**RESUME** – David Morgan Kwartowitz, Ph.D.

# PERSONAL DATA

Current Rank: Assistant Professor

Address: Department of Bioengineering

Clemson University

301 Rhodes Research Center

Clemson, South Carolina 29634-0905

Telephone: 864 656-5232

Email: robodoc@clemson.edu

Birthdate: February 04, 1980

Birthplace: Brooklyn, New York

Citizenship: United States of America

# EDUCATION

Ph.D., Vanderbilt University, 2007, Biomedical Engineering

M.S., Vanderbilt University, 2005, Biomedical Engineering

B.S.E., Case Western Reserve University, 2003, Biomedical Engineering (Medical Imaging)

# PROFESSIONAL EXPERIENCE

Clemson University, Clemson, South Carolina

2010 - Present, Assistant Professor of Bioengineering

The Medical University of South Carolina, Charleston, South Carolina

2011 - Present, Adjunct Assistant professor of Pediatric Cardiology

Mayo Clinic, Rochester, Minnesota

2010 – 2010, Research Associate, Biomedical Imaging Resource

2008 – 2010, Research Fellow, Biomedical Imaging Resource

Vanderbilt University Medical Center, Nashville, Tennessee

2008 – 2008, Research Fellow, Department of Urology

# Consulting Experience

Pearson Education, Engineering Division, Upper Saddle River, NJ, (2012), Reviewed textbook for development of new edition

# MEMBERSHIPS

Member, SPIE, 2007 – Present

Member, CARS, 2007, 2010 – Present

Member, AAAS, 2010 – Present

Member, BME Career Alliance, 2011 – Present

Member, BMES, 2012 - Present

# PROFESSIONAL ACTIVITIES

## Professional Organization Committee Membership

Program Committee, SPIE: The Society for Optical Engineers, Medical Imaging Symposium: Conference on Image-guided procedures, Robotic Interventions, and Modeling (2011 - Present)

Program Committee, Medical Image Computing and Computer Aided Interventions (MICCAI), Workshop on Augmented Environments for Computer Aided Interventions (AE-CAI) (2011 - Present)

Education Committee, Biomedical Engineering Society (BMES) (2012 – Present)

## Scientific Reviewer

BMES Undergraduate (REU) Abstracts

BioMed Central, Biomedical Engineering Online

American Institute of Physics, Medical Physics

International Journal of Computer Assisted Radiology and Surgery

## Proposal Reviewer

Brokhouse Canada Prize for Interdiciplinary Science and Engineering Research

Provincial Government of Ontario Research Fund, Research Excellence Program

**PUBLICATIONS**

## Books and Monographs

1. **Kwartowitz, D.M.**, "Chapter 11: Materials and Polymers for Use in Surgical Simulation and Validation," in Polymers for Vascular and Urogenital Applications, 1st Edition, S. Shalaby, K. Burg and W. Shalaby, CRC Press, Taylor & Francis Group, Boca Raton, FL (2012).

Prior to Clemson

1. **Kwartowitz, D.M.**, Towards Image Guided Robotic Surgery, 1st Edition (2007), Vanderbilt University, Nashville, TN.
2. **Kwartowitz, D.M.**, Investigation of the application of dynamic computed tomography to measurement of whole lung perfusion, 1st Edition (2005), Vanderbilt University, Nashville, TN.

## Refereed Journal Publications

1. Shaporev, A., Gregoski, M., Reukov, V., Kelechi, T., **Kwartowitz, D.**, Treiber, F. and Vertegel, A., "Bluetooth Enabled Acceleration Tracking (BEAT) mHealth system: Validation and Proof of Concept for Real-Time Monitoring of Physical Activity," *Health and Technology,* (In Preparation).
2. **Kwartowitz, D. M.**, Connolly, J., Macks, C., Turbeville, J., Dicks, A., Byrd, M., Veith, T. and Dean, D., "Exploration of Bias Impacting Sub-major Concentration Decision within Bioengineering," *IEEE Transactions on Education*, (In Review).

Prior to Clemson

1. Herrell, S.D., **Kwartowitz, D.M.**, Milhoua, P.A., and Galloway, R.L., “Toward image guided robotic surgery: system validation,” *Journal of Urology,* **181**, 783 – 790 (2009).
2. **Kwartowitz, D.M.**, Miga, M.I., Herrell, S.D., and Galloway, R.L., “Towards image guided robotic surgery: multi-arm tracking through hybrid localization,” *International Journal of Computer Assisted Radiology and Surgery,* **4**, 281 – 286 (2009).
3. **Kwartowitz, D.M.**, Galloway, R.L., and Shiavi, R.G., “Determining the Presence of Bias Error Using Statistical Methods,” *IEEE: Transactions on Information Technology in Biomedicine*, **13**, 1-4 (2009).
4. **Kwartowitz, D.M.**, Herrell, S.D., and Galloway, R.L., “Update: Toward Image-guided Robotic Surgery: Determining the Intrinsic Accuracy of the daVinci-S Robot,” *International Journal of Computer Assisted Radiology and Surgery,* **1**, 301-304 (2007).
5. **Kwartowitz, D.M.**, Herrell, S.D. and Galloway, R.L., "Toward image-guided robotic surgery: determining intrinsic accuracy of the da Vinci robot," *International journal of computer assisted radiology and surgery*, **1**, 157-165 (2006).

## Conference Proceedings (Reviewed)

1. Pai Raikar, V. S., Mefleh, F., Trent, E. and **Kwartowitz, D.**, "Towards Image-Guided Histopathology and Intervention: Assessment of a Novel system for Specimen Acquisition," *SPIE Medical Imaging*, Lake Buena Vista, FL (February 2013). *In Review*
2. Trent, E., Bailey, L., Mefleh, F., Pai Raikar, V. S., Shanley, E., Thigpen, C., Dean, D. and **Kwartowitz, D.**, "Assessment and Characterization of in situ Rotator Cuff Biomechanics," *SPIE Medical Imaging,* Lake Buena Vista, FL (February 2013). *In Review*
3. Mefleh, F., Baker, G. H. and **Kwartowitz, D.**, "Efficacy of a Novel IGS System in Atrial Septal Defect Repair," *SPIE Medical Imaging,* Lake Buena Vista, FL (February 2013). *In Review*
4. **Kwartowitz, D.M.**, Mefleh, F.N., Suresh, R. and Baker, G.H., "Towards Image-Guided Atrial Septal Defect Repair: An Ex Vivo Analysis," *SPIE: Medical Imaging,* San Diego, CA (February 2012).
5. **Kwartowitz, D.M.**, Riti, R., and Holmes III, D.R., “Expansion and dissemination of a standardized accuracy and precision assessment technique,” *Proceedings of The SPIE Conference on Visualization, Image-guided Procedures, and Modeling,* SPIE: The International Society for Optics and Photonics, Lake Buena Vista, FL (February 2011).

Prior to Clemson

1. **Kwartowitz, D.M.**, Rettmann, M.E., Holmes III, D.R., and Robb, R.A., “A Novel Technique for Analysis of Accuracy of Magnetic Tracking Systems Used in Image-guided Surgery,” *Proceedings of The SPIE Conference on Visualization, Image-guided Procedures, and Modeling,* SPIE: The International Society for Optics and Photonics, San Diego, CA (February 2010).
2. **Kwartowitz, D.M.**, Rettmann, M.E., Holmes III, D.R., Robb, R.A., “Real-time Video Fusion Using a Distributed Architecture in Robotic Surgery,” *Proceedings of The SPIE Conference on Visualization, Image-guided Procedures, and Modeling,* SPIE: The International Society for Optics and Photonics, Lake Buena Vista, FL (February 2009).
3. **Kwartowitz, D.M.**, Brophy, S., and Mann III, N.H., “Work In Progress: Establishing Multiple Contexts for Student’s Progressive Refinement of Data Mining,” *Proceedings of the International Conference on Engineering Education,* International Network for Engineering Education and Research, San Juan, Puerto Rico (July 2006).
4. **Kwartowitz, D.M.**, Brophy, S., and Mann III, N.H., “Work In Progress: Establishing Multiple Contexts for Student’s Progressive Refinement of Data Mining,” *Proceedings of the Frontiers in Education Conference,* American Society of Engineering Education, Savannah, GA (October 2004).

## Conference Proceedings (Unreviewed)

1. Trent E, Mefleh F, Pai Raikar VS, Bailey L, Dean D, **Kwartowitz D**, “Device for the Measurement of Soft Tissue Stiffness,” *SCBIO Annual Conference,* Greenville, SC (November 14-15, 2012).
2. Trent, E., Thigpen, C., Harman, M., Hawkins, R., Dean, D. and **Kwartowitz, D.**, "Towards Ultrasound Elastographic assessment and staging of rotator cuff disease," *BMES Annual Meeting,* Atlanta, GA (October 24-27 2012).
3. Pai Raikar, V. S., Trent, E., Mefleh, F. N. and **Kwartowitz, D. M.**, "Design and Assessment of PVA-C Phantoms for use in Histologic Analysis," *BMES Annual Meeting*, Atlanta, GA (October 2012).
4. Connolly, J., Byrd, M., Dicks, A., Macks, C., Veith, T., Dean, D. and **Kwartowitz, D.**, "Evaluation of the Impact of Experiential Activities on Student's Choice of Major and Submajor Concentration," *BMES Annual Meeting*, Atlanta, GA (October 2012).
5. Scruggs, H., Cusick, A., Grove, K., Guo, Q., Perry, K., Rogers, M., **Kwartowitz, D.** and Dean, D., "Force sension ultrasound probe design for better rotator cuff injury diagnosis," *BMES Annual Meeting,* Atlanta, GA (October 24-27 2012).

Prior to Clemson

1. **Kwartowitz, D.M.**, Holmes III, D.R., Mariani, A., Weavers, P.M., and Robb, R.A., “Image Detection Tracking of Subsurface Structures in Laparoscopy,” *International Journal of Computer Assisted Radiology and Surgery, Vol 5, Sup 1,* International Society for Computer Assisted Surgery, Geneva, Switzerland (July 2010).
2. **Kwartowitz, D.M.**, Holmes III, D.R., Mariani, A., and Robb, R.A., “Method for Ureter Localization in Minimally Invasive Surgery,” *Proceedings of the 24th Engineering and Urology Society Annual Meeting*, Engineering Society, Chicago, IL (April 2009).
3. **Kwartowitz, D.M.**, Rettmenn, M.E., Holmes III, D.R., and Robb, R.A., “Distributed Database Framework for Real-time Image-Guidance in Robotic Surgery,” *Proceedings of the First Workshop on Systems and Architectures for Computer Assisted Interventions,* Medical Image Computing and Computer Aided Intervention, New York University, New York, NY (September 2008).
4. Herrell, S.D., Milhoua, P.M., **Kwartowitz, D.M.**, and Galloway, R.L., “Incorporation of Robotic Image-Guided Surgery (RIGS) with the daVinci-S Surgical System,” *American Urological Association Annual Meeting Scientific Program,* American Urological Association*,* Orlando, FL (May 2008).
5. **Kwartowitz, D.M.**, Miga, M.I., Herrell, S.D., and Galloway, R.L, “Toward Image-Guided Robotic Surgery: Multi-arm Tracking Through Hybrid Localization,” *International Journal of Computer Assisted Radiology and Surgery, Vol 2, Sup 1,* International Society for Computer Assisted Surgery, Berlin, Germany (June 2007).
6. Hasser, C., Nowlin, W., Canales, M., Galloway, R.L., **Kwartowitz, D.M.**, “Image-Guided Minimally Invasive Robotic Surgery,” *Medical Physics, Vol 32, No. 6,* American Association of Physicists in Medicine, Orlando, FL (July – August 2006)
7. Yanof, J., Gilkeson, R., **Kwartowitz, D.**, Steinmiller, M., Gotman, S., and Ciancibello, L., “New Methods For Communication of Image Intensive MD-CT Cases on a Radiologists' PACS,” *RSNA Scientific Program,* Radiological Society of North America, Chicago, IL (November 2002)
8. Haaga, J., Yanof, J., Nakamoto, D., Kelley, E., Shreter, U., and **Kwartowitz, D.**, “Computer-Radiologist Interface with Tactile Feedback for Robot-Assisted CT on a Radiologist’s PACS,” *RSNA Scientific Program,* Radiological Society of North America,Chicago, IL (November 2001).

# PRESENTATIONS

1. **Kwartowitz, D.M.,** “Creative Inquiry,” Clemson University Recruiting Tour, New York, NY, Stamford, CT, Parsippany, NJ (October 8-11, 2012) (**Invited**)
2. **Kwartowitz, D.M.,** “Creative Inquiry,” Clemson University Recruiting Kickoff, Atlanta, GA (August 31, 2012) (**Invited**)
3. **Kwartowitz, D.M.,** “Why is There a Robot in my Operating Room?,” Summer Program for Research Interns Seminar, Clemson, SC (June 28, 2012) (**Invited**)
4. **Kwartowitz, D.M.,** “Graduate School: Success Over Diversity,” Keynote Address, Georgia Breakthru Graduate Student Symposium, Online (April 15, 2012)
5. **Kwartowitz, D.M.,** “Image-Guided Surgery,” GHS Department of Surgery / Clemson Bioengineering Summit, Greenville, SC (October 7, 2011)
6. **Kwartowitz, D.M.**, “Robotics in medicine,” Department of Bioengineering FIRST Lego Robotics competition presentations, Clemson University, Clemson, SC (Multiple, Fall 2010)
7. **Kwartowitz, D.M.**, “Why is There a Robot in My Operating Room?,” Department of Physics Seminar Series, University of Wisconsin La Crosse, La Crosse, WI (March 2009). (**Invited)**
8. **Kwartowitz, D.M.**, “Why is There a Robot in My Operating Room?,” Department of Physiology and Biomedical Engineering Seminar Series, Mayo Clinic, Rochester, MN (October 10, 2008).
9. **Kwartowitz, D.M**., “Towards Image-Guided Robotic Surgery,” Engineering Research Center for Computer Integrated Surgical Systems and Technology Seminar Series, Baltimore, MD (June 6, 2007).

# PATENTS AND DISCLOSURES

1. “Device For Measurement of Soft-tissue Biomechanics and Joint Stiffness,” Patent Disclosure (2012), with E.A. Trent, F.N. Mefleh, V. Pai Raikar, and D. Dean, *Provisional Patent Filed*
2. “Peripheral Vessel Combination Pressure and IVUS Wire,” Patent Disclosure (2012), with S.Beilby
3. “Kit for Navigation by Image Focused Exploration (KNIFE),” Copyright/Software Disclosure (2011), with S.T. Birchfield, F.N. Mefleh, and R. Suresh
4. “Advanced Electromagnetic Catheter Tracking System for Fluoroscopy and Three-Dimensional Echocardiography,” Invention Disclosure to MUSC (2011), with G.H. Baker, *Provisional Patent Filed*
5. “Advanced Electromagnetic Catheter Tracking System for Fluoroscopy and Three-Dimensional Echocardiography,” Invention Disclosure to CURF (2011), with G.H. Baker, *Provisional Patent Filed*
6. “Device for Measurement Gait Analysis Using a Smart Phone,” Invention Disclosure (2011), with A. Vertegel and A. Shapor
7. “Method of Design for Image-Guided Surgery Application Based on Inter-Process and Inter-Thread Communication,” Invention Disclosure (2010)

Prior to Clemson

1. “Method for Visualization and Display of Subsurface Structures Using Optical Imaging,” Invention Disclosure (2009), with R.A. Robb, D.R. Holmes III, and A. Maraini
2. “System and Method of Image Guided Intervention and Surgery Using Surgical Robots,” United States of America, Provisional Patent Issued (2008), with S.D. Herrell
3. “Tactile Feedback and Display in a CT Image Guided Robotic System for Interventional Procedures,” United States of America, 6785572, with J.H. Yanof, K.J. West, and C. Bauer.
4. “Tactile Feedback and Display in a CT Image Guided Robotic System for Interventional Procedures,” European Union, 1450718, with J.H. Yanof, K.J. West, and C. Bauer.
5. “Method and Apparatus for Reviewing Tomographic Scans,” European Union, 1450687, with J.H. Yanof, and S. Chandra.

# Honors and Awards

1. Scholar, Institute for the Advancement of Health Care (2012 – Present)’

# SPONSORED RESEARCH

“Training of Laparoscopic Surgery Skills; Development of an Affordable Simulation System,” Institute for the Advancement of Healthcare (IAHC), Greenville Hospital System, Principal Investigator, $30,000, ($30,000), (2013).

“Towards Development of an Image-Based Diagnostic Protocol for the Detection and Staging of Rotator Cuff Injury,” South Carolina Bioengineering Alliance (Stryker), Principal Investigator, $99,606, ($79, 274), (2013 - 2014).

“CC-NIE Integration: Clemson-NextNet,” National Science Foundation, Co-Investigator, $990, 897, ($99,089), (2012 – 2014).

“Investigation into Real-time Segmentation and Labeling of Rotator Cuff Ultrasound,” Clemson University Cyberinstitute, Principal Investigator, $25,000, ($25,000) (2011- 2012).

“A Personalized Smart Phone-Based Gait Analysis System,” Clemson University Cyberinstitute, Co-investigator, $5000, (2011- 2012).

# OTHER SPONSORED ACTIVITY

Supply Funds, SC Life (Howard Hughes Medical Institute), Summer Program for Research Interns (SPRI), $1200, (Summer 2012)

Professional Development Funds, Clemson University Calhoun Honors College, EUREKA Program, $800, (2012)

Creative Inquiry Travel Award, Clemson University, Department of Undergraduate Studies, Co-principal Investigator, $2000 (Fall 2012).

Creative Inquiry Support Award, Title: “Development of NIR Camera for Early Detection of Diabetic Wounds,” Clemson University, Department of Undergraduate Studies, Co-principal Investigator, $900 (Fall 2012).

Creative Inquiry Support Award, Title: “Roper Mountain Science Center Innovation Lab,” Clemson University, Department of Undergraduate Studies, Co-principal Investigator, $1500 (Fall 2012).

Creative Inquiry Support Award, Title: “Exploration into Rotator Cuff injury, diagnosis, and treatment,” Clemson University, Department of Undergraduate Studies, Co-principal Investigator, $1200 (Fall 2012).

Creative Inquiry Support Award, Title: “Cardiac Arrhythmia Simulation and Modeling,” Clemson University, Department of Undergraduate Studies, Principal Investigator, $1200 (Fall 2012).

Creative Inquiry Support Award, Title: “Robotics in Medicine,” Clemson University, Department of Undergraduate Studies, Co-principal Investigator, $2000 (Fall 2012).

Creative Inquiry Support Award, Title: “Roper Mountain Science Center Innovation Lab,” Clemson University, Department of Undergraduate Studies, Co-principal Investigator, $2000 (Spring 2012).

Creative Inquiry Support Award, Title: “Exploration into Rotator Cuff injury, diagnosis, and treatment,” Clemson University, Department of Undergraduate Studies, Co-principal Investigator, $2000 (Spring 2012).

Creative Inquiry Support Award, Title: “Cardiac Arrhythmia Simulation and Modeling,” Clemson University, Department of Undergraduate Studies, Co-principal Investigator, $2000 (Spring 2012).

Creative Inquiry Support Award, Title: “Robotics in Medicine,” Clemson University, Department of Undergraduate Studies, Co-principal Investigator, $2000 (Spring 2012).

Foundation Project, Hoowaki, LLC, $1,500, (2012 - )

Foundation Project, Tac Med Solutions Inc., $2,500, (Summer 2011)

In Kind Donation, Self Regional Medical Center, AESOP Surgical Robot (July 2011)

Professional Development Funds, Clemson University Calhoun Honors College, EUREKA Program, $1,500, (2011)

Creative Inquiry Support Award, Title: “Exploration into Rotator Cuff injury, diagnosis, and treatment,” Clemson University, Department of Undergraduate Studies, Co-principal Investigator, $2000 (Fall 2011).

Creative Inquiry Support Award, Title: “Cardiac Arrhythmia Simulation and Modeling,” Clemson University, Department of Undergraduate Studies, Principal Investigator, $2000 (Fall 2011).

Creative Inquiry Support Award, Title: “Robotics in Medicine,” Clemson University, Department of Undergraduate Studies, Co-principal Investigator, $2000 (Fall 2011).

Creative Inquiry Support Award, Title: “Robotics in Medicine,” Clemson University, Department of Undergraduate Studies, Co-principal Investigator, $1500 (Spring 2011).

Creative Inquiry Support Award, Title: “Cardiac Arrhythmia Simulation and Modeling,” Clemson University, Department of Undergraduate Studies, Co-principal Investigator, $1500 (Spring 2011).

Creative Inquiry Summer Project Award, Title: “Cardiac Arrhythmia Simulation and Modeling,” Clemson University, Department of Undergraduate Studies, Principal Investigator, $2000 (Summer 2011).

Creative Inquiry Support Award, Title: “Robotics in Medicine,” Clemson University, Department of Undergraduate Studies, Co-principal Investigator, $1500 (Fall 2010).

# GRADUATE STUDENT ADVISING

## Doctoral Graduates

Wang, Rui (Ph.D.), “Development of Fourier Domain Optical Coherence Tomography,” 5/2012 (Committee Member).

## Masters Graduates

Breitmeier, John (M.S.), “Computer Aided Image Analysis of Retrieved Metallic Knee Implant Surface Damage,” 12/2011 (Committee Member).

## Current Graduate Primary Advising

Mefleh, Fuad (Ph.D.) “Development of a system for image-guided repair of atrial septal defect,” May 2016, (Primary Advisor).

Raikar, Vipul (Ph.D.), “Development of an Image-Guided Biopsy and Surgical System,” May 2016, (Primary Advisor).

Trent, Erika (Ph.D.) , “Method for the Diagnosis and Staging of Rotator Cuff Disease,” December 2016, (Primary Advisor).

Willi, Thomas (M.S.), December 2012, (Committee Member).

Ma, Siyu (Ph.D.), May 2016, (Committee Member).

Russly, Roy (Ph.D.), May 2015, (Committee Member).

Schmidt, Lucas (Ph.D.), May 2016, (Committee Member).

Wang, Zhongai (Ph.D.), May 2016, (Committee Member).

Biebly, Shea (Ph.D.), December 2016, (Co-Advisor).

Nunez, Leah (M.S.), December 2012, (Committee Member).

Bailey, Lane (Ph.D. Physical Therapy, University of South Carolina), “The Acute Effects of Manual Therapy in Asymptomatic Throwers With Posterior Shoulder Tightness,” May 2013, (Committee Member).

## Qualifier/Proposal/Defense Committee Member

### Ph.D. Proposal Committee

Liu, Honghai (Proxy for Tim Borg), “Dependence of Sarcomere Length on Actin Filament Studied Through Real Time SHG Imaging of Live Cardiomyocytes,” (May 2011)

### Ph.D. Qualifier Committee

Shaul, Jonathan, Advisor Karen Burg (July 2012)

Parks, Suzanne, Advisor Richard Visconti (February 2012)

Moore, Thomas, advisor Frank Alexis (August 2011)

Kirn, Adam, advisor Karen Burg (July 2011)

Kotanen, Christian, advisor Anthony Guiseppi-Elie (May 2011)

Li, Xiaowei, advisor Xuejun Wen (December 2010 (FAILED), January 2011 (PASSED))

Wang, Rui, advisor Bruce Gao (December 2010)

### UNDERGRADUATE STUDENT ADVISING

## Current Undergraduate Advising

### Research Advisor:

Eureka Program: Meg O’Sell (Summer 2011 - Present)

Creative Inquiry: *Robotics*

Jackson Turbeville (Aug 2010 – Present)

Miller Byrd (Aug 2010 - Present)

Thomas Veith (Aug 2011 - Present)

Christian Macks (Aug 2011 - Present)

Andrea Dicks (Aug 2011 - Present)

*EKG Modeling*

Laura Tumblin (Jan 2011 – Present)

Amanda Nguyen (Aug 2011 – Present)

Nadine Luedicke (Aug 2011 – Present)

Anna Merryman (Aug 2011 – Present)

*Rotator Cuff*

Alison Lamb (Aug 2011 - Present)

Haley Scruggs (Aug 2011 - Present)

Kayla Perry (Aug 2011 - Present)

Kaitlin Grove (Aug 2011 - Present)

#### Other Undergraduate Research Students:

Sarah Roberts (May 2012 – Present)

Emily Harruff (Jan 2011 - Present)

Honors Contract: Laura Tumblin (Aug 2011 - Present)

### Major Advisor for Bioengineering Undergraduates:

22 Bioengineering Undergraduate Students

## Past Undergraduate Advising

Eureka Program: Meghan Skelly (Summer 2012)

Sarah Claeys (Summer 2011)

SPRI Program: Michael Gray (Summer 2012)

Creative Inquiry: *Robotics*

Tim Laird (Aug 2010 – May 2011)

Alex Owezarczaka (Aug 2010 – May 2011)

Fuad Mefleh (Aug 2010 – May 2011)

Joe Connolly (Aug 2010 – May 2012)

*EKG Modeling*

Elizabeth Williams (Jan 2011 – May 2012)

Carly Atwood (Jan 2011 – May 2012)

Curren Smith (Aug 2011 – Dec 2011)

Jessica Bunch (Aug 2011 – May 2012)

*Rotator Cuff*

Alexander Cusick (Aug 2011 – May 2012)

Qi Guo (Aug 2011 – May 2012)

Margeaux Rogers (August 2011 – May 2012)

#### Other Undergraduate Research Students:

Goran Rac (May 2011 – Aug 2011)

Tyler Thornton (Aug 2010 – Aug 2012) (BioE 491, Su11)

Tyler DeZubay (May 2011 – Dec 2011)

Erika Trent (Aug 2011 – Dec 2012)

# TEACHING

## Courses Tought (Beginning Fall 2010)

### Lecture Based Courses

BioE 431/631, “Medical Imaging”, S11 (as BioE 450/850) (36 SCH), S12 (60 SCH)

BioE 870/870L, “Bioinstrumentation”, F11 (36 SCH), F12 (24 SCH)

### Creative Inquiry

BioE 451 (Section 5), Creative Inquiry on Robotics and Bioengineering, F10 (12 SCH), S11 (12 SCH), F11 (12 SCH), S12 (12 SCH), F12 (12 SCH)

BioE 451 (Section 8), Creative Inquiry on Cardiac Arrhythmia Simulation and Modelling, S11 (6 SCH), F11 (12 SCH), S12 (12 SCH), F12 (12 SCH)

BioE 451 (Section 12), Creative Inquiry on Exploration into Rotator Cuff Injury, Diagnosis, and Treatment, F11 (12 SCH), S12 (12 SCH), F12 (8 SCH)

BioE 451 (Section 15), Creative Inquiry on Redesign of the Roper Mountain Science Center Innovation Lab, S12 (12 SCH), F12 (10 SCH)

BioE 451 (Section TBD), Creative Inquiry on Development of NIR camera for early detection of diabetic wounds, F12 (6 SCH)

### Undergraduate Mentored Research and Honors Contracts

BioE 491, “Mentored Research,” Su11 (4 SCH), F11 (1 SCH), F12 (1 SCH)

BioE H 491, “Honors Research,” F12 (3 SCH)

C H S 400, “Honors Contract,” F11 (Laura Tumblin)

## Workshops and Seminars

Introduction of Medical Image Guidance for BioE 370, Bioinstrumentation, F10, S11

Seminars introducing medical robotics to visiting student groups, F10

## New Course Development

### Courses Taught at Clemson University

BioE 870, “Bioinstrumentation,” redesigned course F11

BioE 431/631, “Medical Imaging,” S11

### Courses Taught at Fisk University

“Data Mining,” F05, F06, taught by Horace Mann III

# UNIVERSITY AND PUBLIC SERVICE

## Continuing Education

“Integrated Science Education Outreach 2010 Physical Sciences Externship,” Lecturer (August 2010).

## Committee Service

### Department

Chair, Bioengineering IT Committee (2010 - Present)

Member, ABET Committee (2010 - Present)

Member, Undergraduate Program Committee (2011 - Present)

Member, MS Biomedical Device Recycling and Reprocessing Certificate Curriculum Task Force (2011 - Present)

Member, CUBEInC Strategic Team (2012 – Present)

### College

Member, Computer Resource Committee (2010 - Present)

Member, Computer Resource Subcomittee on Software Licensing (2012 – Present)

### University

Member, CCIT Technical Support Provider Program (2011 - Present)

## Other Service

Presenter, Clemson University Recruiting and Undergraduate Admissions (August 2012 – Present)

Mentor, BreakThru Prgoram, Georgia STEM Alliance (August 2011 - Present)

Mentor, Integrated Scientific Education Outreach (InSciEdOut), (October 2009 - Present)

Judge, FIRST Lego Robotics League (April 2011 – Present)

***January 1, 2013***