Inquiry Program, titled "Mirrors and Windows: Literature Where Children See Themselves and Others"

Amy Milsom, PhD

Professor of Counselor Education and School Counseling Program Coordinator

Department of Education and Human Development

Satisfaction with one's occupation and career path and success in one's job are important for overall well-being and life satisfaction, and Amy Milsom's research addresses those issues through three related strands: (1) college and career readiness, (2) postsecondary transition planning for students with disabilities, and (3) counselor preparation and professionalism. Her research serves to inform counselors and related professionals of factors that affect college and career readiness and decision-making as well as corresponding counseling and educational interventions. With an emphasis on individuals who have disabilities, she has been able to highlight the unique needs of this population as they transition from high school to college and careers. Milsom also explores issues that specifically affect the career paths of counselors and the practice of counseling. By integrating the results of her research into courses she teaches, she directly impacts the next generation of counselors and indirectly impacts the clients they will serve.

Bulleted list of accomplishments:

- Named an American Counseling Association Fellow – based on leadership and contributions to the counseling profession and awarded to less than 1% of members
- Book: Curry, J., & Milsom, A. (2017). Career and college readiness counseling in P-12 schools (2nd ed). New York: Springer Publishing Company.
- Invited National Presentation: Milsom, A. (2017, February). Counseling school-age students with disabilities. Webinar presented through Chi Sigma Iota International.
- Peer-reviewed article: Milsom, A., & Coughlin, J. (in press). Examining person-environment fit and academic major satisfaction. Journal of College Counseling.
- Peer-reviewed article: Milsom, A., & Sackett, C. R. (2017). Experiences of students with disabilities transitioning from 2-year to 4-year institutions. Community College Journal of Research and Practice.
- Practice Brief: Baldwin, S., & Milsom, A. (2015). Peripartum and postpartum anxiety. In ACA (Ed.), ACA: Practice Briefs.
- Peer-reviewed article: Milsom, A., & Coughlin, J. (2015). Satisfaction with college major: A grounded theory study. NACADA Journal, 35(2), 5-14.
- Peer-reviewed article: Milsom, A., & McCormick, K. (2015). Evaluating an accountability mentoring approach for school counselors. Professional School Counseling, 19, 27-35.
- Peer-reviewed article: Milsom, A., & Moran, K. (2015). From school counselor to counselor educator: A phenomenological study. Counselor Education & Supervision, 54, 203-220.

- Editorial Board Member and Mentor Editor, Counselor Education and Supervision
- Editorial Board Member, Journal of Counseling & Development
- Editorial Board Member, Professional School Counseling
- Member, Professional Standards Committee, American Counseling Association
- CACREP accreditation site team chair (annual)

Sandra M. Linder, PhD

Associate Professor of Early Childhood Mathematics Education

Department of Teaching and Learning

Sandra Linder's research focuses on supporting and sustaining teacher quality in early childhood mathematics, developing high-quality home environments that support mathematical interactions between parents and their children, and increasing young children's understandings of and dispositions towards early mathematics. Linder works with private child care, Head Start, and public 4K-3rd grade teachers throughout South Carolina and across the United States to support early mathematical thinking. Mathematical thinking at this age level includes increasing persistence, encouraging problem solving, fostering reasoning and proof, and allowing children to communicate mathematical ideas in a variety of ways. By focusing on these mathematical processes at the birth to age four level, we can better prepare children for the cognitive rigor necessary to succeed at the kindergarten level and beyond. Linder has published extensively on these topics from top-tier national outlets focused on early childhood education, mathematics education, and teacher education.

Bulleted list of accomplishments:

- Over 20 peer-reviewed national publications between 2015-2017
- PI or Co-PI on five state or federally funded and two university funded projects since 2015
- Co-PI on "Building Research Capacity for STEM Faculty Development" (National Science Foundation, $99,944, 2016-2017)
- Co-PI on "Community Block Grants Pilot Program Evaluation" (South Carolina Education Oversight Committee, $83,938, 2016-2017)
- PI- "Building Environments for Early Mathematics Success- Project BEEMS" (PNC Bank Foundation, $50,000, 2015-2016)
- Coauthor of two nationally implemented early childhood STEM curricula (preschool and prekindergarten for Primrose Schools)
- Selected to author an issue brief on early mathematics in South Carolina by the Institute of Child Success in partnership with the SC Education Oversight Committee
- 2016-2017 Co-taught in kindergarten, prekindergarten, and preschool classroom to support mathematics instruction

College of Engineering, Computing and Applied Sciences

Phil Brown, PhD

Associate Professor

Department of Materials Science and Engineering

Phil Brown, is a polymer fiber chemist who studies the formation of complex fibers and multicomponent fibers via melt and solution spinning. He conducts the majority of his research in Sirrine Hall and Olin Hall. Recent research projects are supported by (DoD NSRDEC) Natick Solider Research, Development of Engineering Center and The Walmart Foundation. In line with his research interests, Brown was the recipient of the largest equipment donation to Clemson University from Adhesives Research in 2015 to compliment his research. The equipment is a four-component fiber melt extrusion unit valued at $932,320 and was installed in Olin Hall in the summer of 2015. This capability is truly unique; being the only one of its kind globally. Shortly after installation was complete, January 2016, the Walmart Foundation awarded Clemson University (Professors Cole and Brown) nearly $1 million for a project aimed at creating new textile manufacturing technologies and reducing the cost of producing goods in the U.S. This research is being conducted using this unique technology platform which offers enhanced control over the physical aspect of the fiber to attain the project goal and reduce production costs. In January of 2017, The Walmart foundation awarded Brown & Cole a second project of $420,000 to develop sustainable polyester fibers that exhibit high water and oil repellency. This project expands on previous research based on Super-omniphobic Fibers (DoD NSRDEC 2014-2017).

Bulleted list of accomplishments:

- "Development of sustainable polyester fibers that achieve a high level of water and oil repellency" co-PI WalMart Foundation (420,000), (2017- 2019)
- "Energy and Effluent Reduction through Innovative Dyeing of Polyester Fabrics", WalMart Foundation, co-PI ($937,000) (2016-2018).
- "High Performance Stretched Polymer Fibers", Boeing PI ($19,989), (2016-2017)
- "Alta Material Development", Leidos Inc, PI ($27,786), (2015)
- "High Performance Stretched Polymer Fibers", Boeing PI ($88,426), (2014-2016)
- "Bicomponent Omniphobic Fiber Approach to Making Superomniphobic Textile Surfaces", US ARMY PI ($90,000), (2014-2017)
- "Polymer Kelp". Leidos Inc., PI ($139,099), (2014-2015)
- Program Chair - Southern Textile Research Conference "Advanced Materials, Textiles and Fibers" Greenville, SC USA May 17-19, 2015.
- Session Moderator (Fiber Formation, Structure and Properties, 16 papers) – Fiber Society Conference, October 10-12, 2016 Cornell University Ithaca, NY

- Editor of Fibrous Filter Media 1st Edition 'Elsevier' Planned Publication date June 23rd 2017, (eds. Brown and Cox)

Bart Knijnenburg, PhD

Assistant Professor

School of Computing

Bart Knijnenburg is an assistant professor in Human-Centered Computing and a co-director of the Humans and Technology (HAT) lab. His research is focused on two areas: privacy and user-adaptive systems. In the area of privacy his research is focused on supporting users' privacy decision-making practices in their use of online social networks, adaptive systems, and smart household devices. He has led trailblazing efforts in the development of user-tailored privacy, a paradigm that uses machine learning practices to predict users' privacy preferences and then recommends them smart default privacy settings. In the area of adaptive systems, Bart's research focuses on the user-centric evaluation of recommender systems. He uses findings from behavioral and cognitive psychological research to develop better preference elicitation mechanisms and recommendation list compositions for systems that recommend e.g. movies, music, and consumer electronics. Before coming to Clemson, he developed a framework for user-centric evaluation that has since become the de facto standard in the field.

At Clemson, Bart is actively involved in the recruitment of new Undergraduate and Graduate students, and is leading the effort to redevelop the curriculum and courses offered by the Human-Centered Computing division.

<u>Bulleted list of accomplishments:</u>

- Received a research gift from Samsung Research America to study household IoT users' privacy decisions (1 year, $50k).
- Awarded an NSF CRII grant on Recommender Systems for Self-Actualization (2 years, $175k). The NSF CRII grant is awarded to promising junior faculty as a means to develop their NSF CAREER proposals.
- Leading an international team in the study of household IoT users' privacy decisions using process-tracing technology, a three-year project that received an $882k award in joint funding from NSF and the Netherlands Organization for Scientific Research (NWO).
- Awarded a Department of Defense research contract to investigate Privacy Support for the DoD Total Learning Architecture (22 months, $385k).
- Published five papers in top journals in his field (including the International Journal for Human-Computer Studies and User Modeling and User-Adaptive Interaction, ranked #1 and #6 in the field of Human-Computer Interaction).
- Received a best paper award for a paper titled "When Cybercrimes Strike Undergraduates" with researchers at The Pennsylvania State University.
- Co-organizer of six ACM conferences (including Intelligent User Interfaces (IUI), Recommender Systems (RecSys) and Human Factors in Computing Systems (CHI)).

- Taught three courses in the Human-Centered Computing division, each with overall effectiveness evaluations of 4.8 or higher.

Gang Li, PhD

Associate Professor and D. W. Reynolds Emerging Scholar

Department of Mechanical Engineering

Prior to joining Clemson in 2006, Gang Li was a Research Scientist in the Beckman Institute for Advanced Science and Technology at the University of Illinois at Urbana-Champaign, where he earned his PhD in Mechanical Engineering. Li's background and experience are in the areas of computational mechanics, computational modeling and simulation of multi-physics phenomena in crystalline and composite materials, computational design and optimization of meta-materials, and computational methods. He has authored/co-authored 39 referred journal papers, 2 book chapters, and numerous conference papers on these topics. He has been the PI or co-PI for $7.4M in research funding. He was an awardee of NSF CAREER award (2010) and one of the six finalists in the 2004 Melosh Medal Competition for the best student paper on Finite Element Analysis. He is a member of ASME, USACM and Sigma Xi. He has served on the ASME Committee on Computing in Applied Mechanics since 2007. He has co-organized symposiums and served on technical program committees in numerous national and international conferences.

Bulleted list of accomplishments:

- Elected as Vice Chair and Chair of 2017 and 2019 National Academy Gordon Research Conference: Nano-Mechanical Interfaces.
- Awarded the College of Engineering and Science's 2015 Eastman Chemical Award and 2016 D. W. Reynolds Emerging Faculty Scholar Professorship
- PI/Co-PI on a total of 5 research and teaching grants worth over $7.4 million including a $5.8 million DOE project "Functionally Designed Ultra-Lightweight Carbon Fiber Reinforced Thermoplastic Composites Door Assembly"
- Has advised or advises at large number of PhD students. Served on ASME Committee on Computing in Applied Mechanics in the Applied Mechanics Division and co-organized two symposiums for ASME IMECE
- Pioneered Clemson University's first hybrid distance course, ME 4320/6320, simultaneously broadcast to students on the main campus and the Innovation Campus (CURI) in Charleston.

College of Science

Richard W. Blob, PhD

Alumni Distinguished Professor

Department of Biological Sciences

Richard Blob's lab studies the diversity and evolution of muscle and skeleton function in animals. They examine basic questions including:

- How animals and their structures work
- How the ways that animals work affect their ability to survive
- How animal function varies to meet the demands of different (or changing) environments
- How animal function has diversified and changed through evolution

Their main tools come from the field of comparative biomechanics, which applies techniques from physics and engineering to biology in order to measure how different kinds of animals perform tasks (e.g., running, swimming, etc.). Blob frequently integrate biomechanics with research in paleontology, because fossils can show transitional or unique structural designs that give novel insights into the evolution and diversity of animal function. His work has been supported by NSF, NIH, and the Clemson Creative Inquiry program.

Recent work has focused on three major study systems. Blob has compared the waterfall climbing performance of goby fishes across Hawaiian and Caribbean islands to understand how function diversifies in response to different environments and the presence or absence of predators. He has also measured the swimming stability and maneuverability of turtle species with different shell designs using robotic lures and X-ray video (in collaboration with College of Charleston and Brown University) - data that may contribute to the design of autonomous underwater vehicles. Finally, he has used high-speed video data from modern mudskipper fish to build a robotic model (in collaboration with Georgia Tech) capable of moving up sandy slopes. These studies showed that the first animals to invade land may have relied mainly on their tail, rather than limbs, to move over ground, raising new questions about why limbs evolved and diversified.

Bulleted list of accomplishments:

- Published 12 peer-reviewed journal articles (80 total, h-index = 20), including a paper in the journal Science and a cover article for Journal of Experimental Biology
- 23 lab presentations at national/international conferences, as well as invited talks at Virginia Tech, Drexel University, Bucknell University, University of North Georgia, the Tate Museum (Wyoming), and the International Congress of Vertebrate Morphology (Washington, DC)
- Associate Editor for the journal Proceedings of the Royal Society of London B (Biological Sciences); Editorial Board member for Journal of Morphology

- Program Officer for the Society for Integrative and Comparative Biology Annual Meeting (review of 11 symposia and organization of ~2000 presentations/year)
- Chair of the Awards Committee for the Society of Vertebrate Paleontology
- Named Alumni Distinguished Professor in 2015
- Supervisor for 3 current PhD students (plus 5 PhD and 4 MS previous graduates) and a Creative Inquiry team of 4 undergraduates, with two PhD graduates moving to tenure track faculty positions in 2017 (Cal State Long Beach, St. Mary's College – South Bend, Indiana)
- Directed transfer of York County Museum's African mammal collection to Clemson's Campbell Museum of Natural History (including the "Burger King rhino" displayed in Clemson in the 1990s), as well as web-based exhibit content; also a board member for Clemson's Campbell Geology Museum

Michael Childress, PhD

Associate Professor

Department of Biological Sciences

Michael Childress' research examines the causes and consequences of rapid environmental change on marine resources in estuarine communities. Childress is especially interested in the abilities of animals to behaviorally adjust to sudden changes in community structure due to climate change. He pursues these investigations through a combination of manipulative field experiments and statistical modeling. For example, he used a four-year field study of blue crabs in the Ashepoo, Combahee and Edisto (ACE) basin to parameterize an individual-based population forecast model to predict the response of the blue crab fishery to future droughts. His current project is a field study of the impact of warming temperatures and herbivory on the structure of coral reef communities using a structural equation model to predict coral transplant success in the Florida Keys. While his research addresses basic science questions testing behavioral ecology theory and modeling, it also focuses on providing practical solutions for marine resources managers. Understanding rapid environmental change is essential to the ability to manage critical resources and plan for the future. Therefore, training the next generation of scientists to have the knowledge and skills to use field data to construct predictive models is his most challenging and rewarding endeavor.

<u>Bulleted list of accomplishments:</u>

- Collaborative research with SC SeaGrant, USGS & NIDIS to link coastal salinity index with blue crab fisheries landings (3 publications, 1 grant & 1 contract)
- Collaborative research with FKNMS & Mote Marine Lab to test our model of optimal coral transplant success in the Florida Keys (1 publication & 1 pending proposal)
- Collaborative research with FL FWC to use acoustic telemetry to track juvenile lobster dispersal in relation to sudden habitat loss (4 publications & 1 contract)

- 9 invited presentations & 4 contributed presentations at national & international meetings in the past three years.
- Supervision of 1 PhD student, 1 MS student, & 10 BS students working together in our Conservation of Marine Resources & Marine Ecology creative inquiry teams
- Phil and Mary Bradley Award for Mentorship in Creative Inquiry – Clemson University
- Ralph W. Yerger Distinguished Alumni Lectureship – Florida State University

Robert Lund, PhD
Associate Professor
Department of Mathematical Sciences

The majority of Robert Lund's work attempts to settle climate controversies with rigorous statistical methods. Today's politically-polarized environment has witnessed many statements from public officials that are exaggerated, highly misleading, or down-right false. Lund's research considers questions like: how fast is the Earth warming, are hurricanes becoming more numerous, are storms getting stronger, are droughts getting more intense, etc. These questions are inherently statistical. His attack on the problem is through statistical analysis of climate data records, justifying all pertinent assumptions made in the analysis. If one plays by the rules of statistics (no cheating or cherry picking facts!), one can justifiably make a variety of conclusions. We can also usually quantify how sure we are about our statements. In the past twenty years, Lund and his co-authors have concluded that:

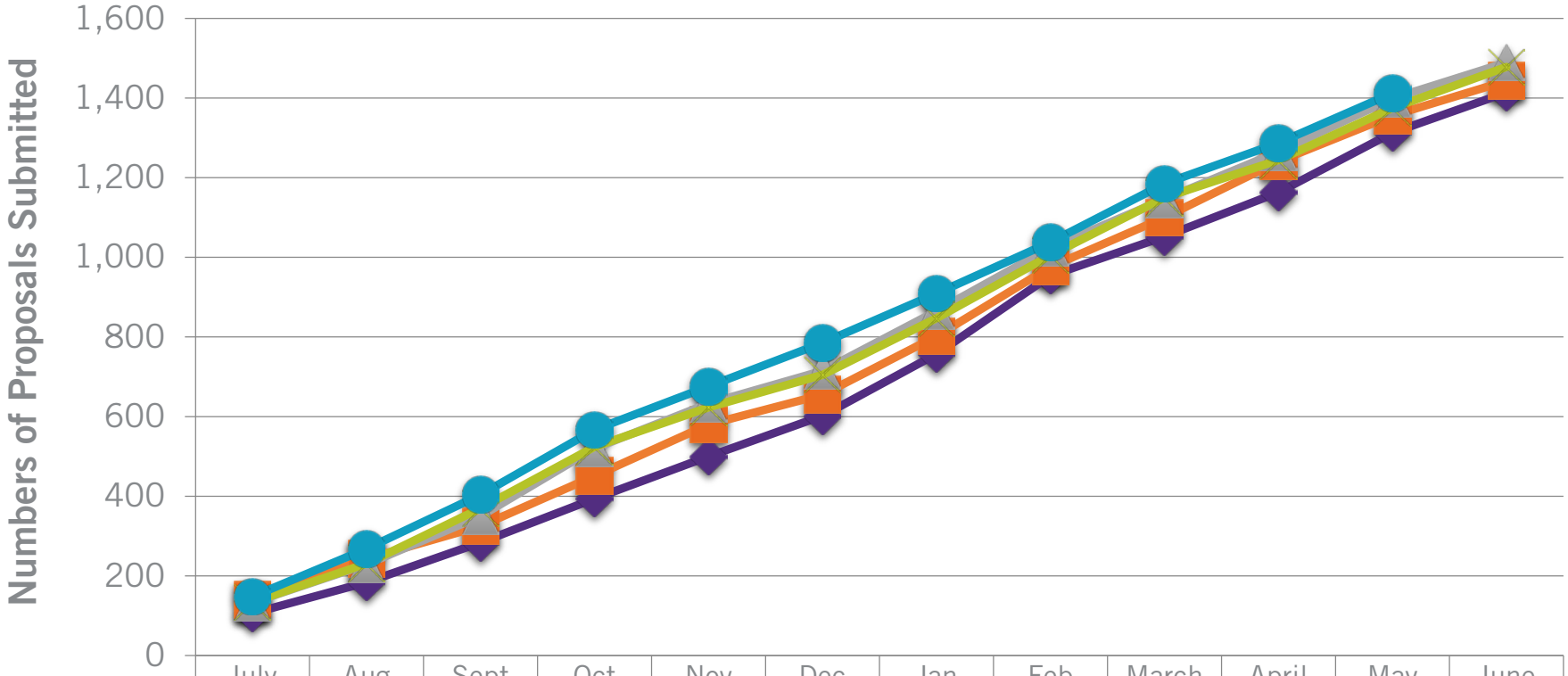
1) Indeed the Earth is getting warmer: 1.25 degrees F per Century is our current estimate. The Southeastern United States does not show as much warming as the rest of the planet, but our winter-time low temperatures have increased the most.
2) The number of hurricanes has recently increased, but there is no evidence that the individual storms are getting stronger.
3) Snowfall in the United States is not really decreasing; in fact, more stations than not are experiencing increasing snowfall!
4) If one is not careful about the methods of analysis, it is easy to make wrong conclusions.

<u>Bulleted list of accomplishments:</u>

- Published 100+ research papers
- Graduated 20+ PhD students
- Given 100+ invited talks and lectures
- Chief Editor, Journal of the American Statistical Association, 2005-2007
- NSF Program Manager, 2016-2018

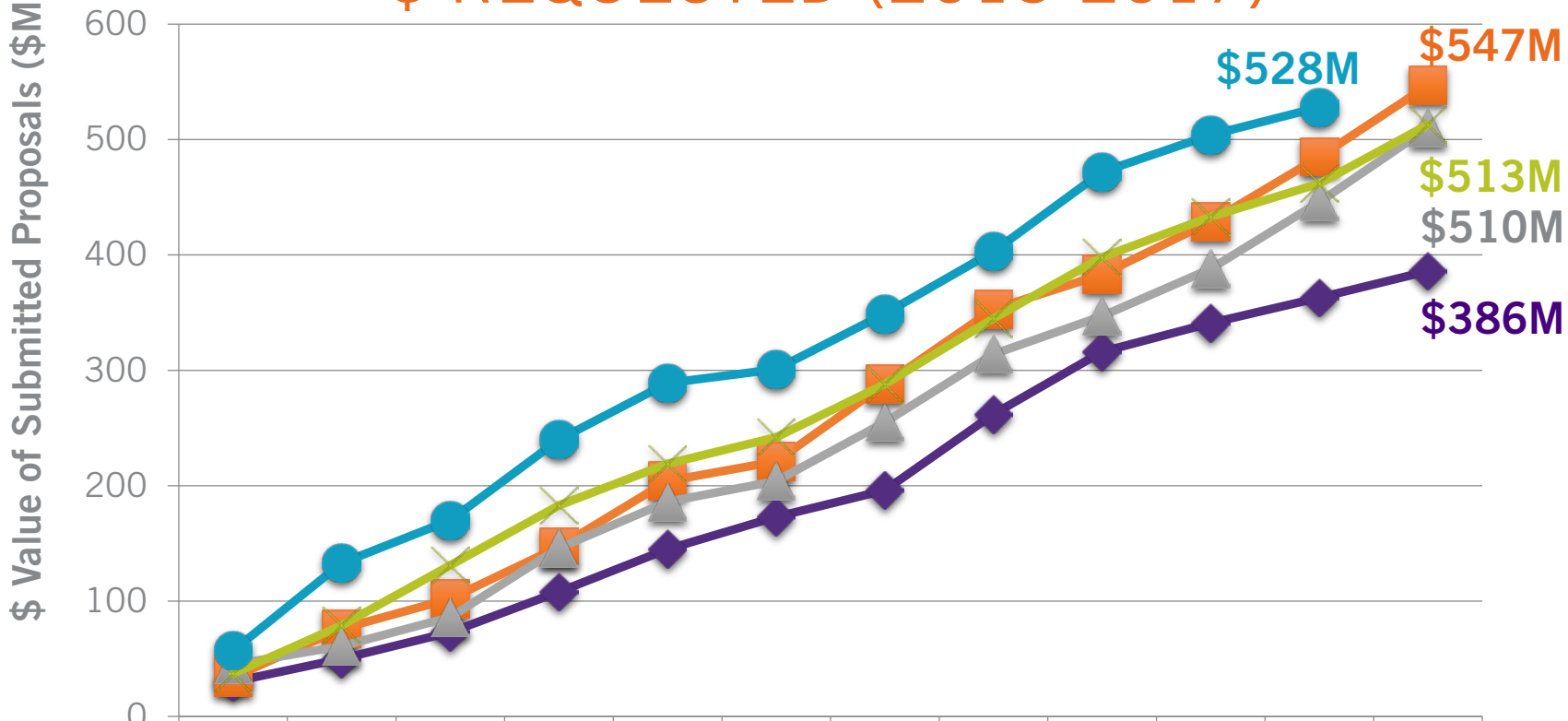
Research Metrics

CLEMSON CUMULATIVE SUBMISSIONS: PROPOSAL COUNTS (2013-2017)



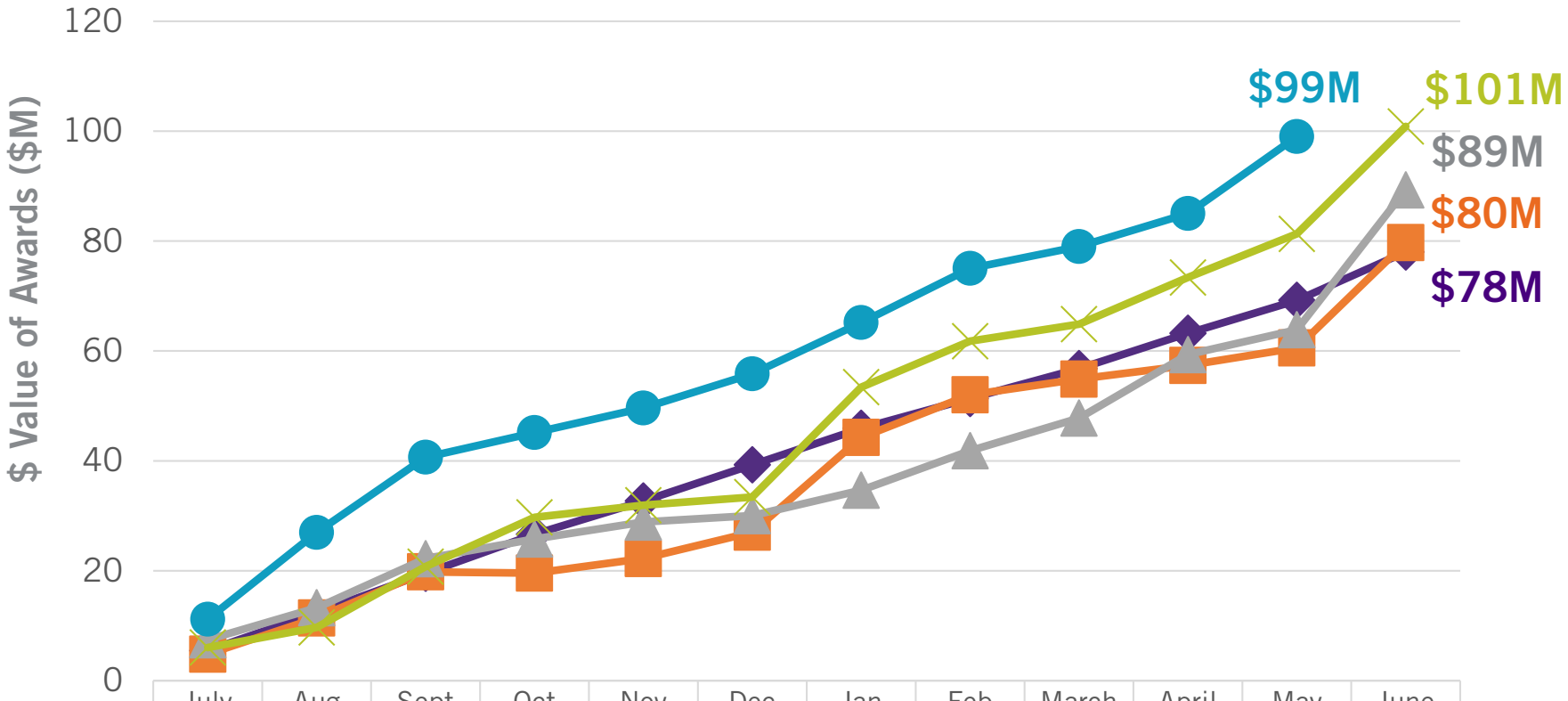
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June
FY 2013	106	184	284	394	500	602	757	954	1,052	1,163	1,313	1,414
FY 2014	140	243	325	451	580	655	802	976	1,100	1,241	1,356	1,443
FY 2015	133	229	350	520	633	715	865	1,024	1,146	1,265	1,399	1,489
FY 2016	134	231	370	524	623	705	847	1,005	1,150	1,244	1,375	1,478
FY 2017	148	268	404	567	676	785	909	1,038	1,185	1,287	1,412	

CLEMSON CUMULATIVE SUBMISSIONS: $ REQUESTED (2013-2017)



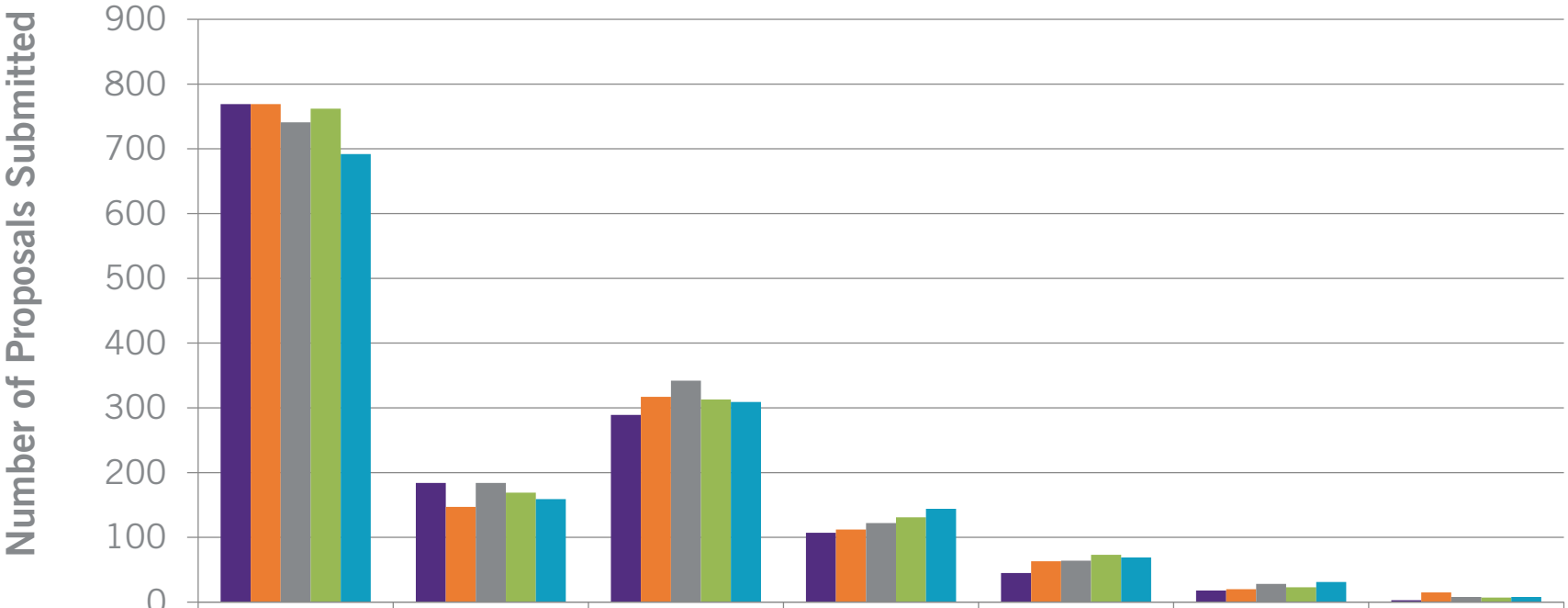
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June
FY 2013	$30	$50	$73	$108	$145	$173	$196	$262	$316	$341	$363	$386
FY 2014	$34	$76	$102	$147	$204	$221	$288	$353	$383	$429	$485	$547
FY 2015	$45	$61	$86	$146	$186	$204	$255	$314	$347	$388	$446	$510
FY 2016	$37	$79	$131	$183	$219	$242	$288	$345	$398	$433	$462	$513
FY 2017	$57	$133	$170	$240	$289	$301	$349	$403	$472	$504	$528	

CLEMSON CUMULATIVE AWARDS (2013-2017)



	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June
FY2013	$5	$12	$20	$27	$33	$39	$46	$51	$57	$63	$69	$78
FY2014	$5	$11	$20	$20	$22	$27	$44	$52	$55	$57	$61	$80
FY2015	$7	$13	$22	$26	$29	$30	$35	$42	$48	$59	$64	$89
FY2016	$6	$10	$21	$30	$32	$33	$53	$62	$65	$73	$81	$101
FY2017	$11	$27	$41	$45	$50	$56	$65	$75	$79	$85	$99	

CLEMSON CUMULATIVE SUBMISSIONS: $ REQUESTED (2013-2017*)



	< $100K	$100K-$200K	$200K-$500K	$500K-$1M	$1M-$2M	$2M-$5M	> $5M
FY2013	769	184	289	107	45	18	3
FY2014	769	147	317	112	63	20	15
FY2015	741	184	342	122	64	28	8
FY2016	762	169	313	131	73	23	7
FY2017*	692	159	309	144	69	31	8

*Proposal submissions for FY2017 are for the period July 1, 2016 – May 31, 2017 of Q4.

Clemson University
Research Report Card
Fiscal Year 2017

		2013	2014	2015	2016	2017	Data Trends
						Q4	2013-2016
RESEARCH INPUTS							
a. Proposal Submissions (Count)		**1,414**	**1,443**	**1,489**	**1,478**	**1,412**	
1	AAH	38	51	65	62	66	
2	CAFLS	235	230	224	222	220	
3	CBSHS	81	93	102	104	107	
4	CECAS	549	555	582	617	560	
5	COE	51	54	39	45	45	
6	COB	7	15	13	15	7	
7	COS	242	247	263	239	213	
8	CCIT	12	12	6	3	6	
9	PSA	88	90	118	97	161	
10	VP for Res & Interdisc Inst	31	17	7	17	13	
11	All Other	80	79	70	57	14	
b. Proposal Submissions (Value)		**$ 386,106,648**	**$ 547,095,092**	**$ 510,484,443**	**$ 513,180,239**	**$ 528,047,659**	
12	AAH	$ 3,580,723	$ 14,849,844	$ 12,839,717	$ 10,263,562	$ 1,574,450	
13	CAFLS	$ 34,372,635	$ 43,999,698	$ 36,519,514	$ 23,617,486	$ 33,106,450	
14	CBSHS	$ 13,290,053	$ 21,511,560	$ 26,844,900	$ 33,953,358	$ 37,041,723	
15	CECAS	$ 188,119,992	$ 283,220,894	$ 278,574,540	$ 298,715,448	$ 314,424,369	
16	COE	$ 13,990,537	$ 14,850,254	$ 11,982,507	$ 15,246,312	$ 13,508,929	
17	COB	$ 975,025	$ 2,209,136	$ 4,025,430	$ 2,035,401	$ 921,817	
18	COS	$ 75,761,887	$ 118,510,356	$ 100,001,493	$ 106,950,376	$ 85,667,320	
19	CCIT	$ 37,911,464	$ 12,473,160	$ 2,116,258	$ 2,219,976	$ 5,010,591	
20	PSA	$ 8,554,512	$ 16,989,642	$ 26,480,496	$ 5,530,132	$ 26,584,531	
21	VP for Res & Interdisc Inst	$ 4,191,314	$ 5,660,278	$ 5,861,000	$ 6,131,772	$ 6,079,004	
22	All Other	$ 5,358,506	$ 12,820,270	$ 5,238,588	$ 8,516,416	$ 4,128,475	
c. Research Awards		**$ 78,013,996**	**$ 79,728,290**	**$ 89,313,594**	**$ 100,861,140**	**$ 99,007,838**	
23	AAH	$ 224,473	$ 590,154	$ 656,030	$ 1,400,972	$ 1,514,938	
24	CAFLS	$ 7,284,564	$ 6,659,619	$ 14,149,829	$ 8,619,438	$ 10,015,050	
25	CBSHS	$ 2,737,876	$ 3,385,989	$ 4,776,199	$ 5,065,880	$ 3,850,699	
26	CECAS	$ 34,201,429	$ 37,723,081	$ 43,231,494	$ 45,535,064	$ 50,980,292	
27	COE	$ 2,629,505	$ 4,089,157	$ 3,203,419	$ 2,945,717	$ 2,599,123	
28	COB	$ 2,023,722	$ 1,114,979	$ 1,312,998	$ 783,916	$ 1,179,733	
29	COS	$ 10,344,423	$ 7,780,394	$ 9,938,990	$ 15,605,625	$ 17,782,792	
30	CCIT	$ 1,617,466	$ 5,675,854	$ 668,873	$ 819,396	$ 475,844	
31	PSA	$ 14,827,292	$ 12,284,142	$ 9,588,294	$ 12,965,629	$ 5,148,397	
32	VP for Res & Interdisc Inst	$ 1,790,060	$ 268,882	$ 573,565	$ 5,139,315	$ 4,225,905	
33	All Other	$ 333,188	$ 156,039	$ 1,213,903	$ 1,980,188	$ 1,235,065	
d. Notable Awards							
34	NSF CAREER Awards (by start date)	4	1	3	5	7	
35	NIH R01-Equivalent Awards (by start date)	-	-	2	2	2	
36	NIH Career Awards (by start date)	1	-	-	-	-	
37	Air Force Young Investigator Awards	-	-	1	2	-	
38	DOE Early Career Awards	1	-	-	-	-	
e. SUPPORTING WORKFORCE:							
39	Graduate Student Enrollment	4,206	4,372	4,670	4,664	4,425	
40	Sponsored Graduate Research Assistants	822	745	707	693	696	
41	Postdoctoral Fellows	48	64	83	85	90	
42	Research Faculty: Permanent 100% Non-E&G Funded	6	6	6	11	17	
43	Research Faculty: Temporary 100% Non-E&G Funded	18	18	15	14	24	
RESEARCH PROCESS							
f. Sponsored Research Expenditures by Business Unit **		**$ 75,388,679**	**$ 69,907,663**	**$ 73,307,908**	**79,493,329**	**72,999,644**	
44	AAH	$ 504,683	$ 378,112	$ 419,440	$ 1,104,015	$ 1,059,227	
45	CAFLS	$ 8,768,472	$ 7,706,442	$ 6,752,344	$ 8,631,050	$ 8,001,221	
46	COB	$ 1,239,726	$ 1,200,289	$ 1,081,898	$ 958,613	$ 702,562	
47	CECAS	$ 34,969,267	$ 34,550,052	$ 34,968,963	$ 37,483,798	$ 34,692,083	
48	CBSHS	$ 3,050,080	$ 2,817,714	$ 3,680,307	$ 4,068,139	$ 3,499,749	
49	COE	$ 3,286,747	$ 3,256,328	$ 3,793,915	$ 2,510,444	$ 2,189,551	
50	COS	$ 13,209,952	$ 10,501,024	$ 9,286,770	$ 11,327,997	$ 13,155,166	
51	CCIT	$ 1,996,620	$ 1,631,199	$ 3,400,258	$ 2,775,609	$ 386,652	
52	PSA	$ 4,746,123	$ 4,858,414	$ 5,847,737	$ 5,588,699	$ 4,592,566	
53	VP for Res & Interdisc Inst	$ 1,878,676	$ 1,302,734	$ 1,892,429	$ 3,531,216	$ 3,414,200	
54	All Other	$ 1,738,332	$ 1,705,355	$ 2,183,847	$ 1,513,750	$ 1,306,667	

Clemson University
Research Report Card
Fiscal Year 2017

		2013	2014	2015	2016	2017	Data Trends
						Q4	2013-2016
g.	**Sponsored Research Expenditures by Innovation Cluster**	**$ 75,388,679**	**$ 69,907,663**	**$ 73,307,908**	**79,493,329**	**72,999,644**	
55	Advanced Materials	$ 14,258,840	$ 11,288,090	$ 10,713,746	$ 10,385,364	$ 8,475,859	
56	Cyberinfrastructure and Big Data Science	$ 10,277,111	$ 10,513,388	$ 10,137,409	$ 8,874,268	$ 6,399,483	
57	Energy, Transportation and Advanced Manufacturing	$ 4,687,300	$ 5,680,684	$ 7,236,983	$ 7,645,169	$ 14,662,690	
58	Health Innovation	$ 13,115,231	$ 10,248,431	$ 10,188,088	$ 12,470,389	$ 13,066,831	
59	Human Resilience	$ 8,200,415	$ 7,708,375	$ 9,700,880	$ 9,762,842	$ 6,516,195	
60	Sustainable Environments	$ 18,331,776	$ 16,877,332	$ 17,926,296	$ 21,723,962	$ 15,629,151	
61	Other	$ 6,518,006	$ 7,591,364	$ 7,404,505	$ 8,631,335	$ 8,249,435	
h.	**Sponsored Research Expenditures by Funding Source**	**$ 75,388,679**	**$ 69,907,663**	**$ 73,307,908**	**$ 79,493,329**	**$ 72,999,644**	
62	Federal Gov	$ 62,890,679	$ 56,872,229	$ 58,457,288	$ 65,135,890	$ 60,311,469	
63	Foundations, Societies, and Associations	$ 4,221,409	$ 4,294,121	$ 4,741,795	$ 4,137,246	$ 3,973,921	
64	Industry/Other	$ 4,930,465	$ 5,641,543	$ 6,071,417	$ 6,870,782	$ 5,697,656	
65	International	$ 813,542	$ 577,879	$ 765,179	$ 778,835	$ 453,165	
66	Local Gov	$ 597,732	$ 614,527	$ 578,235	$ 530,909	$ 455,322	
67	State Gov	$ 1,934,852	$ 1,907,364	$ 2,693,993	$ 2,039,667	$ 2,108,111	
i.	**Sponsored Research Expenditures per T/TT**						
68	AAH	$ 3,299	$ 2,264	$ 2,343	$ 5,841	$ 6,538	
69	CAFLS	$ 88,570	$ 81,120	$ 69,612	$ 84,618	$ 76,202	
70	COB	$ 14,415	$ 13,047	$ 11,510	$ 9,683	$ 7,169	
71	CECAS	$ 169,754	$ 160,698	$ 163,406	$ 163,685	$ 156,978	
72	CBSHS	$ 27,982	$ 26,853	$ 33,764	$ 42,376	$ 27,557	
73	COE	$ 54,779	$ 51,688	$ 62,195	$ 38,037	$ 37,751	
74	COS	$ 95,724	$ 72,421	$ 61,912	$ 77,589	$ 85,423	
75	CU average (Total exp/Total T/TT faculty)	$ 83,858	$ 75,089	$ 78,826	$ 85,753	$ 68,432	
RESEARCH OUTPUTS/OUTCOMES							
76	Doctorates Awarded (Aug, Dec, May)	187	217	237	233	252	
77	STEM Doctorates Awarded (Aug, Dec, May)	118	153	165	138	185	
78	Disclosures	102	129	70	60	59	
79	Patents	16	15	15	14	16	
80	Licenses/Options	9	7	7	5	7	
81	Licensing Revenue	$ 1,134,289	$ 762,811	$ 360,131	$ 354,827	$ 401,504	
82	Start-up Companies (based on licenses/options above)	1	4	4	2	1	
THE BOTTOM LINE		**2013**	**2014**	**2015**	**2016**	**Q4**	
	Research Awards	$ 78,013,996	$ 79,728,290	$ 89,313,594	$ 100,861,140	$ 99,007,838	
	Other Sponsored Program Awards (CCIT Medicaid)	$ 24,009,167	$ 28,567,490	$ 32,532,784	$ 58,187,130	$ -	
* Awards Total		**$ 102,023,163**	**$ 108,295,780**	**$ 121,846,378**	**$ 159,048,270**	**$ 99,007,838**	
** Research Expenditures		$ 75,388,679	$ 69,907,663	$ 73,307,908	$ 79,493,329	$ 72,999,644	
	Other Sponsored Programs Expenditures	$ 24,009,167	$ 28,567,490	$ 32,532,784	$ 58,187,130	$ -	
	Less CURF Indirect Expenditures	$ 1,303,354	$ 743,951	$ 684,695	$ 574,081	$ 255,982	
Sponsored Research and Programs Expenditures		**$ 98,094,492**	**$ 97,731,202**	**$ 105,155,997**	**$ 137,106,378**	**$ 72,743,662**	
* See section c. above							
** See section f. above							

Research Report Card Trends

This brief report addresses areas of decline outlined in the Research Report Card for years 2013 through 2016 for units demonstrating a persistent decline.

College	Observations	Action
CAFLS	• **Line 2 – Submission Counts**: The difference in submissions is approximately 6% over four years or a difference of 13 proposals. • **Line 13 – Submission Value:** CAFLS has been trying to increase submissions of large multi-disciplinary and multi institutional proposals. Announced RFPs applicable to CAFLS vary from year to year. • **Line 24 – Awards:** There was a $4M award (2010682) to CAFLS in 2015 to James Frederick came as a single lump, which made 2015 is higher as compared to other years. CAFLS awards are usually in the range of $7-9M. Note that CAFLS new awards already are at $10M by May 2017 in this fiscal year.	Currently, the university is planning to add faculty members in CAFLS to address teaching demand, which will allow more time for research by faculty. Further, CAFLS is completing its strategic planning and will identify specific areas of strategic importance for each department. These actions will help to reverse the pattern in the positive direction.
CCIT	• **Line 8 – Submission Counts:** Research has not been the primary mission of CCIT. However, a small number of research proposals, in the range of 10-15 proposals/year, are submitted annually by CCIT due to the research interests of previous CIO, Jim Bottum. With his retirement as well as the recent emphasis on the cybersecurity challenges faced by Clemson University, the attention on the research proposal submission has become less critical. • **Line 19 – Submission Value**: In 2013, CCIT submitted a proposal worth $36M (2013001037) to the NSF. In 2014, CCIT submitted a proposal worth $10M (2014001325) to the NSF. These large proposals caused the submission totals for 2013 and 2014 to be significantly higher than average. As indicated above, CCIT annual research proposal submission has been historically a small number. • **Line 30 – Awards:** In 2014, CCIT was awarded $5M (2009949) for James Bottum's NSF project. This award is significant enough to disrupt the funding trends for CCIT	The new CIO will begin in July 2017. After his arrival, the focus of CCIT on research proposal submissions will be evaluated and re-assessed.

All Other	• **Line 11 and Line 22 – Submission Counts & Values:** All other category consists of Economic Development, Libraries, Facilities, Student Affairs, and Cooperative Extension, where research grants are not first priority. As a result, a high degree of variability occurs in this category, depending on the availability of opportunities interest for Clemson.	No action is needed
COB	• **Line 17 - Submission Values:** The peak submissions occurred in 2015 was a result of several large proposal submissions in the same year. Otherwise, College of Business maintains an average of $1M - $2M/year proposal submission. Colleges of Business nationwide have low rates of extramural funding; these trends are not unique to Clemson. • **Line 28 – Awards**: The research program for COB is comparatively small ($1-2M range) while this College serves a very large student population. Although there has been a decrease during 2013-2016 period, there has been recovery of awards in 2017, with new awards already at $1.2M by May 2017. These fluctuations are influenced by the availability of funding opportunities for faculty.	Action will be taken if signs of weakness are detected.
Advanced Materials	• **Line 55 – Expenditures**: Annual expenditures of this cluster was $14M in 2013 and then it has been about $10-11 M. Thus, there seems to be a slowing of expenditures for projects in this Innovation Cluster. However, given the significant recent awards (e.g., $6M EPSCoR Track-1 and $3.2M DARPA), this trend will likely reverse in 2018 and beyond.	Action will be taken if signs of weakness are detected.
CURF	• **Line 78 – Disclosures:** The numbers of disclosures per year is highly variable. In 2013 and 2014, CURF was processing all the BIOE senior design disclosures; after 2014, CURF no longer supported this process. In addition, Johnell Brooks with AuE submitted a significant number (between 10-15) of disclosures in 2014 for driving scenarios. Launch of the technology maturation fund in 2014 was accompanied by a caveat that applicants demonstrate at least one disclosure. • **Line 81 – Licensing Revenue:** An overpayment by a software company in 2013 led to an artificial inflation of licensing revenue. Repayment of that sum took place over 2014-2016. In 2014, royalty downturn was mitigated by a one-time $300K payout on a biomedical device license by a company beginning the IPO process.	We are currently working on a new plan for CURF.

Significant Awards

Clemson University's Top Ten Awards

Received Between March 30, 2017 and June 15, 2017

PI	Total Award	(Sponsor)Project Title	Abstract
Embargoed	$6.5M		This project has not yet completed the approval process. As a result, the information surrounding this award is under embargo. It is anticipated this project will be officially awarded by July 14, 2017.
Embargoed	$2.0M		This project has not yet completed the approval process. As a result, the information surrounding this award is under embargo. It is anticipated this project will be officially awarded by July 14, 2017.
John Ballato	$1.7M	(US Navy) A Unified Materials Approach to Mitigating Nonlinearities in HEL Optical Fibers	Clemson researchers will work with researchers at Univ. of Illinois Urban-Champaign to identify novel materials to improve the performance of lasers used in applications for the Department of Defense.
Srikanth Pilla	$1.5M	(SC Chamber of Commerce) Clemson Composites Center: Intelligent Revitalization of Composites Design and Manufacturing	A public-private partnership will support the creation of a center focused on the rapid development and industry deployment of lightweight composites for the automotive and aerospace industries in South Carolina.
Narendra Vyavahare	$1.5M	(NIH) Theranostic Approach to Treat Aortic Aneurysms	Researchers at Clemson will work with a team from Univ. of South Carolina on this R01 project aimed at improving the outcomes of patients with aortic aneurisms by directing specially designed nanoparticles to deliver a treatment chemical to the site of an aneurysm.

Lin Zhu	$1.4M	(US Navy) Integrated Modal Control and Beam Combining of High Power Diode Laser Arrays for the Next Generation HEL System	A team led by Lin Zhu will work to make lasers more efficient and effective, using novel materials to improve the translation of energy to light and to augment the potency of laser weapons.
Gregory Reighard	$1.0M	(Pennsylvania Department of Agriculture) Short and long-term solution for Armillaria root rot in Prunus	Clemson researchers will join researchers from University of Georgia and Michigan State University to address the devastation to the cherry and peach crops caused by root rot disease
Anand Gramopadhye	$800K	(NSF) A sustainable ATE coordination network for enhancing personalized learning using virtual and augmented reality-based technology innovations in technician education	A team of Clemson researchers will develop a training network focused on using Virtual Reality (VR) and Augmented Reality (AR) technologies to develop materials to train the advanced manufacturing workforce of the future.
Rebecca Hartley	$700K	(DOD – Advanced Robotics Manufacturing Institute) Robotics Workforce Development (ARMI)	Clemson will partner with Advanced Robotics for Manufacturing Institute (ARMI). Clemson's Center for Workforce Development will support ARMI's Education and Workforce Development Program by supporting broad participation in certification and educational programs.
Amy Landis	$500K	(USDA) Analysis of nutrient flow from farm to globe using agricultural soil water sustainability evaluation (ASWAE) framework	A team of Clemson researchers will partner with the University of Missouri to evaluate nutrient flow from agriculture to watershed with the aim of enabling technology and policy analysis to support agricultural production with a smaller environmental footprint.

Item 2. External Affairs Report

Angie Leidinger