

# CLEMSON<sup>®</sup>

## BIOENGINEERING

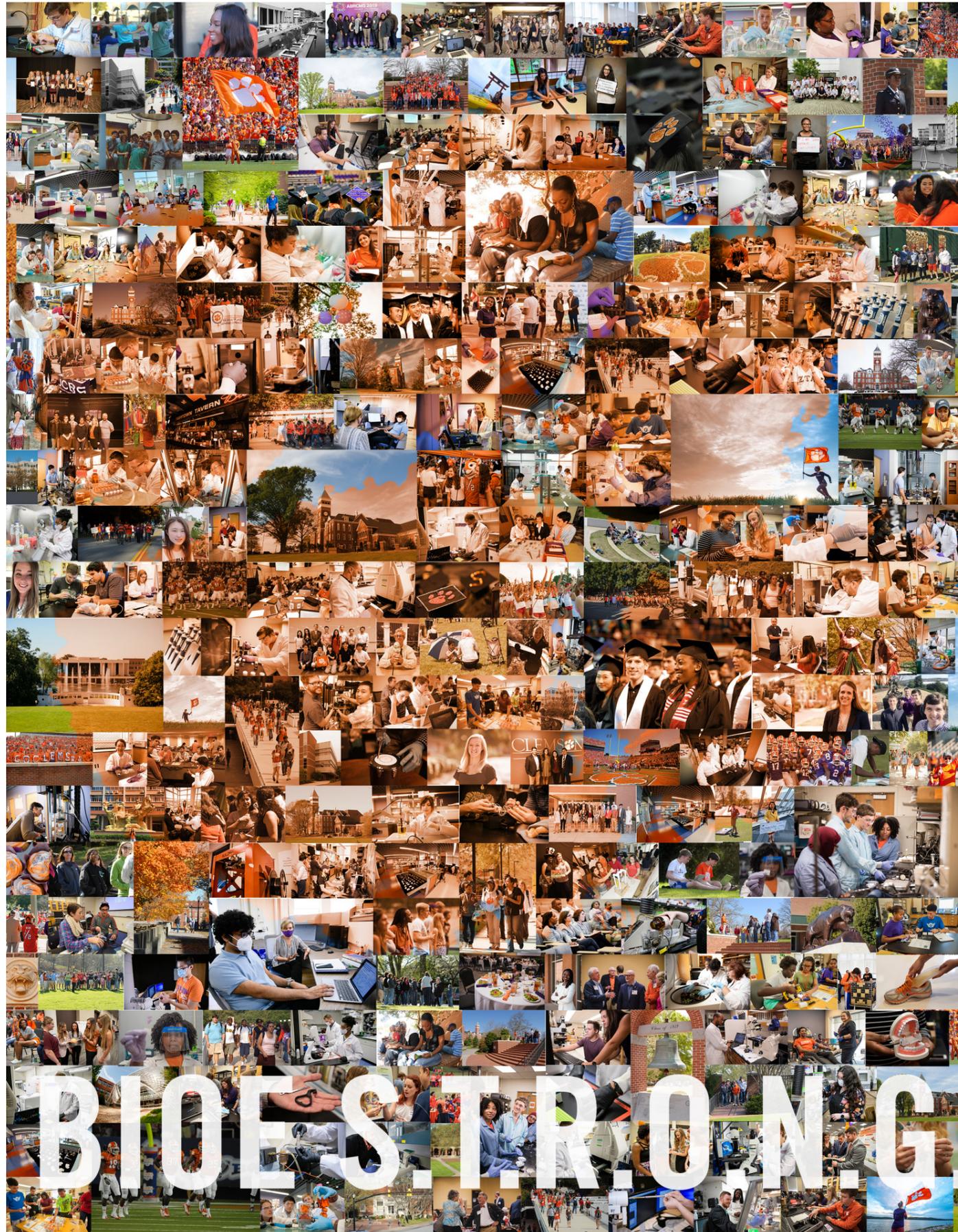
*Educating Thinkers, Leaders and Entrepreneurs*

**TH** *thank* **ANK**  
*you* **YOU!**

**EXPRESSING GRATITUDE TO SUPPORTERS  
WHO EMBRACE OUR EDUCATION MISSION**

**BIOE** **NEWS**

*Special Edition 2020*



# CLEMSON®

## BIOENGINEERING

*Educating Thinkers, Leaders and Entrepreneurs*

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Martine LaBerge, *Chair,*  
Department of Bioengineering

Jenny Bourne, *Editor*

Olga Reukova, *Cover illustration*  
and magazine design

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# Message from the Chair

Dear Friends of Clemson Bioengineering,

This special edition of Clemson BIOE E-News recognizes our external collaborators, who have contributed to help support our education mission in the classroom and beyond through time, effort, mentoring and sharing their knowledge with our students. Bioengineering education is pivotal to support the medical device and technology industry and biomedical research and regulatory affairs. The Clemson BIOE faculty have dedicated substantial effort to develop a living curriculum responding to the workforce development needs of the field. It is aimed at supporting an effervescent biomedical and biopharmaceutical global industry and the growing industry in South Carolina and the Southeast. Clemson BIOE students continue to show exemplary promise as future leaders. Upon graduation, they present portfolios with numerous academic accomplishments, leadership activities, innovation and creativity, design awards and community service. BIOE students are exceptional leaders, innovative thinkers and fearless entrepreneurs. They take examples from all those external contributors who with sustained effort and dedication enable our students to become agents of change.

With sincere appreciation, we thank all individuals highlighted in this Special Issue and all others who have voluntarily contributed to our curriculum delivery. Their commitment to social responsibility and their impact on teaching exemplify true ambassadors for education. With accomplished careers in industry, regulatory science and clinical sciences, they have helped assure that Clemson Bioengineering Graduates are ready to serve society: They impact the community and assure the future of the biomedical engineering profession. We are proud of our students and graduates and thank our supporters for their invaluable contributions.

Best regards,

Martine LaBerge  
Professor and Chair of Bioengineering.



# EDUCATION *is our mission:* BIOE S.T.R.O.N.G.

The Mission of the Department of Bioengineering at Clemson University is to educate and prepare students for professional careers in bioengineering for global competitiveness and to develop and disseminate bioengineering knowledge through research and engagement in economic development to advance health innovation and biotechnology in alignment with Clemson's land-grant mission.

Our vision is to be a globally renowned department of bioengineering. Clemson Bioengineering contributes to Clemson University's overall mission and its ClemsonFORWARD strategic initiatives by working toward meeting five specific strategic goals also aligned with meeting the vision stated above:

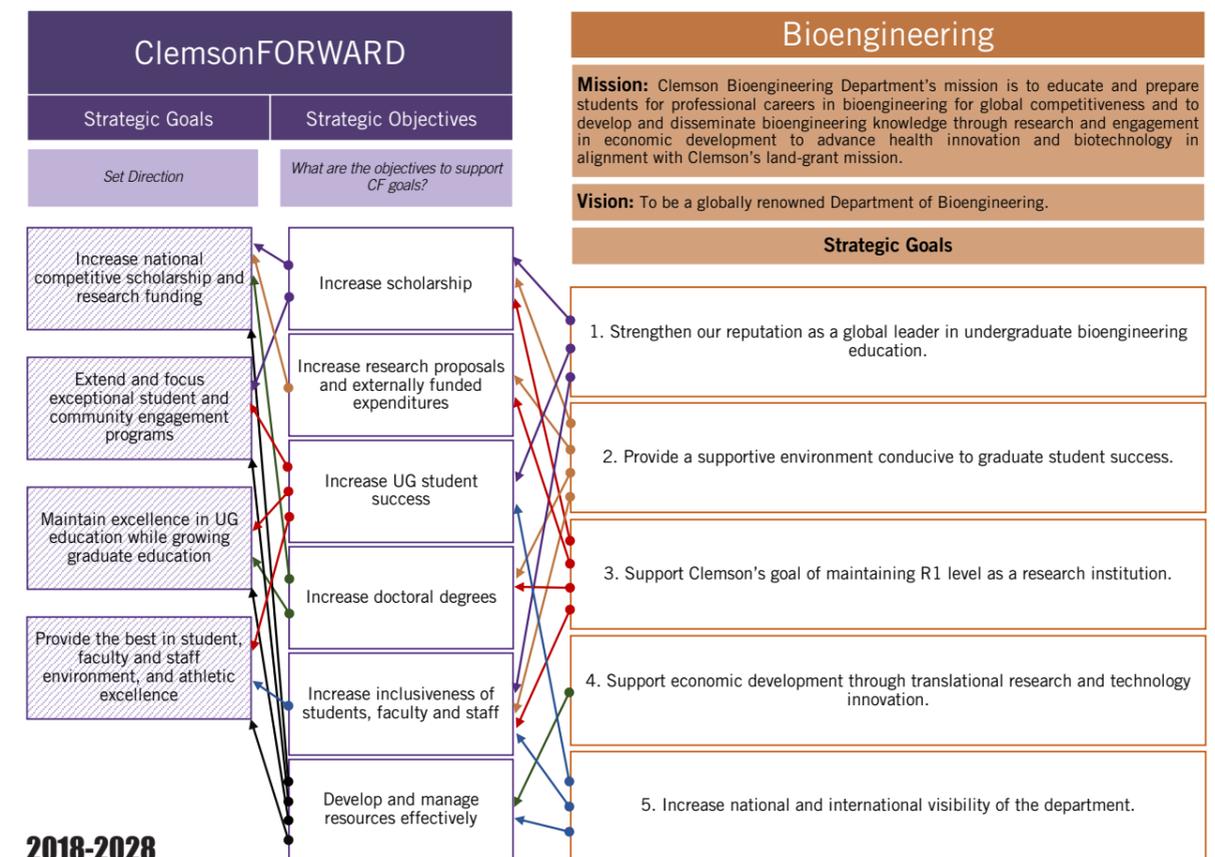
1. Strengthen our reputation as a global leader in undergraduate bioengineering education.
2. Provide a supportive environment conducive to graduate student success.

3. Support Clemson's goal of maintaining R1 level as a research institution.

4. Support economic development through translational research and technology innovation.

5. Increase national and international visibility of the department.

In Spring 2020, through the Senior Challenge, the graduating senior class adopted **BIOE S.T.R.O.N.G.** to represent the spirit of the bioengineering student body: Striving To Reach Opportunities, Networks, Goals. Students are key players in our mission: Their motivation and engagement, along with that of faculty and staff, assure objectives are kept on target to be fulfilled.



# Professors of practice

The Department of Bioengineering is honored to count among its supporters five Professors of Practice whose career paths and experiences have not been or are not primarily in the academy. These eminently qualified, experienced and distinguished individuals contribute to the department's academic mission by sharing professional experiences through teaching, research or service activities.

## Dave Shalaby

In 2010, Dave Shalaby took on the role of president of Poly-Med, Inc., after having served on the board of directors for eight years. Under Dave's leadership, the company has grown into a vertically integrated design, development and custom manufacturer of bioresorbable medical device and pharmaceutical products. Before stepping into his role at Poly-Med, Inc., Dave was founder and president of InSource Consulting in 1997, providing strategic consulting services to financial service companies to improve process and business efficiencies through the use of process analysis methodologies.

During his tenure, Dave personally led major merger and acquisition operational integrations for several Fortune 100 insurance companies and has overseen countless key strategic efforts in support of the InSource clients.

He grew InSource Consulting into a multimillion-dollar specialty management consulting firm

aimed at providing strategic support services to large companies within the healthcare, financial service and federal government sectors. InSource Consulting was acquired by Virtusa, Inc. (NASDAQ: VRTU) in 2009. At that time, he joined their leadership team as Senior Vice President responsible for their Insurance practice.

This unique mix of strategic and business acumen has led to significant growth at Poly-Med, Inc. Several key initiatives encouraging the team to achieve elegant solutions are advancing the company to the next level while staying true to the legacy of Dave's father, Dr. Shalaby W. Shalaby.

Education: Dave holds a B.S. in aeronautical technology from Purdue University (1992) and an MBA from Loyola University of Chicago (1994).



## Steve Johnson

Professor of Practice Steve Johnson's interests lie in technology commercialization, medical device development, managing start-up companies, intellectual property management and financial analysis. He regards his specialties as technology transfer, new company start-ups and strategic planning and execution. Currently, Professor Johnson is Program Manager at SCRA. Of his professorship in bioengineering at Clemson, Professor Johnson said, "I believe this has been a two-way street. For me, it motivates and excites me to see very bright and

committed students who are innovating in the life science field. For them, I hope it is a way to reach out beyond what they read in a textbook and get a real-world perspective on a range of subjects from FDA approval to how start-ups get funded." Professor Johnson started the first technology transfer company in South Carolina over 20 years ago and has held executive management positions in both Fortune 500 companies and startups.

## Mike Gara

Professor of Practice Mike Gara is now a principal with Equinox Medtech Partners, a consultancy for MedTech companies. Prior to this, he was Director of Healthcare innovation for the Department of Bioengineering at Clemson University. He held numerous posts for the Wallace Coulter Foundation, including foundation director. Describing demands today's students may face, Professor Gara said, "As a scientist turned business person, I have had the challenge of dealing with innovation and product

development from many different perspectives. I am encouraged by the nascent field of bioengineering, which brings together skill sets in engineering, science and biology to tackle today's challenges in the industry. Before the emergence of bioengineering, companies and disciplines were more often in silos, and communication and problem-solving were more difficult. Today's bright faculty and students are better equipped and determined to meet those challenges."



## Lawrence Boyd, Ph.D.



Lawrence Boyd has more than two decades of experience leading product development, engineering and business development efforts for medical devices in orthopedic and spine surgery. Boyd is president and founder of Palmetto Biomedical, medical device design and consulting firm based in Columbia. In addition to having founded two medical device-focused ventures (OrthoClip LLC and View Medical), Boyd is a prolific inventor, with over 60 issued U.S. patents for medical devices and related procedures. Previously, he was Executive Vice President of R&D for Spinal Elements, a medical device firm based in Marietta, Georgia, and Carlsbad, California. Prior to that position, Boyd was a Director for Medtown Ventures, an Atlanta-based venture investing and consulting firm.

After receiving his B.S. in mechanical engineering and M.S. in bioengineering from Clemson University in 1989, Boyd became product development group leader and engineer at Dow Corning Wright in Arlington, Tenn., developing implants for use in

hands, feet and knees. Holding positions of manager, director and group director in numerous businesses, Boyd focused his efforts on research, development and commercialization of novel medical technologies.

Recognizing the growing importance of recombinant proteins, human tissues and other biologically inspired materials and potential for applications to spine, Boyd began his Ph.D. in biomedical engineering at Duke University in 2000. Upon receiving his Ph.D. in 2007, he accepted a position as Associate Director of the Center for Entrepreneurship and Research Commercialization at Duke. Additionally, he was an adjunct professor for the biomedical engineering department and the Master's of engineering management program at Duke. While at Duke, he developed and taught classes in technology commercialization, risk management, engineering design and leadership. He established and led the DU Hatch student business incubator, which served graduate, professional and undergraduate students.



## Scott Robirds

I was originally trained as a clinician and worked exclusively in the clinical setting for several years. During a reorganization at my company, I was given the opportunity to lead a Regulatory Affairs team and loved it!

For many people Regulatory Affairs is black and white – simply check a few boxes in submission, gain your approval and then you're ready to market your product. The truth is actually quite different. Product registration requirements for the US and the rest of the world are constantly changing and, it's up to the regulatory professional to understand the changes and help guide the development team on what design requirements will be needed and how performance attributes, including clinical studies, should be tested. This is a very strategic role in new product development and, if done correctly, can

result in a competitive advantage for a company due to quicker submission review times and shorter time to market.

Helping bioengineers understand the gray that exists in Regulatory Affairs and how it can be exploited to benefit a product's sponsor, is very rewarding to me. By discussing the framework of the relevant regulations, real-world examples of regulatory successes and failures and trends for new regulatory requirements, a member of a development team will have a better understanding of the latitude available within the boundaries of the regulations. This will have a significant favorable impact on the team's overall effectiveness, and in the end, bring safe and effective products to the global market sooner.

# Adjunct bioengineering faculty

The Bioengineering Adjunct Faculty are colleagues at other universities and industry who support the overall mission and vision of the department and mainly bring needed expertise for research collaboration. They support the Clemson BIOE mission through student advising, teaching, research or service activities.

**Yuehuei An** – Orthopedic Surgery, Surgery of the Hand, Northwell Health, N.Y.

**George Baker** – Associate Professor, College of Medicine, Department of Pediatrics, MUSC, Charleston, S.C.

**William Barfield** – Adjunct Professor, Orthopaedics, College of Medicine, MUSC, Charleston, S.C.

**Jeremy Barth** – Research Associate Professor, College of Medicine, Regenerative Medicine and Cell Biology, MUSC, Charleston, S.C.

**Ted Bateman** – Associate Professor, Biomedical Engineering, UNC-Chapel Hill, N.C.

**Phillip Bell** – Professor, College of Medicine, Nephrology, MUSC, Charleston, S.C.

**Thomas Borg** – Professor, College of Medicine, Regenerative Medicine and Cell Biology, MUSC, Charleston, S.C.

**Larry Bowman** – Orthopedic Surgery, PRISMA Blue Ridge Surgery Center, Seneca, S.C.

**John Broderick** – Orthopedic Surgery, Spartanburg Regional Healthcare System, Spartanburg, S.C.

**Ann-Marie Broome** – Associate Professor, Cell and Molecular Pharmacology, Experimental Therapeutics, MUSC, Charleston, S.C.

**Charles Broome** – Orthopedic Surgery, El Paso Orthopaedic Surgery Group, El Paso, Texas

**Truman Brown** – Professor, Radiology, Radiological Science, MUSC, Charleston, S.C.

**John Bruch** – Endocrinology, Diabetes, PRISMA Health, Greenville, S.C.

**Christopher Carsten** – Vascular Surgery, PRISMA Health, Greenville, S.C.

**Gregory Colbath** – Orthopedics, Gaffney Bone and Joint, Spartanburg, S.C.

**Dean Connor** – Assistant Professor, Radiology Research, Department of Radiology, MUSC, Charleston, S.C.

**Joel Corbett** – Sr. Manager, Poly-Med, Inc., Anderson, S.C.

**Betsy Davis** – Associate Professor, College of Medicine, Otolaryngology, MUSC, Charleston, S.C.

**Roy Davis** – Director of Motion Analysis Laboratory, Shriners Hospitals for Children, Greenville, S.C.



**Didier Dreau** – Associate Professor, Department of Biological Sciences, Cancers of Epithelial Origin, UNC Charlotte, Charlotte, N.C.

**Bruce Frankel** – Professor, College of Medicine, Neurosurgery, MUSC

**Chunhua Gao** – Team Lead of Operations Research, Sabre Airline Solutions, Charleston, S.C.

**Matthew Gevaert** – CEO, KIYATEC, Inc., Greenville, S.C.

**Sanjitpal Gill** – Orthopedic Surgery of the Spine, Medical Group of the Carolinas

**Edie Goldsmith** – Professor, College of Medicine, Cell Biology and Anatomy, MUSC, Charleston, S.C.

**Robert Gourdie** – Professor, Carilion Research Institute, Connexins, Virginia Tech, Roanoke, Va.

**Bruce Gray** – Director of Clinical Trials, Vascular Surgery, PRISMA Health, Greenville, S.C.

**Zhang Guigen** – Department Chair, F. Joseph Halcomb III, M.D. Department of Biomedical Engineering, University of Kentucky

**Dieter Haemmerich** – Professor, College of Medicine, Pediatrics, MUSC, Charleston, S.C.

**Langdon Hartsock** – Director, Orthopaedic Trauma, MUSC, Charleston, S.C.

**Richard Hawkins** – Co-Founder, Steadman Hawkins Clinic of the Carolinas, Greenville, S.C.

**B. Todd Heniford** – Surgeon, CMC Surgery, Carolinas Healthcare System, Charlotte, N.C.

**Duke Herrell** – Professor, Urologic Surgery, Vanderbilt University Medical Center, Nashville, Tenn.

**Randolph Hutchison** – Associate Professor of Health Sciences, Furman University, Greenville, S.C.

**Andrew Jakymiw** – Assistant Professor, Department of Oral Health Sciences, MUSC, Charleston, S.C.

**Kyle Jeray** – Surgeon, Orthopaedics, PRISMA Health, Greenville, S.C.

**Qian Kang** – Orthopaedics Director, CU-MUSC Orthopaedic Research and Training Program

**Steven Kautz** – Chair, Department of Health Science and Research, MUSC, S.C.

**Michael Kern** – Professor, Department of Regenerative Medicine and Cell Biology, MUSC, Charleston, S.C.

**Mark Kindy** – Professor, College of Medicine, Molecular Pharmacology & Physiology, University of South Florida, Tampa, Fla.



**Keith Kirkwood** – Associate Dean for Research, College of Dental Medicine, MUSC, Charleston, S.C.

**Daniel Knapp** – Distinguished University Professor Emeritus, Department of Cell and Molecular Pharmacology, MUSC, Charleston, S.C.

**Jacqueline Kraveka** – Associate Professor, College of Medicine, Department of Pediatrics, MUSC, Charleston, S.C.

**Eugene Langan** – Chair Emeritus, Department of Surgery, Formerly Greenville Health System, Greenville, S.C.

**Michael Lynn** – Neurological Surgery, Orthopedics, Southeastern Neurosurgical and Spine Institute

**Roger Markwald** – Distinguished University Professor, Director, Cardiovascular Developmental Biology Center, MUSC, Charleston, S.C.

**Robin Muise-Helmericks** – Associate Professor, Department of Regenerative Medicine and Cell Biology, MUSC, Charleston, S.C.

**Alfred Nelson** – Neurological Surgery, Southeastern Neurosurgical and Spine Institute, Greenville S.C.

**Joyce Nicholas** – Associate Professor, Biostatistics and Epidemiology, MUSC, Charleston, S.C.

**David Orr** – Vice President Scientific Affairs, Strataca Systems, Atlanta, Ga.

**Thomas Pace** – Joint Arthroplasty, Orthopaedic Surgery, PRISMA Health, Greenville, S.C.

**Vincent Pellegrini** – Chair, Department of Orthopedic Surgery, College of Medicine, MUSC, Charleston, S.C.

**Xiang Peng** – Professor, Shenzhen University, Shenzhen, Guangdong, China

**Shawn Peniston** – Principal Engineer, Purac Biomaterials Corbion, Tucker, Ga.

**Etta Pisano** – Vice-Chair of Research, Department of Radiology, Beth Israel Deaconess Medical Center; Faculty Member, Harvard Medical School

**J Todd Purves** – Associate Professor, Pediatric Urology, Department of Urology, MUSC, Charleston, S.C.

**Barton Sachs** – Professor, Orthopaedics, College of Medicine, MUSC, Charleston, S.C.

**Waleed Shalaby** – Senior Medical Director, Women's Health, AMAG Pharmaceuticals, Waltham, Mass.

**Ellen Shanley** – Physical Therapist, Greenville Proaxis Therapy, Greenville, S.C.

**Changcheng Shi** – Assistant Professor, Biotechnology, Chongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences, Chongqing City, China

**Charles Thigpen** – Physical Therapist, Greenville Proaxis Therapy, Greenville, S.C.



**Bryan Toole** – Professor Emeritus, Regenerative Medicine and Cell Biology, College of Medicine, MUSC, Charleston, S.C.

**Mark Van Horn** – Assistant Professor, Radiology, College of Medicine, MUSC, Charleston, S.C.

**Richard Visconti** – Assistant Professor, Regenerative Medicine and Cell Biology, College of Medicine, MUSC, Charleston, S.C.

**Frank Voss** – Associate Professor, Clinical Orthopaedic Surgery, School of Medicine, University of South Carolina, Columbia, S.C.

**George Waring** – Medical Director, Magill Vision Center, MUSC, Charleston, S.C.

**Jeffrey Willey** – Assistant Professor, Radiation Oncology, Orthopaedics, Wake Forest Baptist Medical Center, Winston-Salem, N.C.

**Timothy Williams** – Cardiac Surgery, St. Francis Cardiovascular & Thoracic Associates, Greenville, S.C.

**Christopher Wright** – Cardiac Surgery, St. Francis Cardiovascular & Thoracic Associates, Greenville, S.C.

**Michael Yost** – Director of General Surgery Research, Department of Surgery, MUSC, Charleston, S.C.

**Michael Zile** – Principal Investigator, Gazes Cardiac Research Institute, MUSC, Charleston, S.C.



## Invited lecturers BIOE 4230, 6230, 4000, 8160

**Christopher Wright, M.D.** – Prisma Health

**James Chow, Ph.D.** – WL Gore & Associates Inc.

**Brandon Mattix, Ph.D.** – WL Gore & Associates Inc.

**Joshua Lovekamp, Ph.D.** – WL Gore & Associates Inc.

**Eugene Langan, M.D.** – Clemson University

**Qijin Lu, Ph.D.** – FDA/CDRH/ Office of Science and Engineering Laboratories

**Leslie Sierad, Ph.D.** – Aptus Bioreactors, LLC

**Dave Shalaby** – Poly-Med Inc

## Lunch & learn

**Michael Grunze** – University of Heidelberg and the Max Planck Institute for Medical Research, Germany

**Kelly Morgan** – Abbott

**Nick Fedor, Jeff Haczynski** – Arthrex

**Larry Boyd, Ph.D.** – Bioventus

**Ray Boudreaux, Ph.D.** – Cook Medical

**Turth Patel, Travis Simpson** – KLS Martin

**Margeaux Rogers, Jason Hyrkas** – MCRA

**Cristina Acevedo, Ph.D.** – Milliken

**Scott Taylor, Ph.D., Seth McCullen, Ph.D.** – Poly-Med

**Stacey Bond, Cynthia Keaton** – Thorne

**Lindsey Calcutt, Paul VanHulle** – Diaxamed/Atex

**Leigh Holcomb, Ph.D.** – Connexis

**Nauman Shah** – J&J

**Charles Bennett** – Smith & Nephew

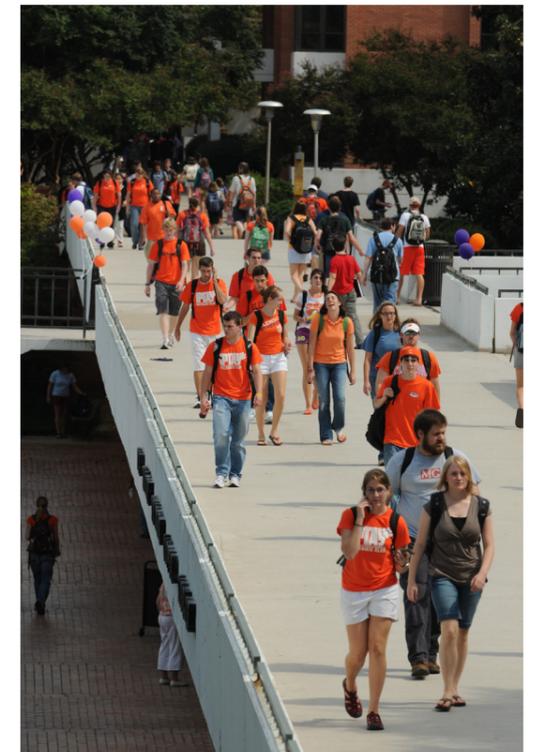
**Danielle Reinhard** – Globus

**Bryan Fuller** – Gore

**Blake Wade** – Pfizer

**Shawn Peniston, Ph.D.** – Corbion

**Tim Olsen, Ph.D.** – RoosterBio



## Lecturers and supporters of the Master's of Engineering in biomedical engineering program

**Matthew Cupelli** – North American Rescue, LLC

**Sabrina Hasty, Ph.D.** – RhythmLink International, LLC

**Jonathan Peterson** – RhythmLink International, LLC

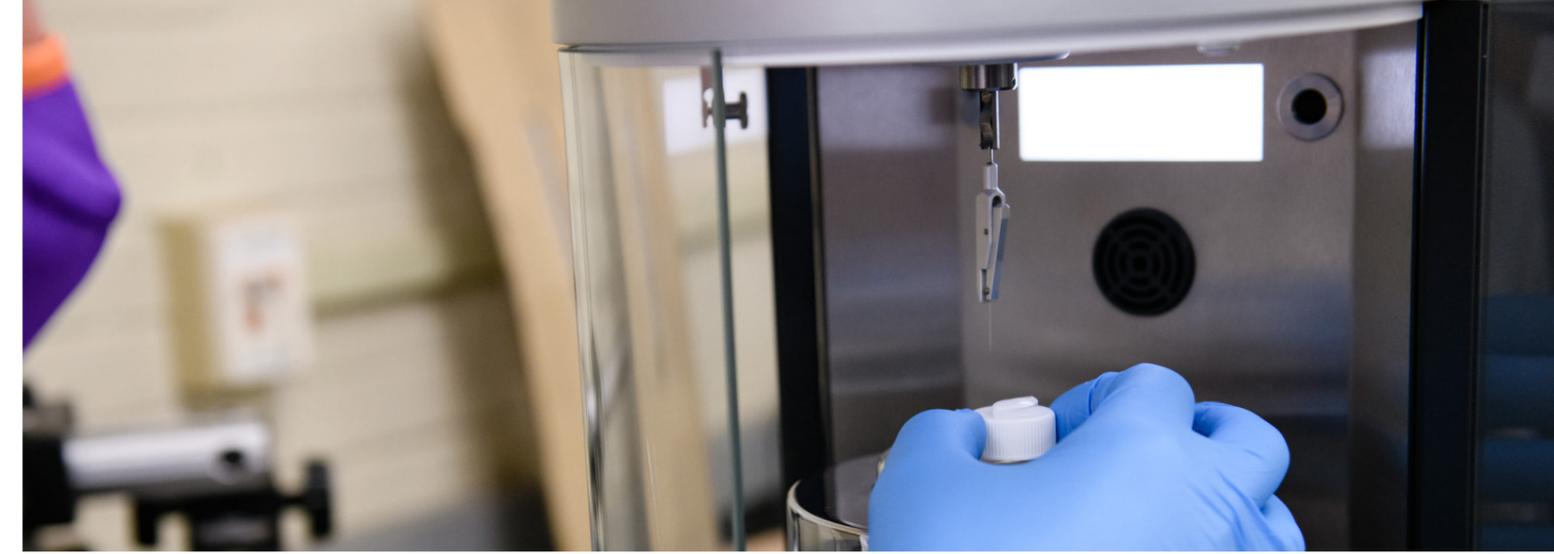
**Paul Gibbons** – Novartis Pharmaceutical Corporation (Ret.)

**Robert Brosnahan** – DePuy Synthes Spine

**Antonio Ayala** – Wright Medical

**Josh Catanzarite** – Hip Director, Engineering and Development, Exactech

**Tyler Ovington** – Innovation Analyst, RTI Innovation Advisors



# Bioengineering Capstone Design and Creative Inquiry Clinical Mentors

**Steven Trocha, M.D.** – Prisma Health  
**Benjie Mills, M.D.** – Prisma Health  
**Julius Teague, M.D.** – Prisma Health  
**Regina Monroe, M.D.** – Prisma Health  
**John Adams, M.D.** – Prisma Health  
**Stephanie Tanner** – Prisma Health  
**Michael Sridhar, M.D.** – Prisma Health  
**Debra Camal, M.D.**  
**Wendy Cornett, M.D.** – Prisma Health  
**Brian McKinley, M.D.** – Prisma Health  
**Chris Carsten, M.D.** – Prisma Health  
**Bruce Gray, DO** – Prisma Health  
**Sagar Gandhi, M.D.** – Prisma Health  
**David Stastny, RN** – AnMed Health  
**Steven Gerald** – W.L. Gore  
**Robert Brown III, M.D.** – Prisma Health  
**Brian Kaluf, CP** – Ability  
**Jason Folk, M.D.** – Prisma Health  
**James Green Jr., M.D.** – Prisma Health  
**Erik Busby, M.D.** – Prisma Health  
**JD Adams, M.D.** – Prisma Health  
**Paul Davis, M.D.** – Prisma Health

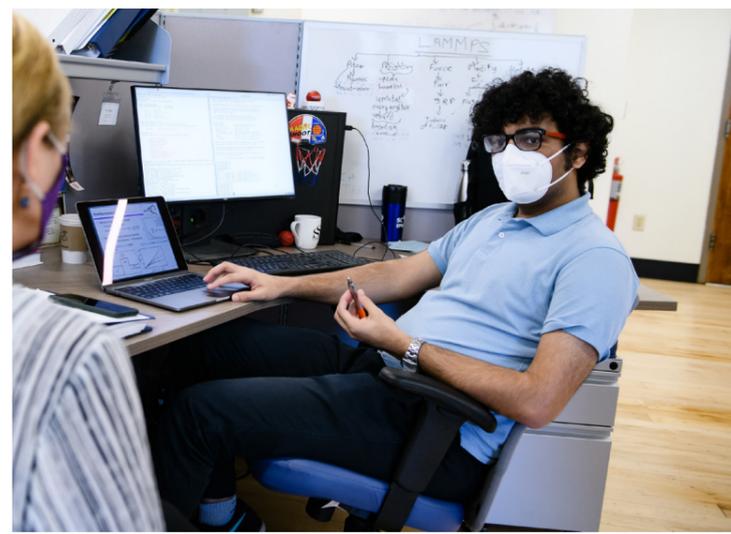
**Wesley Culpepper, M.D.** – Prisma Health  
**Steven Martin, M.D.** – Prisma Health  
**Hema Brazell, M.D.** – Prisma Health  
**Thomas Wheeler, M.D.** – Prisma Health  
**Jonathan Markowitz, M.D.** – Prisma Health  
**Carli Sierad** – AnMed  
**Chuck Horton** – AnMed  
**David Godwin, M.D.** – St. Francis  
**Chuck Thigpen, M.D.** – ATI Physical Therapy  
**Larry Bowman, M.D.** – Prisma Health  
**Mike Devane, M.D.** – Prisma Health, Vista Radiology  
**Roesch, M.D.** – Prisma Health, Vista Radiology  
**Kyle Jeray, M.D.** – Prisma Health  
**Nancy DeMore, M.D.** – MUSC University of Colorado Hospital  
**Gina Callahan, M.D.** – MUSC University of Colorado Hospital  
**Michael Avant, M.D.** – Prisma Health  
**Earl Troup, M.D.** – Prisma Health  
**Fredie Revilla, M.D.** – Prisma Health  
**Enrique Urvea Mendoza, M.D.** – Prisma

Health  
**Debra Burton, M.D.** – Prisma Health  
**William Frazier, M.D.** – Prisma Health  
**Steven Clayton, M.D.** – Prisma Health  
**Fernando Herrera, M.D.** – MUSC  
**Krista Herndon, M.D., Andrea Marshall, JD, Jacobo Mintzer, M.D.** – Roper St. Francis Healthcare, Roper St. Francis Research and Innovation Center, Clinical Biotechnology Research Institute,  
**Lance Tavana, M.D.** – MUSC  
**Patrick Culumovic, M.D.** – Prisma Health  
**Douglas Wyland, M.D.** – Prisma Health  
**Todd O'Hare, CPO, PT** – Prisma Health  
**Brian Burnikel, M.D.** – Prisma Health  
**Yost, M.D., Fann, M.D., Raudat, M.D.** – MUSC Johnson City Medical Center  
**Paul Siffri, M.D.** – Prisma Health  
**Christopher Gross, M.D.** – MUSC  
**Zeke Walton, M.D.** – MUSC  
**Satish Nadig, M.D., Carl Atkinson, M.D.** – MUSC  
**Adam Tyson, M.D.** – Prisma Health

**Matt Neal, M.D.** – Prisma Health  
**Paul Frassinelli, M.D.** – AnMed Health  
**Douglas Powell, M.D.** – Abbeville Area Medical Center  
**Lucian Lozonschi, M.D.** – MUSC  
**Catherine Tobin, M.D.** – MUSC  
**Robert Morgan, M.D.** – Prisma Health  
**James Ducanto, M.D.** – Aurora St. Luke's  
**Chris Troup, M.D.** – Prisma Health  
**Vito Cancellaro, M.D.** – Prisma Health  
**Jeff Inks** – Prisma Health  
**Eric Dellinger, M.D.** – Prisma Health  
**Eric Walker** – Prisma Health  
**Hamilton Baker, M.D.** – MUSC  
**Shereef El-Ibiary, M.D.** – Spartanburg Regional Medical Center  
**Rebecca Snyder, M.D.** – Prisma Health  
**Sarah Farris, M.D.** – Prisma Health  
**Libby Infinger, M.D.**  
**Kevin Delaney, M.D.** – MUSC  
**Andrea Abbott, M.D.** – MUSC  
**Berry Lovering** – MUSC  
**Alvin Kpaeyeh, M.D.** – MUSC  
**Nanette Stafford** – MUSC  
**Grace Williams, M.D.** – Homerton University

**Mark Hooten, M.D.** – Piedmont Medical Center  
**Ramin Eskandari, M.D.** – MUSC  
**Tara Devido, MSN** – AnMed  
**Amy Jo Wess, M.D.** – LifeFlight  
**Jennifer Springhart, M.D.** – Prisma Health  
**Charles Reitman, M.D.** – MUSC  
**Cory Bryan, M.D.** – Medical College of Georgia  
**Nathan Rowland, M.D.** – MUSC  
**Richard Harp, M.D.** – Spartanburg Healthcare System  
**David Vaziri, M.D.**  
**John Faltus DPT** – University Physical Therapy and Sports Medicine  
**John Scott, M.D.** – Prisma Health  
**Dane Smith, M.D.** – Prisma Health  
**Ryan King, M.D.** – Prisma Health  
**Edmund Kassis, M.D.** – Prisma Health  
**James Stephenson, M.D.** – Prisma Health  
**James West, M.D.** – Prisma Health  
**William Bolton, M.D.**  
**John Rucker, M.D.** – Trident Medical Center  
**Nathan LaPerriere, M.D.** – The Hanger Clinic  
**Chris Dunning** – Shamrock Prosthetics

**Shane Wolf, M.D.** – MUSC  
**Harris Slone, M.D.** – MUSC  
**David Cull, M.D.** – Prisma Health  
**John Emerson, M.D.** – Prisma Health  
**Christopher Cole, M.D.** – Centrua Health  
**Michael Kissenberth, M.D.** – Tennessee Orthopedic Clinics  
**Robert Gates, M.D.** – Prisma Health  
**John Chandler, M.D.** – Prisma Health  
**Nicole Cain, M.D.** – MUSC  
**Souheil Nour, M.D.** – Novant Health Matthews Medical Center  
**Harry Demos, M.D.** – MUSC  
**Frank Caruso**  
**Melanie Brocato** – SHC  
**Crissy Rose** – SHC  
**Roy Davis, M.D.** – SHC  
**Gabriella E. Ode, M.D.** – Blue Ridge Orthopaedics  
**Stephan Geoffrey Pill, M.D.** – Steadman Hawkins Clinic of the Carolinas  
**David Mahvi, M.D.** – MUSC  
**Jimmy Baucum, M.D.** – Prisma Health  
**Beth Morgan, RN** – Prisma Health





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Department of Bioengineering  
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Clemson, SC 29634

**BMES** BIOMEDICAL  
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SOCIETY

**ANNUAL MEETING**  
*October 14-17, 2020*

**Virtual**

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Department of  
**BIOENGINEERING**

