

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

Dr. Gregory S. Batt

Assistant Professor; Food, Nutrition, and Packaging Sciences Department

The increase in competition found in a global marketplace has driven a need for low cost and environmentally responsible packaging solutions. This fiscal and environmental pressure, combined with the growing complexity of a global distribution environment, has led to a demand for optimized protective packaging solutions. These solutions require not only a clearer understanding of the distribution environment and improved laboratory simulation techniques, but also a deeper understanding of packaging material physics. Since 2009, Dr. Batt has served as a packaging science research engineer focused on protective packaging dynamics to address the need for tools in development of optimum protective packages. His recent work has resulted in the development of dynamic models capable of capturing the nonlinear and viscoelastic behavior of cushion systems. Dr. Batt has developed experimental techniques for characterizing the behavior of these materials and experimentally identifying the models developed. Most recently, Dr. Batt has extended modeling to include the effect of temperature variation on cushion impact performance. Dr. Batt's collaboration with Bioengineering at Clemson University has led to research in the area of the protective head gear used in sports, specifically football helmets, in which the helmet serves as the protective package for the fragile product, the head.

Highlights over the past two years include:

- Eight grant proposals submitted, three of which were funded, and two awaiting decision. The most recent awarded proposal by the Clemson Sports Science Institute funded continuation of the football helmet impact research.
- Graduated five M.S. students and currently advising a Ph.D. student
- Published six peer-review journal articles and presented seven technical society papers at international and national conferences.
- Dr. Batt's research program has continued to develop momentum both nationally and internationally which has led to his involvement in various international boards and committees including:
 - Completed a second and final, three-year term as chair of the technical division of the International Safe Transit Association (ISTA) and member of their global board of directors and began a two-term role as the Vice-Chair of ISTA's Global Board of Directors.
 - Current service as an invited member of the China Packaging Dynamics Committee and as an active reviewer for four peer-review journals. Dr. Batt was recently nominated and elected to the editorial board for the industry leading journal – Packaging Technology and Science.

Dr. Gustavo J. Lascano

Assistant Professor of Ruminant Nutrition; Department of Animal and Veterinary Science

Dr. Lascano's research investigates rumen fermentation, focusing on microbial enhancers, fatty acid and nitrogen metabolism and new techniques to improve several key processes (feed efficiency, reduction of metabolic costs of energy and protein, maximization of microbial protein synthesis and milk production). His research has been presented in several international conferences and been published in several peer-reviewed journals, including Journal of Dairy Science, Journal of Animal Science, Livestock Science and CABI journals, among others.

Highlights from his first 2 years at Clemson (fall 2014 to fall 2016) include:

- Establishment of a Ruminant Nutrition Research Team involving ~20 undergraduate and ~4 graduate students.
- Set-up of two laboratories; analytical chemistry and anaerobic fermentation, with cutting edge capabilities to undertake current and future investigations
- Collaboration with national and international research centers, universities, and private companies contributing more than \$200,000 to this research program
- Awarded grants from several federal and industry agencies totaling \$350,000
- Publication of 8 articles in peer-reviewed scientific journals
- Two articles highlighted as “top 25 hottest articles” by Science Direct
- Co-founded an interdisciplinary program for undergraduate students, Clemson Prairie Ecology Lab located in Roundup, Montana with the leadership of Dr. Jachowski
- Served as the leader and member of several department committees (Assessment, Seminar Series, Non-Ruminant Nutrition Faculty Search, Graduate Program)

Dr. Calvin B. Sawyer

Associate Professor; Department of Agricultural Sciences

Dr. Sawyer has applied research interests that focus on sediment-bacteria dynamics, turbidity and sedimentation reduction, and decreasing the impact of agricultural runoff. As a result, Dr. Sawyer’s Extension programming has concentrated on strategies to effectively inform and educate targeted constituencies about water resources and the role they play in the state’s economy, environmental health, and overall quality of life. To address demonstrated sediment impairment, Dr. Sawyer led development and implementation of the Certified Erosion Prevention and Sediment Control Inspector (CEPSCI) program. CEPSCI serves as a model for fostering new Extension clientele yet following the long-standing traditions of Clemson continuing education. Research on erosion and sedimentation lead by Dr. Sawyer and other CAFLS faculty and graduate students is transferred to the construction industry by the most appropriate methods to convey technical information. Since 2010, 3,771 individuals have participated in CEPSCI, resulting in 24,511 continuing education (CE) credit hours recognized by the SC Department of Labor Licensing and Regulation. Further, and perhaps more importantly, more than 3,700 jobs and over \$200M in salaries and wages have been supported through implementation of CEPSCI in South Carolina.

Highlights over the last 3 years include:

- Collaborative research grants totaling \$850,000, with direct funding of \$445,000
- Extramural research from 7 funded projects by granting agencies such as the US Department of the Interior, the US Environmental Protection Agency, the USDA – National Institute of Food and Agriculture, USDA – Natural Resources Conservation Service, SC Department of Health and Environmental Control, SC Department of Transportation, and the Clemson University Experiment Station
- Authored or co-authored 5 articles in peer-reviewed journals and proceedings, with an additional 9 technical reports and Extension-driven publications
- Presented research findings at 9 international, national, regional or statewide professional conferences and given 31 invited lectures at symposia, workshops, professional associations, elected council meetings, state and federal agencies and other universities
- Served on peer review panels for the SC Sea Grant Consortium, Georgia Sea Grant, the South Carolina Water Resources Center, and the North Carolina Water Resources Research Institute

- Co-chaired the South Carolina Water Resources Conference (2014). This biennial state conference is an integrated forum for discussion of water policies, research projects and water management issues. Dr. Sawyer also co-edited the conference proceedings, included manuscripts for 5 tracks, 240 presenters, and over 600 attendees.
- Founding Member – SC Water Resources Journal Editorial Committee
- Served or is serving as advisor or co-advisor for 8 M.S. students in Biosystems Engineering and Plant and Environmental Sciences
- Served or are serving on graduate committees for 2 Ph.D. students in Civil Engineering and Wildlife and Fisheries Biology
- 100% employment rate at or immediately following graduation for graduate students advised or co-advised
- Generated \$920,035 in course fees from Department of Health and Environmental Control certification classes. These funds have been used for applied research, graduate stipends, student hourly workers, matching funds, lab fee supplements, instrumentation and equipment

College of Behavioral, Social, and Health Sciences

Dr. Fred S. Switzer

Professor; Department of Psychology

Dr. Switzer received his PhD in Industrial-Organizational Psychology from the University of Illinois in 1988, and he joined the Psychology Department at Clemson during that same year. During his time at Clemson, Fred has provided leadership in the development of our MS program in Applied Psychology, our PhD program in Industrial-Organizational Psychology, and in the development of the Clemson University Driving Simulator laboratory and the Clemson Process Control Simulator laboratory. Fred also served as the President of Clemson University Faculty Senate (2000-2001) as well as the Interim Chair of the Psychology Department (2006-2007). Fred's research interests include the study of statistical indices of adverse impact in employment actions, computational modeling of human behavior and cognition, the effects of subtle, diffuse, but infrequent events on organizational outcomes, and the measurement of team processes, especially back-up behavior and distributed situational awareness. Fred teaches a wide variety of courses, including Judgment and Decision Making, Meta-Analysis, Psychometrics, Research Methods, and Work Motivation.

Some of Fred's career highlights include:

- Of the 40 refereed articles and book chapters authored by Fred, seven of these have received more than 100 citations in the scientific literature, with four of them receiving at least 198 citations.
- Fred has worked as a principal investigator or team member on grants/contracts totaling over
- \$7,000,000 in awarded total sponsor costs over his career. Just since May of 2015, Fred has been the PI or Co-PI on 11 different grant proposals (that have totaled more than \$11,000,000 in requested total sponsor costs). His current funded work is supported by the National Science Foundation and the Michelin Corporation. Earlier in his career, Fred was a co-investigator on grants from Honda Research and Development Americas, the Office of Naval Research, and the Defense Advanced Research Projects Agency.
- Fred has served as the major research advisor for more than 40 graduate students during his time at Clemson, while also serving as a thesis or dissertation committee member for an additional 45 graduate students.

Dr. Gregory A. Cranmer

Assistant Professor, Department of Communication

Dr. Gregory A. Cranmer is a first year Assistant Professor of Sport Communication within the Department of Communication. His research program explores the interpersonal interactions of college and high school athletes, including the topics of effective coaching, athlete socialization, and athlete health. His research has been featured in numerous regional, national, and international journals, as well as encyclopedias and handbooks.

Recent accomplishments include:

- Dr. Cranmer is a current nominee for the Early Career Award for the Sport Communication Division of the International Communication Association. This award is given to one researcher per year who demonstrates a promising program of research and has yet to receive tenure.

- Dr. Cranmer is the acting Chair of the Organizational Communication Interest Group for the Eastern Communication Association, and is helping to plan the association's 2017 conference in Boston, MA.
- Dr. Cranmer has published 22 peer and 4 editor reviewed manuscripts, including 13 peer and 3 editor reviewed manuscripts within the past 15 months.
- Dr. Cranmer is a winner of multiple top paper awards for applied, organizational, and instructional research from the Eastern Communication Association.
- Dr. Cranmer recently acquired a \$2,000 grant from the Brooks Sports Science Institute to examine the role of athlete-coach relationships within the process of high school football players' decisions to disclose concussion symptoms.
- Dr. Cranmer was selected as a candidate for vice-president of the Communication and Sport Division for the National Communication Association, the discipline's largest and oldest professional organization with thousands of members from every state and around the world.
- Dr. Cranmer frequently serves as a guest reviewer for prestigious journals within sport studies, including *Communication & Sport*, *International Review for the Sociology of Sport*, and *International Journal of Sport Psychology*.

Dr. K. Amber Curtis

Assistant Professor; Political Science

Dr. Curtis's research focuses on the causes and consequences of collective identities, with a specialization in European Union politics. Her work focuses on the extent to which personality affects individuals' national versus European identification. Additional interests include immigration attitudes, economic voting, and political disagreement.

Recent achievements include:

- Curtis has recently published articles in the *Journal of Politics* (2012), a top-3 journal of all of Political Science, and *International Organization* (2014), the top journal in international relations. She has also published in other top subfield journals including *European Union Politics* and *Comparative Political Studies*.
- Her research has attained wide notice, to include a guest post on the Monkey Cage blog of the *Washington Post*, and numerous invitations to research workshops in Europe.
- Her current work includes an original 4-country survey of political attitudes toward the EU and identity, as well as a similar survey in Argentina. She is seeking external support for this research, including grant applications to the National Science Foundation and other nonprofit funding organizations.
- Curtis is an accomplished mentor and teacher. She regularly includes her undergraduate students in her research through Creative Inquiry. She has developed new courses in Political Science, and her courses are broadly popular with students.

College of Business

Dr. Matthew S. Lewis

Associate Professor, John E. Walker Department of Economics

Matthew Lewis works in the general field of industrial organization focusing on issues of competition, market structure, and consumer behavior. His current research agenda includes two main strands. The first focuses on competitive issues in the gasoline market and utilizes new approaches to uncover more information about the nature of gasoline demand. The second strand investigates competition between hospitals and the interactions of hospitals and managed care organizations. Some of his recent research on gasoline demand has revealed evidence that the demand for gasoline may be substantially more responsive to prices than previously thought. This has important policy implications, suggesting that price-based mechanisms for reducing gasoline consumption and climate change may be more effective than has recently been argued. Matt's recent work on hospital competition focuses on the competitive effects of the formation of systems that operate hospitals in different geographic markets. Previous investigations of the competitive effects of hospital systems have concentrated exclusively on the joint ownership of hospitals in the same geographic market. His research shows that cross-market hospital acquisitions can also have a significant impact on the reimbursement rates negotiated between the hospital system and managed care organizations. The findings suggest that the approaches currently used for antitrust analysis and policy may need to be re-evaluated to effectively account for such cross-market competitive effects. In ongoing research projects, Matt continues to investigate new aspects of gasoline demand and consumer purchase behavior as well as additional topics related to hospital competition, such as the relationship between competition and the quality of hospital care.

Some of Matt's recent achievements include:

- Four recent journal publications:
 - "Odd Prices at Retail Gasoline Stations: Focal Point Pricing and Tacit Collusion" published in the *Journal of Economics and Management Strategy* (Fall 2015).
 - "Diagnosing Hospital System Bargaining Power in Managed Care Networks" published in the *American Economic Journal: Economic Policy* (February 2015).
 - "Hospital Systems and Bargaining Power: Evidence from Out-Of-Market Acquisitions" accepted for publication in the *RAND Journal of Economics* (August 2016).
 - "High Frequency Evidence on the Demand for Gasoline" accepted for publication in the *American Economic Journal: Economic Policy* (September 2016).
- Invited to present his research at the American Economic Association Annual Meeting (2015) and the International Industrial Organization Conference (2016) and in conferences and seminars at: University of California Berkeley, University of Michigan, University of North Carolina, and Drexel University.

Dr. Aleda M. Roth

Burlington Industries Distinguished Professor of Supply Chain Management, Department of Management

Aleda Roth is an internationally recognized empirical scholar and thought leader in service and manufacturing strategy. Her research is motivated by theoretical and practical explanations of how businesses can best deploy their operations, global supply chains, and technology strategies for an effective triple bottom line: competitive advantage, sustainability and public well-being. Aleda is currently addressing business performance and policy impacts of emerging paradigms.

She is devising new business models to mitigate quality and political risks in global supply chains, as well as strategies and policies for improving U.S. health care systems and global humanitarian recovery services. Aleda has been published extensively. With over 200 publications, her work ranks in the top 1% of POM scholars in the U.S.; in the top 2% published in the *Journal of Operations Management* (JOM); and 7th worldwide in service management research. Attesting to her high impact as a scholar and leader in Supply Chain and Operations Management, Aleda has received over 90 research awards and honors since earning her doctorate in 1986. Aleda holds a lifetime achievement award from the POMS College of Service Management and the Academy of Management OM Division. Aleda was the first woman elected President of the Production and Operations Management Society as well as to be elected as a Fellow of the Production and Operations Management Society and the Manufacturing and Service Operations Management Society. Aleda has held editorial leadership positions for the top academic journals in her field. Her research has influenced practice and policy. As a member of the Executive Advisory Committee of the Council on Competitiveness' U.S. Manufacturing Competitiveness Initiative, Aleda's work was reported in the policy document, "MAKE: An American Manufacturing Movement." Aleda's research on the Global Food Supply Chain Quality Risk Project is well-cited and has attracted significant media attention. She has served as subject matter expert for the National Science Foundation.

Some of Dr. Roth's recent achievements include:

- Named an Academic Scholar for Cornell University's Institute for Healthy Futures
- Received Clemson University's College of Business Senior Research Scholar Award.
- Aleda received the prestigious Award for the Advancement of Women in Operation Research and Management Sciences (INFORMS) in 2014; and the prior year, she was among the first 6 international scholars, including a Nobel Prize winner and members of the National Academy of Sciences, to be named as a 2013 Eminent Scholar of the Texas A&M Institute for Advanced Studies (TIAS).

Dr. Sally K. Widener

Professor, School of Accountancy

Sally Widener's research area is Management Control, which is the set of policies, practices, and procedures organizations use to guide, motivate, and constrain employees' actions. Sally primarily uses survey data, both across and within firms, to examine the design features of management control systems and their impact on employees' behaviors and organizational performance. Central themes of her research include (1) the functioning of control mechanisms as complements and/or substitutes within management control systems and packages, (2) providing further empirical evidence to explicate underspecified theoretical claims in the Levers of Control framework, (3) gaining more insight into the effects of different control uses, such as enabling and coercive uses, and (4) behavioral outcomes of management control including effects on outcomes such as creativity, learning, role stressors, and employee performance. Recently Sally has become deeply immersed in the interplay between ethics and management control by integrating relevant ethical variables at both individual and group levels with aspects of management control design for the purpose of better understanding employee behaviors and organizational outcomes.

Recent 2015-2016 research-related achievements include:

- Delivered four plenary addresses:
 - "(Re)Claiming Relevance: Embracing the Survey Method in Management

- Accounting Research,” European Research on Management and Accounting and Conference (ERMAC) Conference, Vienna, Austria, June 2016
 - “Management Control and Ethical Characteristics,” Management Control Symposium, University of Groningen, The Netherlands, May 2016
 - “The Complexities of Control: Integration of Ethics and Uses of Control,” 8th Conference on Performance Measurement and Management Control, Nice, France, October 2015
 - “Untapped Possibilities: Survey Methods and Behavioral Management Accounting Issues,” 12th Annual Conference for Management Accounting Research (ACMAR), WHU-Otto Beisheim School of Management, Vallendar, Germany, March 2015
- Named Editor of the *Journal of Management Accounting Research* (2016 – Present)
- Named Editor of the *Journal of Management Control* (2016 – Present)
- Named Associate Editor of the *European Accounting Review* (2016 – Present)
- Elected President of the Accounting, Behavior and Organization Section of the American Accounting Association (October 2016 – Present)
- Elected President-Elect of the Accounting, Behavior and Organization Section of the American Accounting Association (August 2015 – October 2016)
- Co-organizer of the European Institute of Advanced Studies in Management (EIASM)-sponsored Conference on Performance Measurement and Management Control held bi-annually in Nice, France (2015 – Present)
- Recognized for ‘Highly Cited Research’ in *Accounting, Organizations and Society* (December 2016).
- Delivered research workshops at five institutions in 2016: University of Hamburg, Hamburg, Germany, Bocconi University, Milan, Italy, University of Central Florida, National Chengchi University (Taiwan), Dong Hua University (Taiwan).
- Published five peer-reviewed academic articles
 - Burney, L., R.R. Radtke, and S.K. Widener. Forthcoming. The Intersection of ‘Bad Apples,’ ‘Bad Barrels,’ and the Enabling Use of Performance Measurement Systems. 2016. *Journal of Information Systems In-Press*.
 - Heinicke, A., T.W. Guenther, T.W. and S.K. Widener. 2016. An examination of the relationship between the extent of a flexible culture and the levers of control system: The key role of beliefs control. *Management Accounting Research* 33: 25-41
 - Kruis, A., R. Speklé, and S.K. Widener. 2016. Balancing Control Structures: An Empirical Analysis of the Levers of Control Framework. *Management Accounting Research* 32: 27-44.
 - Lee, Michael., and S.K. Widener. 2016. The Performance Effects of Using Business Intelligence Systems for Exploitation and Exploration Learning. *Journal of Information Systems* 30: 1-31.
 - Dalton, D., N. Harp, D. Oler, and S.K. Widener. 2016. Managing the Review Process in Accounting Research: Advice from the Trenches. *Issues in Accounting Education* 31: 235-252.
- Published one book chapter in a volume that she also edited.
 - Radtke, R., and S.K. Widener. 2016. The Complex World of Control: Integration of Ethics and Uses of Control. In M. Epstein, F. Verbeeten, and S. K. Widener (Eds.) *Performance Measurement and Management Control* Volume 31: Emerald Publishing Ltd.

College of Education

Dr. Anna H. Hall

Assistant Professor of Early Childhood Education, Department of Teaching and Learning

Dr. Hall is an Assistant Professor of Early Childhood Education in the Eugene T. Moore School of Education at Clemson University. She is chair of the Curriculum & Teaching Doctoral Committee and a faculty advisor for the Reggio Emilia, Italy Study Abroad Program. She also coordinates the Clemson University Advanced Placement Summer Institutes. Her scholarship focuses on examining the writing attitudes of teachers and students and developing and adapting instructional writing strategies. In teaching undergraduate and graduate students, she models constructivist strategies and challenges students to design instruction that is meaningful and authentic to young children. She believes in forming research partnerships within her own community, as well as the educational community at large, to improve the writing lives of young children. She has published extensively in the area of early childhood writing in professional journals, such as *Early Childhood Education Journal*, *Early Childhood Development and Care*, *Journal of Early Childhood Teacher Education*, *Young Children*, and *The Reading Teacher*.

Recent achievements include:

- Published (or in press) 15 articles since 2015; 30 total publications (in five years at Clemson) including 23 national peer-reviewed publications, 2 peer-reviewed state publications, 3 invited publications, and 2 book chapters
- Honored with the Award of Excellence in Research, College of Education, Clemson University – 2016
- Presented eight papers at national conferences since 2015
- Serving as an Editorial Board Member, *The Reading Teacher*
- Serving as a Board Member, First Steps Greenville
- Serving as an Expert Contributor, Primrose Schools Pointers for Parents Blog
- Awarded \$123,749 South Carolina AP Teacher Institute Grant (2015)

Dr. Alison E. Leonard

Assistant Professor of Arts & Creativity, Department of Teaching & Learning

Dr. Leonard's research focuses on educational interventions in arts education. Most essential to success in scholarship has been the interdisciplinary nature of her research and teaching that merge arts education (dance, music, theatre, visual arts), digital media and learning, and STEAM (Science, Technology, Engineering, Arts +Design, Mathematics). She continues to maintain and lead the College of Education's Arts & Creativity Lab (AC Lab), a unique and custom space that she designed in 2012-2013: <https://www.clemson.edu/education/arts-creativity-lab/index.html>

Recent achievements:

- Clemson University Principal Investigator (sub-award: \$255,363, 2015-2017), Virtual Environment Interactions: Exploring Grounded Embodied Pedagogy in Support of Computational Thinking (VEnvI), National Science Foundation 13-518, Integrated NSF Support Promoting Interdisciplinary Research and Education (INSPIRE) Grant, 2013-2017, \$579,673, external grant, Co-Principal Investigator.
 - VEnvI project has published in 3 journals, 5 published proceedings (at least 3

more submitted) and has over 15 conference presentations and papers, numerous presentations and professional development sessions, including the Greenville Dance Festival, Artisphere, Share Fair Nation's STEMosphere, iMAGINE Upstate Festival, and received press in Clemson University's *The Newsstand*, *USA Today*, *Fox Carolina*, *The Greenville News*, *Upstate Business Journal*, *Anderson Independent-Mail*, *Science Codex*, *Medical Daily*, *Science World Report*, *Phys.org*, *La Nación-Technología*, *THE Journal*, and others <http://venvi.org/venvihome.html>

- Awarded Presenters' Choice recognition for video: *VENVI: Learning Computational Thinking Through Creative Movement*. NSF 2016 video showcase "Advancing STEM Learning For All: Sharing Cutting Edge Work and Community Discourse." <http://stemforall2016.videohall.com/presentations/777>
- Published and in-press: 22 articles, including peer-reviewed articles, conference proceedings, and reviews
- Reviewer for the *Journal of Dance Education*
- Faculty-in-Residence at Dr. Phinneze J. Fisher Middle School, Spring 2016
- Chosen from the School of Education as the Professor of the Game, September 5, 2015
- Chosen for the Clemson Family Portrait exhibit at the Clemson Experience Clemson University's Greenville ONE North Main, Greenville, 2015-present
- Choreographer for Clemson Players' production of *She Loves Me*, Spring 2016

Dr. Joseph B. Ryan

Sue Stanzione Distinguished Professor of Clemson LIFE, Department of Education and Human Development

Dr. Joe Ryan is the Sue Stanzione Distinguished Professor of Clemson LIFE. He is the founder and Executive Director of Clemson LIFE (Learning is for Everyone), a post-secondary education program for young adults with intellectual disabilities, as well as several adaptive sports programs. Dr. Ryan has over 70 publications, and currently serves as the Editor of the journal *Beyond Behavior*. His research interests focus on behavioral interventions and enhancing post-school outcomes for individuals with intellectual disabilities. He has been interviewed by Anderson Cooper, CNN, Headline News, New York Times, Wall Street Journal, and other leading periodicals, and given two U.S. Congressional Briefings on behavioral crisis interventions for schools.

Recent achievements include:

- Published (or in press) 14 articles since 2015; over 70 publications total (H-index 20)
- Editor of *Beyond Behavior* <https://us.sagepub.com/en-us/nam/beyond-behavior/journal203374#submission-guidelines>
- Principal Investigator \$1,097,670 U.S. Dept. of Education Doctoral Leadership Grant
- Founder / Director, *Clemson LIFE (Learning is for Everyone)* postsecondary transition program for young adults aged 18-23 with intellectual disabilities at Clemson University, 2008 – present. <http://www.clemson.edu/education/culife/>
- Founder / Director, *Adaptive Sports Baseball League*. Adaptive sports league in Clemson tri-county area serving approximately 45-50 children and adolescents ages 6 – 18 with

emotional and/or physical disabilities, 2006 – present.
<http://sites.google.com/site/clemsonchallenger/>

- Founder / Director, *Adaptive Sports Soccer League*. Adaptive sports league in Clemson tri-county area serving approximately 45-50 children and adolescents ages 6 – 18 with emotional and/or physical disabilities, 2007 – present.
<http://clemsontopsoccer.googlepages.com>
- 2016 Named Sue Stanzione Distinguished Professor in Clemson LIFE
- 2016 University of Nebraska Outstanding Alumnus in Special Education Award.
- 2015 Excellence in Research Award, Clemson University's Eugene T. Moore School of Education
- Helped raise \$1,200,000 in private donations to fund a Distinguished Professorship to lead the Clemson LIFE (Learning is for Everyone) post-secondary education program for young adults with intellectual disabilities, and \$135,000 in private donations for Clemson LIFE program to support program expansion and scholarship funding.

College of Engineering, Computing, and Applied Sciences

Dr. Lisa Benson

Associate Professor, Engineering and Science Education

Prof. Benson is the founding faculty member of Engineering and Science Education, hired on October 13, 2006. She has a national and international reputation in the burgeoning discipline of engineering education. In the last two years, her leadership has been recognized with awards from her professional societies and invitations from the National Academies. Prof. Benson and her colleagues were recognized in 2015 by American Society of Engineering Education (ASEE) with the best paper in the Industrial Engineering Division and by IEEE Frontiers in Education with the Helen Plants Award for Best Non-Traditional Workshop. She and her colleagues were also recognized with the Best Paper in the Mathematics Division by ASEE in 2016. In March 2015, Prof. Benson was invited to a National Academy of Engineering workshop on building capacity in engineering education. In December 2015, she was invited as an expert contributor to a panel on “Strengthening Research Experiences for Undergraduate STEM Students” by the National Academies of Sciences, Engineering and Medicine. In September 2016, she was selected by Dean Gramopadhye to attend the Frontiers of Engineering Education Symposium sponsored by the National Academy of Engineering. Prof. Benson conducted workshops in Indonesia and Malaysia for engineering faculty at two of the largest engineering universities in those countries. Her mentoring of doctoral students is outstanding, as shown by five of her PhD advisees graduating between August 2014 and December 2016, all of whom were hired into academic positions, and two wrote successful NSF proposals as graduate students. They were able to begin their academic career with a NSF award supporting their research. She has three PhD students in process and two more for which she is co-advisor. One of her advisees received a NSF Graduate Research Fellowship in 2015. This is the second of Prof. Benson’s advisees who have held the prestigious NSF GRF.

In the last two years, Prof. Benson has many additional accomplishments:

- Named Deputy Editor for the Journal of Engineering Education, the premier journal in her discipline
- Published 12 peer-reviewed papers in 2015-16 and 12 in 2014-15
- Received College of Engineering and Science Faculty Collaboration Award in May 2015
- Co-facilitated workshops for Clemson students submitting NSF Graduate Research Fellowship applications
- Co-facilitated workshops for graduate teaching assistants in STEM disciplines
- Received \$472,333 in FY15 and FY16 grant awards
- Credited with \$356,347 in FY15 and FY16 expenditures
- Served as departmental graduate coordinator
- Served as TPR chair for both the ESED and General Engineering committees
- Led Science as Art, a premier STEM outreach effort featured at Artisphere in 2015 and 2016
- Developed and taught the first course for the hybrid (online & face to face) course for the ESED Certificate

Dr. Bruce (Zhi) Gao

Professor; Bioengineering

Dr. Gao was appointed as Assistant Professor of Bioengineering at Clemson University in January 2003 following the completion of his doctorate in bioengineering at the University of Miami and post-doctoral fellowship at the University of Minnesota. He was promoted to Associate Professor with tenure in August 2009 and fully recommended by the department and college for promotion to full professor with an effective date of August 15, 2015. As a researcher, Dr. Gao has demonstrated extraordinary skills for innovation and bringing concepts to applications. In the past years, Dr. Gao has exemplified the academic profession. He has significantly contributed to the unique reputation of Clemson University as a leader in biomedical engineering and optics research. Dr. Gao has developed novel approaches that have demonstrated significant potential in enhancing diagnostics and understand the mechanisms used by various types of cells to form a functional tissue with the methods of bioimaging techniques. In 2013, Dr. Gao's work made the cover of "Lab On a Chip" and Cardiovascular Research" journals both with impact factor exceeding 5.8. For the latter, his paper on "Myosin Filament Assembly onto Myofibrils in Live Neonatal Cardiomyocytes Observed by TPEF-SHG Microscopy" was selected as the editor's choice.

Dr. Gao's recent accomplishments include:

- Recipient of the 2015 McQueen Quattlebaum Faculty Achievement Award
- Served as a PI and co-PI on 12 funded projects with a current research port-folio of more than \$18M as a PI and co-PI including NIH R01 and AHA support
- Averaged 7 peer-reviewed manuscripts and 5 peer-reviewed conference proceedings per year publication rate in journals with impact factor journals exceeding 5 for a total of 12 papers in the past two years.
- Graduated 4 PhD, 2 post-docs, and currently advised 7 PhD students
- Reviewer for NIH, AHA, NSF; editorial board member for numerous scientific journals.

Dr. Hongxin Hu

Assistant Professor; School of Computing

Dr. Hu has been an Assistant Professor in the School of Computing at Clemson University since July 2014. His research interests centrally focus on the area of network and system security. More specifically, he strives to develop effective solutions to address realistic security issues created by today's emerging technologies including Software-Defined Networking (SDN), Network Function Virtualization (NFV), social networks, Internet of Things (IoT), mobile computing, cloud computing, and big data. He has published over 80-refereed technical papers, many of which appeared in top conferences and journals. He is the recipient of the Best Paper Award from ACM CODASPY 2014, and the Best Paper Award Honorable Mentions from ACM SACMAT 2016, IEEE ICNP 2015, and ACM SACMAT 2011. One of his papers was recently featured by the IEEE Special Technical Community on Social Networking. His research has also received wide press coverage including ACM TechNews, InformationWeek, and NetworkWorld. Highlighting achievements from his first 2 years at Clemson (fall 2014 to fall 2016) are as follows:

- He has published 24 peer-reviewed papers. 7 papers are in journals, including premier ones, such as ACM Transactions on Information and System Security, and IEEE Transactions on Dependable and Secure Computing (TDSC). 17 papers are conference publications, including prestigious venues, such as the 24th Network and Distributed

System Security Symposium, and the 30th Annual Computer Security Applications Conference.

- He has acquired 9 external research grants from different state, federal and non-governmental funding agencies totaling > \$3M. Especially, he has brought 5 National Science Foundation (NSF) grants to Clemson, including a \$1M collaborative NSF grants serving as the Lead PI.
- The total citation number of his publications for 2015 and 2016 from Google Scholar is 1180. The overall citation number of his research papers is over 2400 (H-index 24).
- One of his papers received the Best Paper Award Honorable Mention at SACMAT 2016. Another paper received the Best Paper Award Nominee at ICNP 2015. One of his papers was selected as one of the top-10 finalists for CSAW 2015 Best Applied Security Paper Award. He also has a paper selected as the Spotlight Paper for the September/October 2015 issue of TDSC.
- His research on the Visual Cyberbullying Defense has been reported by Clemson News, Clemson TV, Independent Mail, The Post and Courier, Greenville (SC) News, WSPA-TV, WHNS-TV, WLOS, WYFF4, etc. In particular, it made the front page of the Post and Courier.
- He has been invited as guest editors for 3 international journals.
- He has served in 9 conference and workshop organizing roles. In particular, he was the program co-chair for 3 international workshops.
- He has served on the technical program committee for over 10 international conferences.
- He has been invited to serve on the SDN Security panel at IEEE CNS 2016.
- He has been invited to give 12 invited talks.
- His first-year Ph.D. student has a research paper accepted by the 24th Network and Distributed System Security Symposium. This is the 1st paper from Clemson University to be published in one of the 'big four' security conferences.
- His research team "FlowGuard" won the third place in the first annual Extreme SDN Innovation Challenge.

College of Science

Dr. Endre Takacs

Associate Professor, Department of Physics and Astronomy

Research in Dr. Takacs's physics laboratory is centered on the generation, characterization, and applications of x-rays and gamma rays. High-energy electromagnetic radiation is created in atomic and nuclear processes governed by quantum electrodynamics, the most precise and well tested of all physical theories. Experiments in the atomic physics lab use unique spectrometers that allow the observation of x-ray radiation from highly charged ions of ten million degree hot plasmas. Such extreme material can be created in the laboratory by electron beam ion traps such as the one at Clemson University and at the National Institute of Standards and Technology (NIST) in Gaithersburg, MD. Undergraduate and graduate students involved in his research use both facilities to investigate unique atomic processes in astrophysical and fusion plasmas and the structure and interactions of highly ionized atoms. The atomic physics research program in his lab is currently funded by the Department of Commerce. On the applied side of radiation research, his group investigates the medical applicability of x-rays and gamma rays in order to understand the biological effects of radiation and to design effective tools for radiation surgery. High-energy and high dose devices used in the standard clinical practice are highly effective, but the pathways leading to cell damage or death are far from being fully understood. There are indications that low dose levels of radiation can even have beneficial or protective effects on cells. His collaboration with bioengineers and computer scientists allows undergraduate and graduate students from these fields to gain insight into the elementary physical processes in radiation interactions and into the biological responses at the cellular level. Based on the modeling capabilities of the group, a special radiation treatment head was designed and analyzed in his lab that was patented by the Clemson University Research Foundation. The technology is in the process of being licensed by a startup company in order to bring the invention to clinical practice.

Bulleted list of accomplishments during 2014-2016:

- Organized a Palmetto Academy site for the South Carolina NASA Space Grant
- Held a Summer Research Experience in X-ray Interaction Research for undergraduate and graduate students
- Summer honors student mentor through the Eureka! Program
- Organized three Annual International Mini-Workshops in Medical Physics Research
- Mentors a Creative Inquiry undergraduate research program with the involvement of more than twenty undergraduate students from science and engineering fields
- 11 presentations at national and international meetings first authored by undergraduate and graduate students
- Mentor of five PhD students, an MS student who recently graduated, five undergraduate senior thesis research students, six undergraduate UPIC research interns
- One of the PhD students received a Harvard Visiting Graduate Student Scholarship
- Received an initial \$200,000 research grant from the Department of Commerce that was extended for two more years by an additional \$400,000
- Received a TIGER Grant from the College of Engineering and Science (\$18,000)
- Appointed to a Faculty Scholar of the Clemson University School of Health Research
- Co-founded a start-up company for the development of radiation treatment head patented by the Clemson University Research Foundation

Dr. James Morris

*Professor, Department of Genetics and Biochemistry
Eukaryotic Pathogens Innovation Center Member*

James Morris is a molecular parasitologist who studies metabolic pathways in a group of single-celled parasites in order to identify targets for therapeutic design. The protozoan parasites that his team studies have developed specialized means of sensing and metabolizing the important sugar, glucose, while they live in their human host. As the Morris lab resolves these parasite-specific components of the sugar sensing and uptake pathway, they have been successful in establishing collaborations with chemists from across the nation and at Clemson in order to develop drugs that inhibit the processes with lethal consequences to the invading parasite. This work has and is supported by the National Institutes of Health. While his team has historically focused on African trypanosome and related parasites which cause diseases like African sleeping sickness, leishmaniasis, and Chagas' disease in humans, more recent work on the malaria parasite *Plasmodium falciparum* and the brain eating amoeba *Naegleria fowleri* suggests that attacking the sugar metabolism pathways of these single-celled invaders may also prove useful in the development of new therapeutics. The Morris lab team currently consists of one post-doctoral fellow, one graduate student, one laboratory research technician, and 9 undergraduate Creative Inquiry students.

Bulleted list of accomplishments during 2015-2016:

- Fourteen presentations at local, regional and national meetings with undergraduate, graduate, or post-doctoral fellows as first authors
- Service on six federal (NIH/US Army) grant review panels/study sections
- Six peer-reviewed published manuscripts
- Book chapter
- Nominated CAFLS Teacher of the Year
- Appointed Faculty Scholar of the Clemson University School of Health Research
- Presented an invited talk at a peer institution
- Awarded funding as a TI on NIH Center for Biomedical Research Excellence (COBRE) grant
- Awarded funding as PI on R21/33 NIH Grant National Institutes of Health (\$455,624, with a total of ~\$1.8 million dollars possible over the lifetime of the award)
- Research funded during this period as PI or Co-PI on three NIH awards (\$892,257 total)

Dr. Amy Lawton-Rauh

Associate Professor, Department of Genetics and Biochemistry

Amy Lawton-Rauh is a population and quantitative geneticist who seeks to distinguish heritable genome sequence variation from non-heritable environmental variation shaping adaptation to abiotic stresses (water, temperature, shade, and chemicals such as herbicides). The research objectives of the Lawton-Rauh lab are to: (1) translate population, quantitative, and molecular evolutionary genomics models to identify genetic and phenotypic drivers of adaptation in crops, weeds and wild relatives, (2) assess the genetic basis of key traits in crops with combined resistance and desirable commodity traits, locally adapted crop wild relatives in Rosaceae, and herbicide resistant weeds, (3) quantify genetic interactions of crops, wild relatives, and weedy species, (4) determine effective management units for mitigating abiotic stress-adapted weedy species (including herbicide resistance) plus how we can use these local adaptations for crop domestication and improvement to address global challenges. Her research program studies primarily amaranths, rice, rosaceous crops-wild relatives (peaches, cherries, apples; www.rosbreed.org), and junglerice (rice crop mimic *Echinochloa*). Amy continuously seeks opportunities to expand her work to improve general genetic-environmental adaptation models with colleagues across campus, the state and the world. Her work is currently supported by two grants from the United States Department of Agriculture, Cotton Incorporated, Wells Fargo, and the South Carolina Peach Council. Her lab group is currently comprised of one postdoctoral associate, two PhD Genetics students, and an undergraduate research intern.

Bulleted list of accomplishments during 2014-2016:

- 7 presented, coordinated, and implemented invited international conference talks and workshops, including Barcelona, Benasque (Spain), Harpenden (Rothamsted Research Institute, England), Perth (University of Western Australia), Edmonton (Canada), Porto Alegre (Brazil), Prague (Czech Republic); 10 invited talks at conferences, other universities, and governmental policy forums in the US; 10 conference presentations by undergraduate interns and graduate students
- DivSEEK working group member and signatory, putting Clemson University on the map for addressing global germplasm resources using crops and wild relatives (www.divseek.org)
- Six published peer-reviewed manuscripts (22 primary scientific journal publications since 2006); September 2016 publication that includes graduate and undergraduate co-authors recommended by the Faculty of 1000
- Funding through the USDA, Cotton Incorporated, and the SC Peach Council
- Co Program Director of USDA National Needs Fellowship program was funded in 2016 to support 4 PhD students across Clemson University in the area of 'Computationally intensive genomics research in agriculture'
- Featured in Clemson's *Glimpse* magazine, *EUREKA! Science Alerts*, *Nature*, and *Rural Farm TV*
- American Council on Education Regional Women's Leadership Forum, selected participant October 2016
- Chair, Faculty Senate Research subcommittee (2014-16)

College of Arts, Architecture, and Humanities

Dr. James Barker

Professor Emeritus of Architecture

Jim Barker came to Clemson University from Kingsport, Tennessee as an architecture student and track athlete. After graduating from Clemson, he spent several years as a practicing architect, at Mississippi State University and Clemson as a faculty member and dean, and was named Clemson president in 1999. He led Clemson through an era of dramatic growth in academic quality and reputation, moving from the third tier to Number 20 among national public universities, according to *US News and World Report*, and gaining Clemson recognition for its commitment to undergraduate teaching and the strong return on investment in tuition that graduates enjoyed. He helped lead the University through a \$600-million fund-raising campaign, which surpassed its goal and is now well on its way to a new goal of \$1 billion. After 14 years of service as President, he returned to the Architecture faculty at Clemson and was named President Emeritus. He teaches seminar and studio courses to undergraduate and graduate students. Jim Barker is a leading voice in higher education for South Carolina and the nation.

Some of his recent accomplishments include:

- Currently serves as a Trustee of Greenville (SC) Health System.
- Has served as President of the Commission on Colleges of the Southern Association of Colleges and Schools (SACS)
- Served as Chair of the NCAA Division I Board of Directors
- Served on the Board of The Shaw Group (a Fortune 500 company).
- Jim is a Fellow of the American Institute of Architects and the Urban Design Forum (formerly the Institute for Urban Design), and a Senior Fellow of the Design Futures Council.

Dr. Barton Palmer

Calhoun Lemon Professor of English

R. Barton Palmer has been the Calhoun Lemon Professor of Literature in the English department since joining Clemson in 1995. He has spent two terms chairing the department during his time at Clemson. Palmer maintains a high research profile both as a medievalist, specializing in late medieval English-French literary relations. He is also a film scholar, with a particular interest in classic Hollywood and international cinema. He is the author, editor or general editor of close to 50 books on various literary and film subjects. He also is the founding and general editor of book series at four university presses. As editor of two Edinburgh University Press series focused on film, Bart has edited 4 volumes, by other authors, and offered contracts for 6 other authors.

Recent achievements include:

- Published 4 books over the last year (*Screening Modern Irish Fiction and Drama*, Palgrave; *Invented Lives, Imagined Communities: The Biopic and American National Identity*, SUNY Press; *Cycles, Sequels, Spin-offs, Remakes, and Reboots: Multiplicities in Film and Television*, University of Texas Press; *Shot on Location: Postwar American Cinema and the Exploration of Real Place*, Rutgers University Press) .
- Published 3 articles or book chapters, and gave conference presentations.
- Edited the *South Atlantic Review*, the journal of the South Atlantic Modern Language Association
- Served as the Director of the World Cinema BA program.

Dr. Mark Spede

Professor of Performing Arts and Tiger Band Director

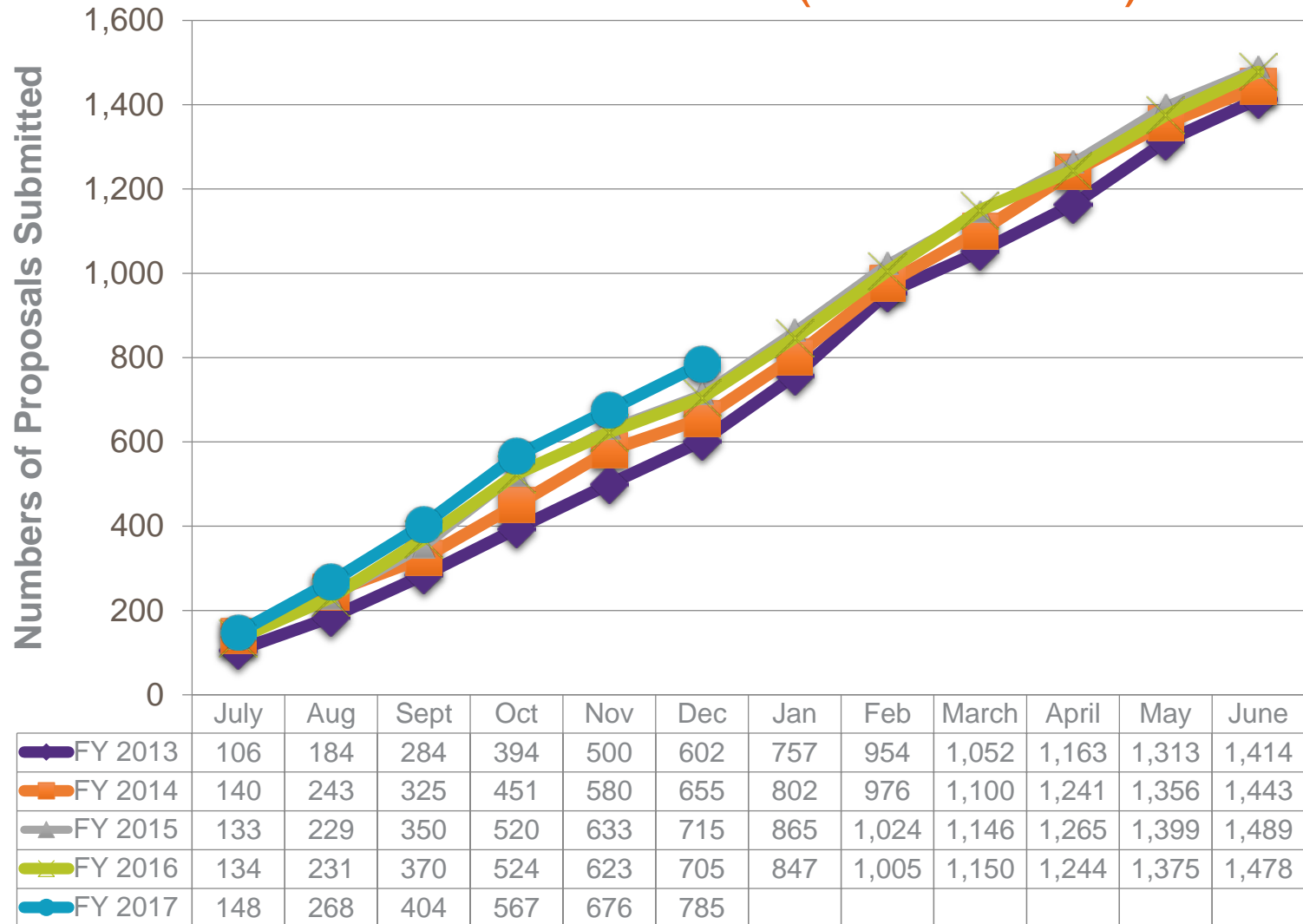
Dr. Mark J. Spede is Professor, Director of Bands, Director of Tiger Band, and Conductor of the Symphonic Band at Clemson University, where he administrates the band program (symphonic, athletic, and jazz bands). In 2012, Dr. Spede conducted the Clemson University Symphonic Band at venues in London, England, for the Summer Olympic Games. Also in 2012, he founded the Clemson Faculty Jazz Quintet, for which he plays drums. Dr. Spede earned a Bachelor of Music from the University of Michigan (1984), a Master of Music from Ball State University (1988), and a Doctor of Musical Arts from The University of Texas at Austin (1998). Dr. Spede previously served on the faculties at The University of Texas at Austin (1998-1999) and the University of Florida in Gainesville (1989-1995) as Assistant Director of Bands. At Florida, he also taught studio percussion. As a freelance arranger, Dr. Spede has written over 200 arrangements for high school and college marching bands. He served as Assistant Conductor of the Dallas Wind Symphony, where he also helped produce two of their recordings. His professional performing experience includes orchestra (principal percussion in the Gainesville Chamber Orchestra, Muncie Symphony Orchestra, Ann Arbor Symphony Orchestra, Flint Symphony Orchestra), jazz (performing with such artists as Randy Brecker, Ray Brown, Pete Christlieb, Dennis DiBlasio, Duffy Jackson, Dave Pell, Bobby Shew, Marvin Stamm, Bill Watrous, Ernie Watts and Phil Wilson), as well as at Walt Disney World.

Recent achievements include:

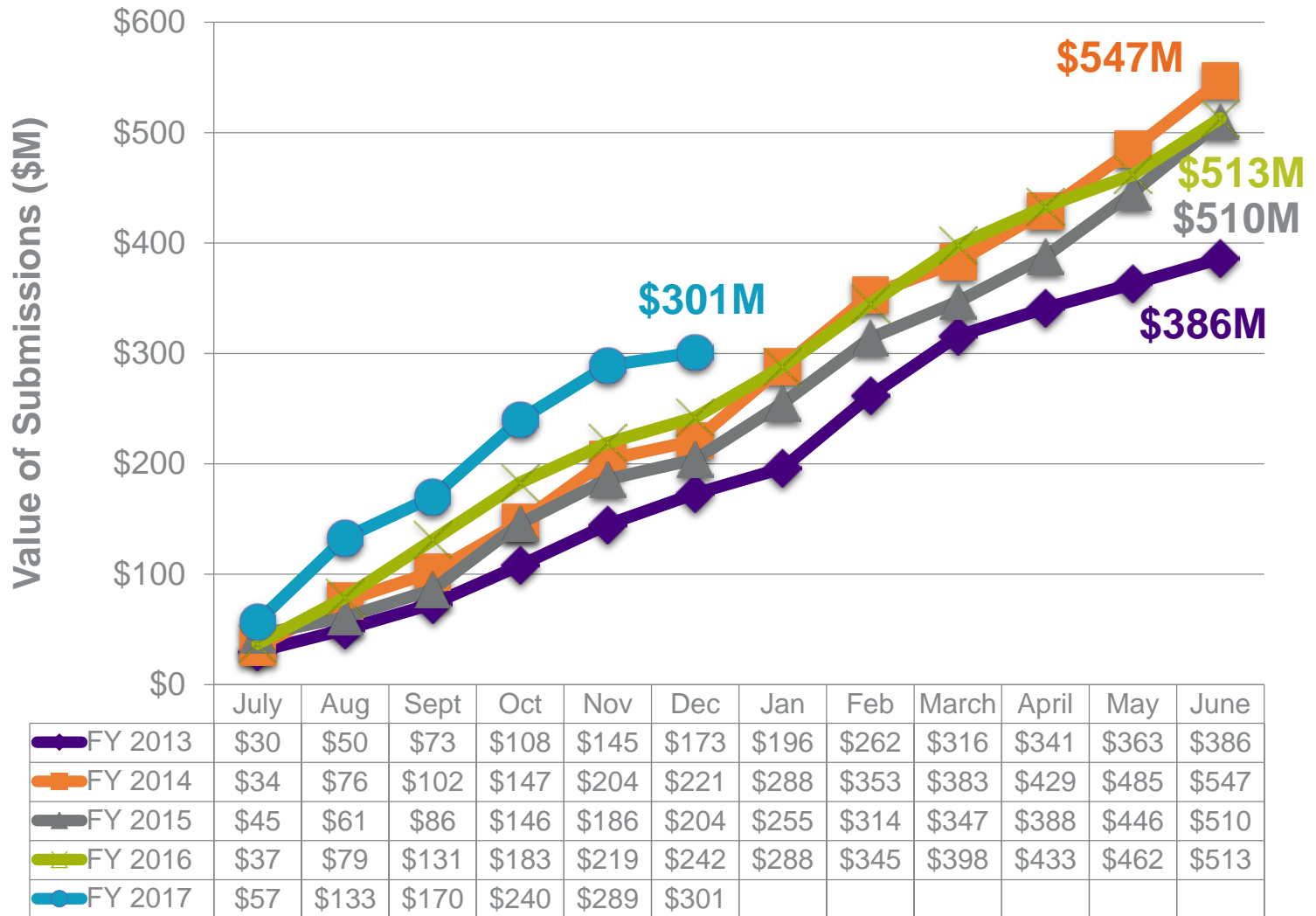
- Recipient of the Clemson University 2009 Dean's Award for Excellence in Teaching (College of Architecture, Arts and Humanities).
- Received three Clemson University Board of Trustees Awards for Faculty Excellence (2008, 2009, and 2012).
- He has served the College Band Directors National Association (CBDNA) in a number of capacities:
 - From 2003 to 2005, Dr. Spede served as state chair for South Carolina.
 - He also served on the CBDNA "New Era Think Tank" from 2005 to 2007.
 - Served as chair of the "Athletic Band Task Force" from 2005 to 2009.
 - He served as President of the Southern Division of CBDNA (encompassing eleven southern states)
 - Recently elected National Vice President and will rise to National President in 2019.
- Served as president of the Atlantic Coast Conference (ACC) Band Directors Association

Research Metrics

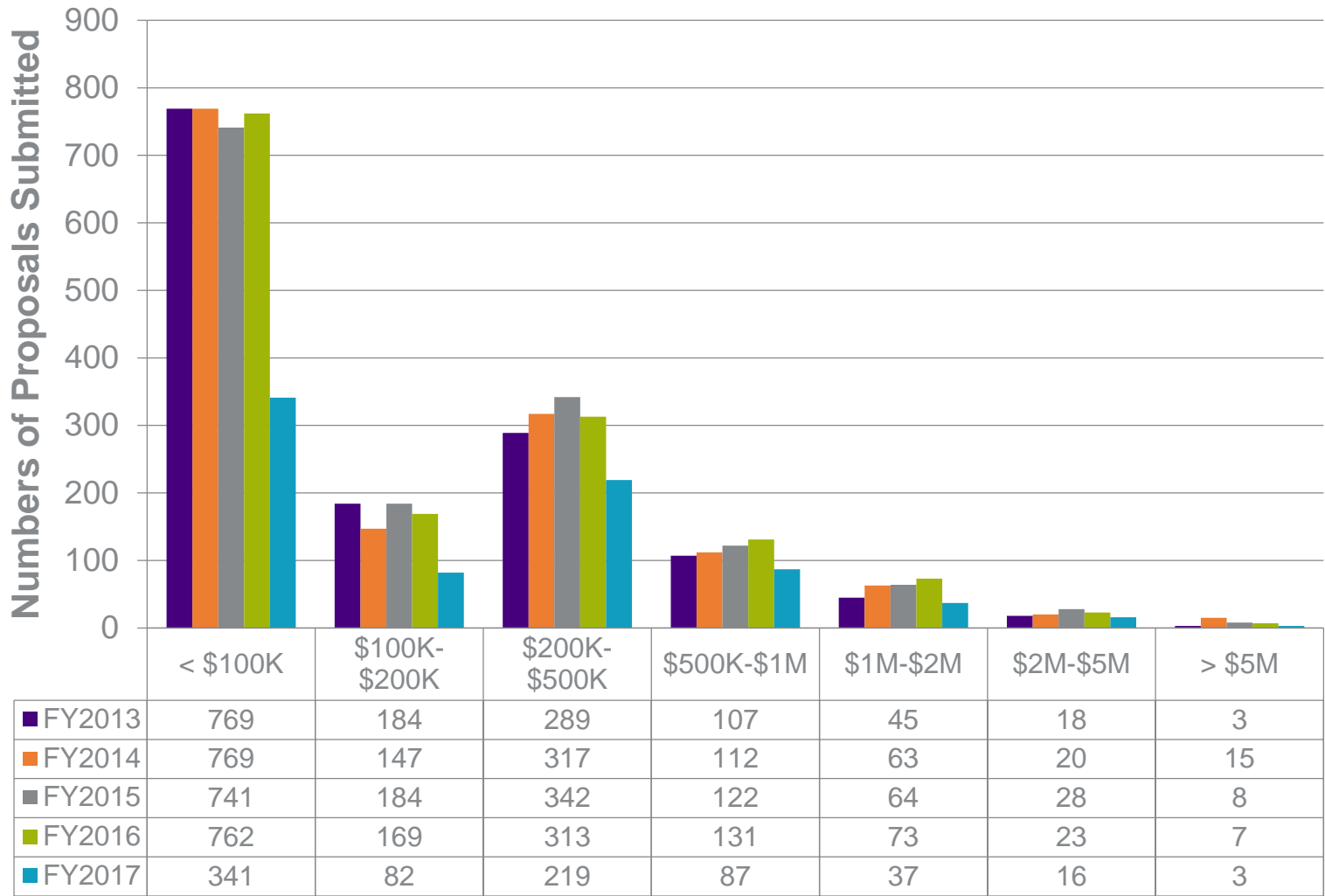
CLEMSON CUMULATIVE SUBMISSIONS: PROPOSAL COUNTS (2013-2017)



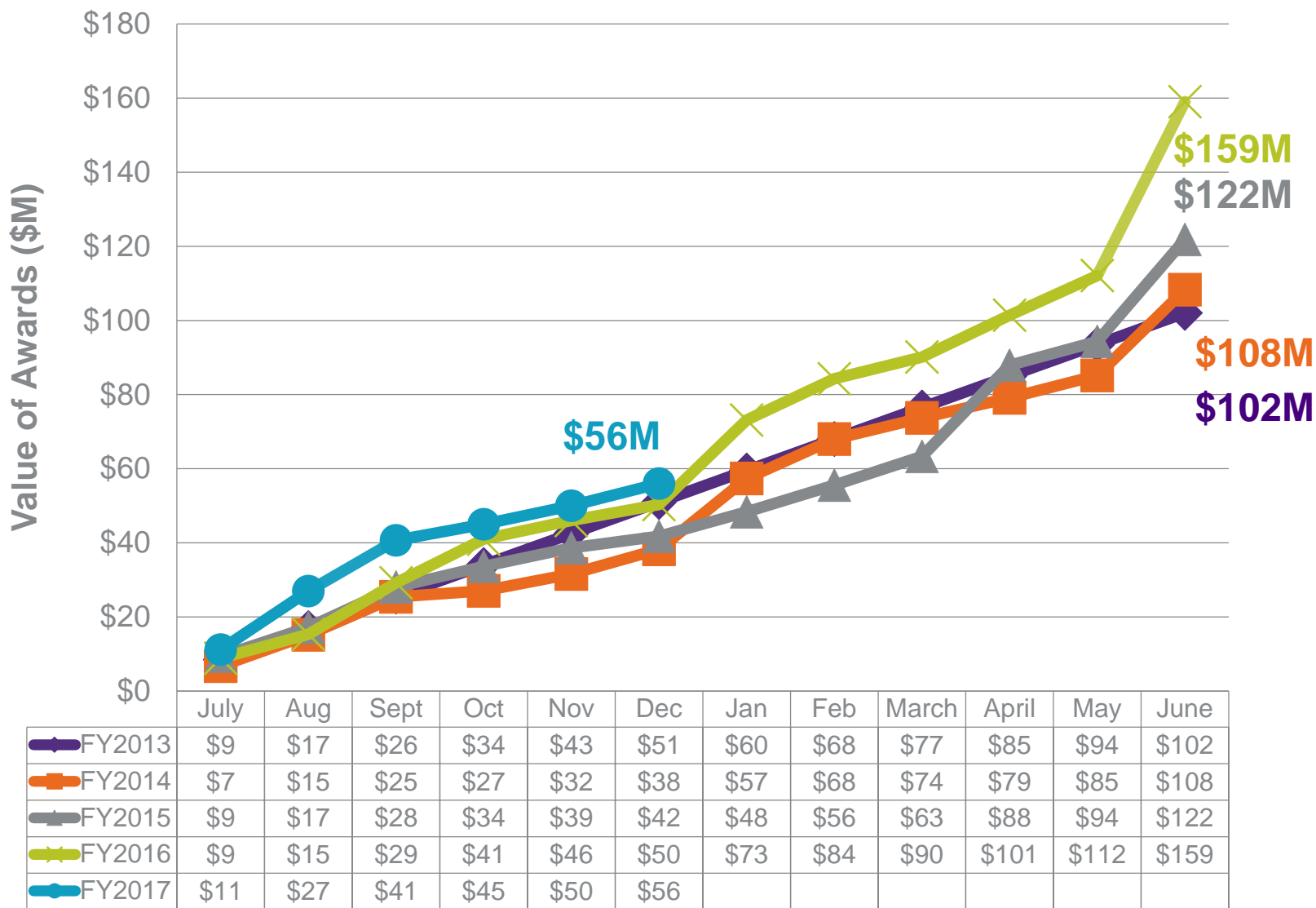
CLEMSON CUMULATIVE SUBMISSIONS: \$ REQUESTED (2013-2017)



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



CLEMSON CUMULATIVE AWARDS (2013-2017)



Clemson University
Research Report Card
Fiscal Year 2017

		2013	2014	2015	2016	2017	Data Trends
						Q2*	2013-2016
RESEARCH INPUTS							
a. Proposal Submissions (Count)		1,414	1,443	1,489	1,478	785	
1	AAH	38	51	65	62	43	
2	CAFLS	235	230	224	222	108	
3	CBSHS	81	93	102	104	66	
4	CECAS	549	555	582	617	329	
5	COE	51	54	39	45	16	
6	COB	7	15	13	15	7	
7	COS	242	247	263	239	128	
8	CCIT	12	12	6	3	3	
9	PSA	88	90	118	97	71	
10	VP for Res & Interdisc Inst	31	17	7	17	6	
11	All Other	80	79	70	57	8	
b. Proposal Submissions (Value)		\$ 386,106,648	\$ 547,095,092	\$ 510,484,443	\$ 513,180,239	\$ 300,884,799	
12	AAH	\$ 3,580,723	\$ 14,849,844	\$ 12,839,717	\$ 10,263,562	\$ 843,044	
13	CAFLS	\$ 34,372,635	\$ 43,999,698	\$ 36,519,514	\$ 23,617,486	\$ 16,169,542	
14	CBSHS	\$ 13,290,053	\$ 21,511,560	\$ 26,844,900	\$ 33,953,358	\$ 26,208,286	
15	CECAS	\$ 188,119,992	\$ 283,220,894	\$ 278,574,540	\$ 298,715,448	\$ 163,050,635	
16	COE	\$ 13,990,537	\$ 14,850,254	\$ 11,982,507	\$ 15,246,312	\$ 8,249,003	
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	\$ 56,854,793	
19	CCIT	\$ 37,911,464	\$ 12,473,160	\$ 2,116,258	\$ 2,219,976	\$ 5,241,535	
20	PSA	\$ 8,554,512	\$ 16,989,642	\$ 26,480,496	\$ 5,530,132	\$ 16,630,492	
21	VP for Res & Interdisc Inst	\$ 4,191,314	\$ 5,660,278	\$ 5,861,000	\$ 6,131,772	\$ 4,692,800	
22	All Other	\$ 5,358,506	\$ 12,820,270	\$ 5,238,588	\$ 8,516,416	\$ 2,022,852	
c. Awards *		\$ 102,023,163	\$ 108,295,780	\$ 121,846,378	\$ 159,048,270	\$ 55,833,676	
23	AAH	\$ 224,473	\$ 590,154	\$ 656,030	\$ 1,400,972	\$ 1,254,269	
24	CAFLS	\$ 7,284,564	\$ 6,659,619	\$ 14,149,829	\$ 8,619,438	\$ 6,366,245	
25	CBSHS	\$ 2,737,876	\$ 3,385,989	\$ 4,776,199	\$ 5,065,880	\$ 2,752,576	
26	CECAS	\$ 34,201,429	\$ 37,723,081	\$ 43,231,494	\$ 45,535,064	\$ 27,851,619	
27	COE	\$ 2,629,505	\$ 4,089,157	\$ 3,203,419	\$ 2,945,717	\$ 2,280,311	
28	COB	\$ 2,023,722	\$ 1,114,979	\$ 1,312,998	\$ 783,916	\$ 595,506	
29	COS	\$ 10,344,423	\$ 7,780,394	\$ 9,938,990	\$ 15,605,625	\$ 9,765,441	
30	CCIT	\$ 25,626,633	\$ 34,243,344	\$ 33,201,657	\$ 59,006,526	\$ 114,011	
31	PSA	\$ 14,827,292	\$ 12,284,142	\$ 9,588,294	\$ 12,965,629	\$ 3,179,127	
32	VP for Res & Interdisc Inst	\$ 1,790,060	\$ 268,882	\$ 573,565	\$ 5,139,315	\$ 978,324	
33	All Other	\$ 333,188	\$ 156,039	\$ 1,213,903	\$ 1,980,188	\$ 696,248	
d. Notable Awards							
34	NSF CAREER Awards (by start date)	4	1	3	5	1	
35	NIH R01-Equivalent Awards (by start date)	-	-	2	2	1	
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	655	
41	Postdoctoral Fellows	48	64	83	85	90	
42	Research Faculty: Permanent 100% Non-	6	6	6	11	17	
43	Research Faculty: Temporary 100% Non-	18	18	15	14	24	

**Clemson University
Research Report Card
Fiscal Year 2017**

		2013	2014	2015	2016	2017	Data Trends
						Q2*	2013-2016
RESEARCH PROCESS							
f. Sponsored Research Expenditures by		\$ 75,388,679	\$ 69,907,663	\$ 73,307,908	79,493,329	39,450,660	
44	AAH	\$ 504,683	\$ 378,112	\$ 419,440	\$ 1,104,015	\$ 536,955	
45	CAFLS	\$ 8,768,472	\$ 7,706,442	\$ 6,752,344	\$ 8,631,050	\$ 4,178,610	
46	COB	\$ 1,239,726	\$ 1,200,289	\$ 1,081,898	\$ 958,613	\$ 356,879	
47	CECAS	\$ 34,969,267	\$ 34,550,052	\$ 34,968,963	\$ 37,483,798	\$ 18,652,055	
48	CBSHS	\$ 3,050,080	\$ 2,817,714	\$ 3,680,307	\$ 4,068,139	\$ 1,992,379	
49	COE	\$ 3,286,747	\$ 3,256,328	\$ 3,793,915	\$ 2,510,444	\$ 1,254,167	
50	COS	\$ 13,209,952	\$ 10,501,024	\$ 9,286,770	\$ 11,327,997	\$ 7,430,980	
51	CCIT	\$ 1,996,620	\$ 1,631,199	\$ 3,400,258	\$ 2,775,609	\$ 232,548	
52	PSA	\$ 4,746,123	\$ 4,858,414	\$ 5,847,737	\$ 5,588,699	\$ 2,573,530	
53	VP for Res & Interdisc Inst	\$ 1,878,676	\$ 1,302,734	\$ 1,892,429	\$ 3,531,216	\$ 1,583,954	
54	All Other	\$ 1,738,332	\$ 1,705,355	\$ 2,183,847	\$ 1,513,750	\$ 658,602	
g. Sponsored Research Expenditures by		\$ 75,388,679	\$ 69,907,663	\$ 73,307,908	79,493,329	39,450,659	
55	Advanced Materials	\$ 14,258,840	\$ 11,288,090	\$ 10,713,746	\$ 10,385,364	\$ 4,882,114	
56	Automotive & Transportation Technology	\$ 4,687,300	\$ 5,680,684	\$ 7,236,984	\$ 7,645,168	\$ 4,253,974	
57	Biotechnology & Biomedical Sciences	\$ 11,953,360	\$ 9,459,648	\$ 10,060,574	\$ 12,362,142	\$ 7,011,120	
58	Family & Community Living	\$ 5,110,644	\$ 4,332,146	\$ 4,989,424	\$ 5,651,442	\$ 2,468,727	
59	General Education	\$ 2,618,598	\$ 2,929,771	\$ 4,023,792	\$ 3,475,748	\$ 1,689,248	
60	Information & Communication Technology	\$ 10,277,111	\$ 10,513,388	\$ 10,137,409	\$ 8,874,268	\$ 3,585,974	
61	Leadership & Entrepreneurship	\$ 1,633,044	\$ 1,235,240	\$ 818,397	\$ 950,968	\$ 317,453	
62	Other	\$ 6,518,006	\$ 7,591,364	\$ 7,401,285	\$ 8,453,810	\$ 5,005,952	
63	Sustainable Environment	\$ 18,331,776	\$ 16,877,332	\$ 17,926,295	\$ 21,694,417	\$ 10,236,098	
h. Sponsored Research Expenditures by		\$ 75,388,679	\$ 69,907,663	\$ 73,307,908	\$ 79,493,329	\$ 39,450,659	
64	Federal Gov	\$ 62,890,679	\$ 56,872,229	\$ 58,457,288	\$ 65,135,890	\$ 32,232,521	
65	Foundations, Societies, and Associations	\$ 4,221,409	\$ 4,294,121	\$ 4,743,649	\$ 4,137,246	\$ 2,223,546	
66	Industry/Other	\$ 4,930,465	\$ 5,641,543	\$ 6,069,562	\$ 6,870,782	\$ 3,190,768	
67	International	\$ 813,542	\$ 577,879	\$ 765,179	\$ 778,835	\$ 244,189	
68	Local Gov	\$ 597,732	\$ 614,527	\$ 578,235	\$ 530,909	\$ 233,910	
69	State Gov	\$ 1,934,852	\$ 1,907,364	\$ 2,693,993	\$ 2,039,667	\$ 1,325,725	
i. Sponsored Research Expenditures per T/TT							
70	AAH	\$ 3,299	\$ 2,264	\$ 2,343	\$ 5,841	\$ 3,314	
71	CAFLS	\$ 88,570	\$ 81,120	\$ 69,612	\$ 84,618	\$ 39,796	
72	COB	\$ 14,415	\$ 13,047	\$ 11,510	\$ 9,683	\$ 3,642	
73	CECAS	\$ 169,754	\$ 160,698	\$ 163,406	\$ 163,685	\$ 84,416	
74	CBSHS	\$ 27,982	\$ 26,853	\$ 33,764	\$ 42,376	\$ 15,688	
75	COE	\$ 54,779	\$ 51,688	\$ 62,195	\$ 38,037	\$ 21,623	
76	COS	\$ 95,724	\$ 72,421	\$ 61,912	\$ 77,589	\$ 48,253	
77	CU average (Total exp/Total T/TT faculty)	\$ 83,858	\$ 75,089	\$ 78,826	\$ 85,753	\$ 40,030	
RESEARCH OUTPUTS/OUTCOMES							
78	Doctorates Awarded (Aug, Dec, May)	187	217	237	233	149	
79	STEM Doctorates Awarded (Aug, Dec,	118	153	165	138	127	
80	Disclosures	102	129	70	60	25	
81	Patents	16	15	15	14	10	
82	Licenses/Options	9	7	7	5	1	
83	Licensing Revenue	\$ 1,134,289	\$ 762,811	\$ 360,131	\$ 354,827	\$ 34,660	
84	Start-up Companies (based on	1	4	4	2	1	
THE BOTTOM LINE							
Research Awards		\$ 75,196,128	\$ 79,924,631	\$ 89,276,598	\$ 109,442,077	\$ 55,886,253	
Other Sponsored Program Awards (CCIT		\$ 26,827,035	\$ 28,371,149	\$ 32,569,780	\$ 49,606,193	\$ -	
* Awards Total		\$ 102,023,163	\$ 108,295,780	\$ 121,846,378	\$ 159,048,270	\$ 55,886,253	
** Research Expenditures		\$ 75,388,679	\$ 69,907,663	\$ 73,307,908	\$ 79,493,329	\$ 39,450,660	
Other Sponsored Programs Expenditures		\$ 26,827,035	\$ 28,371,149	\$ 32,569,780	\$ 49,606,193	\$ -	
Less CURF Indirect Expenditures		\$ 1,303,354	\$ 743,951	\$ 684,695	\$ 574,081	\$ 163,706	
Sponsored Research and Programs Expenditures		\$ 100,912,360	\$ 97,534,861	\$ 105,192,993	\$ 128,525,441	\$ 39,286,954	
* See section c. above							
** See section f. above							
*Q2 Expenditure totals as finalized by 1/17/17							

Significant Awards

Clemson University's Top Ten Awards
Received Between September 9, 2017 and January 9, 2017

PI	Total Award	(Sponsor)Project Title	Abstract
Mashrur Chowdury	\$7.8M	(US DOT) University Transportation Center (UTC): Environmental Sustainability	Clemson will partner with the Citadel and SC State University and CU ICAR to provide research, education, and workforce training needed to support sustainability as the next generation of transportation and energy infrastructures is developed.
William Brown	\$5.5M	(SC-DHHS) Quality Assurance Services for the Bureau of Long Term Care Services	Clemson will support decision-making regarding Medicaid funded long-term care by providing data analysis, evaluation and quality assurance.
Ryan F. Schkoda	\$2.9M	(General Electric Corp.) Services Agreement: GE Drivetrain Testing	General Electric Corporation will use the Wind Turbine Drivetrain Testing Facility located at the CURI campus in Charleston, SC.
Kuang-Ching Wang	\$2.3M	(NSF) CloudLab: Flexible Scientific Infrastructure to Support Fundamental Advances in Cloud Architectures and Applications	University of Utah will lead multiple universities, including Clemson, for this NSF project to develop a multi-campus testbed for cloud computing architecture research.
Amy Landis	\$1.5M	(DOE) Industrial Assessment Centers: Energy Efficiency for the Growing South Carolina Manufacturing Industries	Clemson University will partner with over 10 organizations and CURI with the goal of providing energy assessment services to small and medium manufacturing enterprises across South Carolina.
Hai Xiao	\$1.4M	(DOE) All-Digital Plug and Play Passive RFID Sensors for Energy Efficient Building Control	Clemson will partner with Harvard to develop wireless RFID technology to provide energy efficient building controls

Ksenija Gasic	\$1.4M	(USDA) RosBREED: Combining Disease Resistance with Horticultural Quality in New Rosaceous Cultivars	Clemson partners with Michigan State to develop peach cultivars that improve fruit quality and disease resistance.
Lawrence Murdoch	\$1.2M	(DOE) Robust In Situ Strain Measurements to Monitor CO2 Storage	Clemson works with Georgia Tech will work to improve the environmental impact of subsurface energy extraction.
Juan Carlos Melgar Jimenez	\$1.0M	(USDA-NIFA) Evaluation of Paper Bags for Pest and Disease Management in Organic Peach Production	Clemson will partner with the Univ. of Georgia and Univ. of Florida to develop a high-quality peach crop yield while reducing reliance on pesticides and fungicides to prevent disease.
John Saylor	\$0.6M	(Alpha Foundation) Removal of DPM, Silica, and Coal Dust Using High Volume Fog Generation	Researchers seek to develop a method to improve miners' health and safety by removing diesel particulate matter (DPM), cancer-causing nanoscale particles.

Item 2. Innovation Campus Review

CURI

Dr. Randy Collins

(presentation - no backup)

Item 3. Innovation Campus Review

CURI

Dr. Nick Rigas

(presentation - no backup)