

Greenville

### Blueprint for Academic Excellence in the University of South Carolina School of Medicine Greenville (USCSOMG)

Revised: 18 March 2014

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#### Mission

Improve the health of the people and diverse communities we serve by educating health professionals who will care compassionately, teach innovatively, and improve constantly.

#### Vision

Transform health care for the benefit of the people and communities we serve.

### **Guiding Principles**

- 1. USCSOM Greenville will be responsive to the changing health care needs of our society.
- 2. USCSOM Greenville will strive to consider the needs of the students, faculty, and administration in a manner which enhances the stature of both USC and GHS.
- 3. USCSOM Greenville understands that health care delivery is constantly evolving and that its physician graduates should facilitate and advocate transformation that improves care provision.
- 4. USCSOM Greenville will be integrated with all aspects of the GHS delivery system.
- 5. USCSOM Greenville will graduate physicians who understand and participate in research that compares the relative clinical effectiveness and outcomes of various treatments.
- 6. USCSOM Greenville supports development of a health care workforce that reflects future societal needs and the diversity of the communities served.
- 7. USCSOM Greenville will educate physicians to be champions for patient safety, standardization, evidenced based care, and quality; responsible to the medical needs of their community; sensitive to the societal cost of medicine; activists for the education of the future health care workforce; and practitioners that care for all patients regardless of race, social stature, or ability to pay.
- 8. USCSOM Greenville students will practice patient centered care that values the interdependent roles of health care providers and facilities in service to their patients.
- 9. USCSOM Greenville will produce physicians competent not only in medical knowledge, technical skill, and patient care, but also in compassion, collaborative interpersonal communication, professional responsibility and ethical behavior.
- 10. USCSOM Greenville believes that candidates for medical school who value professionalism and possess exceptional interpersonal communication skills can be prepared, identified, and selected to become successful practicing physicians.
- 11. USCSOM Greenville will establish a learning environment that emphasizes the relationship between undergraduate medical education and the real world of patient care.
- 12. USCSOM Greenville strives to alleviate the cost of medical education as a significant barrier to student matriculation and graduation, or as a factor in the selection of a career specialty.
- 13. USCSOM Greenville utilizes policies and procedures that synergistically combine the academic virtues of USC with the operational efficiencies of the GHS health system to the benefit of its students, faculty and staff.
- 14. USCSOM Greenville faculty will emphasize and demonstrate the clinical import of the materials that they teach.
- 15. USCSOM Greenville faculty selection, development, and promotion processes will favor those committed to their profession as a calling; who view their teaching ability as a gift and privilege.
- 16. USCSOM Greenville graduates will be fully prepared and highly competitive to enter graduate medical education.

- 17. USCSOM Greenville appreciates that access to medical information is constantly changing and that educational focus must continually emphasize methods to optimally acquire the most current knowledge.
- 18. USCSOM Greenville will utilize educational resources, infrastructure and technology in a fiscally responsible manner, incorporating external resources in the education of health care students when advantageous.

### **Institutional Comparisons**

Top 10 Public Medical Schools (Primary Care) 2014 US News & World Report: University of Washington, University of North Carolina-Chapel Hill, Oregon Health and Science University, University of California-San Francisco, University of Massachusetts-Worcester, University of Minnesota, University of Nebraska Medical Center, University of Michigan—Ann Arbor, Michigan State University (College of Osteopathic Medicine), University of Wisconsin—Madison.

- 5 Peer Institutions: Our peer group is called the Macy Schools. These are the schools initiated in this century and currently under study by the AAMC through a grant from the Macy Foundation. Of the 19 Macy Schools, the five listed below are most similar to USCSOMG in both the stage of their development and in their focus on innovative curriculum design based upon a close working relationship between the parent university and its affiliated delivery system.
  - Oakland University William Beaumont School of Medicine
  - Cooper Medical School of Rowan University
  - Hofstra North Shore Long Island Jewish School of Medicine at Hofstra University
  - Virginia Tech Carilion School of Medicine
  - Western Michigan University School of Medicine

### Goals

### Five-Year Goals

Goal 1: Recruit a full contingent of Biomedical Sciences Faculty (24) and transition four Clinical Department Chairs (Family Medicine, Medicine, Orthopaedics and Pediatrics).

Progress:

Twenty Biomedical Sciences (BMS) faculty members have been recruited. We anticipate another two to four faculty members will be recruited in AY 2014-2015. The new Family Medicine Chair, Dr. Sean Bryan, has taken charge of his department and is leading effectively. The new Medicine Chair will be on board in June, 2014. A search for the Chair of the newly employed Department of Emergency Medicine is well underway. Consideration will be given

to recruitment of an Orthopaedic Chair in late 2014, as currently the interim Chair is functioning well over Orthopaedics and Surgery simultaneously. Pediatric timeline will be determined by the plans of the sitting Chair.

### Goal 2:

Graduate the first class in 2016 and achieve 95% residency placement (national match rate 95% in 2012 and 93.7% in 2013) in the National Residency Match Program.

Progress:

The inaugural class of 2016, consisting of fifty-three students, matriculated in July, 2012. One student took a leave of absence and has chosen not to return. The class of 2017 consists of 54 highly qualified students and there are 2,747 applicants for the 75 positions in the class of 2018.

### Goal 3: Achieve provisional LCME accreditation in 2014 and full

accreditation in 2016.

Progress:

Under the direction of the Dean and Senior Associate Dean, institutional self-study documents will be submitted in April, 2014, for the July, 2014, provisional accreditation site visit.

### Goal 4: Achieve 95% three year pass rate for eligible students on the USMLE.

Progress:

The inaugural class takes Step 1 of the USMLE in May, 2014. Historical national pass rates for USMLE Step 1 range from 94% -95%. In preparation for this exam, all assessment items that the students encounter throughout the first two years (formative and summative assessments) are written to National Board Standards and Guidelines. In addition, all medical students participate in progress testing using a National Board produced Integrated Basic Science exam that mirrors Step 1 of the USMLE. Students took this exam upon matriculation, mid-Year 1, end of Year 1, mid-Year 2, and end of Year 2 before taking the USMLE. This allows continuous monitoring of individual student progress, as well as assessment of the curriculum in preparation for National Boards. Serial scores have shown progressive improvement within the class, along with the not unexpected bell curve of results. Online test preparation resources are also available and encouraged to the students through our Information Resources and include Exam Master and USMLE World.

### Goal 5: Complete \$80 million capital campaign.

Progress:

USCSOMG expects to record philanthropic support of \$11.9 million through summer, 2014. Individual gifts to date total \$0.9M and grant support totals \$0.3M. Pending grant submissions total \$10.7M.

#### 2013-2014 Academic Year Goals

Goal 1:

Recruit four additional biomedical sciences faculty in the disciplines of pharmacology, microbiology, nutrition sciences/public health and clinical anatomy/embryology

Results:

We have been in pursuit of a pharmacology faculty member who is classically trained and able to address the full range of curricular issues in pharmacology, and will continue to actively recruit in this this discipline despite a relatively weak candidate pool. The lead microbiologist has been hired and will arrive in June, 2014. The former departmental chair for biomedical sciences will functionally transition from primarily administration to fulltime faculty status upon return from health issues. He is a nutritional biochemist and thus fulfills the nutrition sciences/public health need. We have been pursuing an anatomy hire and are in pursuit of a well-qualified candidate.

### Goal 2: Submit Provisional Accreditation documents and complete LCME site visit.

Results:

Final draft under consultant review; documents will be submitted in April, 2014, to the LCME. The LCME site visit is scheduled for July 13-16, 2014.

### Goal 3: Revise first year curriculum, deliver curriculum for years one and two, and develop curriculum for years three and four.

Results:

The first year curriculum has been revised and delivered. The student survey was generally positive with a few appropriate and anticipated criticisms. The second and third year curricula were developed and the second year has been delivered. The third year starts in June, 2014, and the fourth year is in development.

# Goal 4: Complete unit criteria for promotion and tenure, establish Faculty Senate representation, and finalize Conflict of Interest/Conflict of Commitment Policy.

Results:

Proposed promotion and tenure unit criteria for biomedical and clinical sciences have been submitted by the Unit Criteria Committee with significant input from USCSOMG faculty. The proposed criteria are in the hands of the Office of the Provost and we anticipate consideration and approval by UCTP in Spring 2014 for implementation in Fall 2014. A second committee has been formed to develop nontenure track unit criteria for biomedical sciences clinical and research faculty that are reasonably aligned with the tenure track criteria.

Faculty Senate representation for USCSOMG is by Robert Best, PhD, for the present time. There will be one faculty senator for each ten tenure/tenure track faculty members once the tenure track is opened.

An Outside Activity policy for managing conflicts of interest and conflicts of commitment was approved in late 2013 and is set to take effect in Fall 2014 (per University policy). BMS faculty all submitted outside activity reports on a voluntary basis in December, 2013.

### Goal 5: Activate Institute for Advancement of Health Care with defined research interests for Biomedical Sciences faculty

Results:

USC, GHS, and Clemson IAHC Directors are all in place. The IAHC is active with a number of scholars (see **Attachment 4**). USCSOMG research was initiated this year through M2 mentor/student team research projects. Efforts are now underway for the USCSOMG BMS faculty to establish their individual research long term plans and likely internal USCSOMG and external collaborators, to include GHS clinicians. These should be complete by the time of annual evaluations in June, 2014.

USCSOMG and GHS are seeking to organize their public health faculty to facilitate population health research at GHS (a highlight of this has been the extraordinary work by Jennifer Trilk, PhD, with the GHS Cancer Center to establish a translational Human Performance Lab and her work to establish Lifestyle in Medicine as part of the overall USCSOMG curriculum). This will likely include provision of a post-doc GME-style fellowship. Discussions are underway with the leadership of the Arnold School of Public Health to determine if this might evolve into a formal presence of the Arnold SPH in Greenville.

The CRRS SmartState Chair base funding was completed and John Brooks, PhD, was recruited. The Novel Neurotherapeutics SmartState Chair recruitment was placed on hold while clarification and resolution of funds split was sought. This was finalized with the state oversight committee in February, 2014, and we expect to complete recruitment of the Chair during the Spring 2014 semester.

### 2014-2015 Academic Year Goals

Goal 1: Achieve LCME provisional accreditation

Goal 2: Recruit highly qualified class of 2019 as target size of 100 students

Goal 3: Deliver years 1-3 of curriculum in an increasingly integrated fashion and complete planning of 4<sup>th</sup> year

Goal 4: Complete Biomedical Sciences Department infrastructure: recruit permanent Chair; complete faculty recruitment; and establish P&T unit criteria and non-tenure track criteria

Goal 5: Initiate Biomedical Sciences faculty research programs of their selection and establish collaborative relationships

### Proposed Academic Dashboard Measures for USCSOMG

- 1. 75 highly qualified students (+/- 10%) to matriculate in July 2014
- 2. Maintain a minimum of 350 clinical faculty in eleven clinical departments
- 3. Biomedical Sciences Faculty

Name	Rank	Specialty		
Sergio Arce, PhD	Clinical Associate Professor	Immunology		
Cyrus Banan, PhD	Clinical Professor and Director	Physiology		
	of Student Research			
Kirk Baston, MD	Clinical Assistant Professor	Pathology		
Robert Best, PhD	Professor	Cytogenetics		
Andrew Binks, PhD	Research Associate Professor	Cardio Pulmonary Physiology		
Asa Black, PhD	Clinical Professor	Neuro Anatomy		
James Buggy, PhD	Associate Professor	Neuroscience		
Richard Hodinka (6/2/14)	Professor	Microbiology		
Mo Khalil, PhD	Clinical Associate Professor	Histology/Anatomy		
Renee LeClair, PhD	Clinical Associate Professor	Biochemistry		
Thomas Nathaniel, PhD	Clinical Assistant Professor	Neuroscience		
Dennis Peffley, PhD	Clinical Professor	Biochemistry		
Jayne Reuben, PhD	Clinical Associate Professor	Pharmacology		
William Roudebush, PhD	Clinical Associate Professor	Reproductive Physiology		
Brian Tobin, PhD	Professor	Physiology		
Jennifer Trilk, PhD	Clinical Assistant Professor	Physiology		
Shanna Williams, PhD	Clinical Assistant Professor	Anatomy		
Dennis Wolff, PhD	Clinical Associate Professor	Pharmacology		
William Wright, PhD	Clinical Assistant Professor	Physiology		
Peggy Wagner, PhD	Research Professor	Research		

Core Faculty BMS		
Anna Cass, PhD	Clinical Assistant Professor	Epidemiology
Kirk Baston, MD	Clinical Assistant Professor	Pathology
Allison Young, MD	Clinical Assistant Professor	Pathology
William Kanner, MD	Clinical Assistant Professor	Pathology
Jennifer Knight, MD	Clinical Assistant Professor	Pathology
Mary Hughes, MD	Clinical Associate Professor	Neuroscience
Rafael Igartua, MD	Volunteer Faculty	Internal Medicine (GU/Renal)

### 4. Clinical Faculty:

						Emeritus
	Clinical	Clinical	Clinical		Emeritus	Clinical
Clinical	Professor	Associate	Assistant	Clinical	Clinical	Associate
Professor	of Practice	Professor	Professor	Instructor	Professor	Professor
42	1	51	455	5	3	1

### 5. Contract Faculty:

Steven Blair, PhD	Adjunct Professor (USC -	Exercise Science,
	Arnold School of Public	Epidemiology, and Biostatistics
	Health)	
Neena L. Champaigne, MD	Adjunct Assistant Professor	Clinical Faculty
	(Greenwood Genetics)	
Barbara DuPont, PhD	Adjunct Associate Professor	Cytogenetics
	(Greenwood Genetics)	
Michael J. Friez, PhD	Adjunct Associate Professor	Director, Diagnostic
	(Greenwood Genetics)	Laboratory
Leta M. Tribble, PhD	Adjunct Assistant Professor	Education
	(Greenwood Genetics)	
Tim Wood, PhD	Adjunct Assistant Professor	Biochemical Laboratory
	(Greenwood Genetics)	

### Scholarship, Research, and Creative Accomplishments

- USCSOMG was accredited as a medical school on October 4, 2011. It was the only applicant medical school to achieve preliminary accreditation in 2011.
- The \$59.5 million Health Sciences Education Building was designed to facilitate curriculum and promote inter-professional education. The facility includes a state of the art simulation center, simulated patient education areas, and health sciences library/academic support center (see **Attachment 1**), which will allow it to serve as a regional health science education resource. The building was completed on budget and ahead of schedule in time to welcome the inaugural class.

- During the 2013-2014 Academic Year, the primary focus for USCSOMG was building curriculum for the first two years. While most scholarly work from our Biomedical Sciences faculty during AY 2013-14 was initiated prior to joining USCSOMG, several new projects are under review or in preparation. We will focus on resources developing an operational and structural infrastructure that can support the kinds of research to which we are committed in our institutional goals and which were contemplated in the foundational agreement between the University and GHS. The hiring of campus scholars (including the IAHC Director and the two SmartState Chairs) is an important aspect of building the intellectual community at USCSOMG that will drive our long term research activities. In the course of fulfilling our institutional goals, we expect to establish significant research in health care services to include implementation science, comparative effectiveness, patient-centered outcomes research, and quality improvement that are well supported by the thriving clinical practices on campus which we are developing as the focus of many of our clinical faculty. See Attachment 2 for an explanation of the institutional setting of USCSOMG.
- GHS has established a goal of 160 published articles for the fiscal year of October 1, 2013, through September 30, 2014. For the GHS Fiscal Year ended September 30, 2013, 172 journal articles and presentations were published from the areas of Biomedical Sciences, Pediatrics, Nursing, Obstetrics, Orthopaedics Surgery, Pathology, Surgery, Institute for Advancement of Health Care Scholars, Institute for Translational Oncology Research, and Proaxis Therapy. See **Attachment 9** for a complete listing of articles and presentations.
- The Department of Biomedical Sciences (BMS) has four initiatives designed to enhance the development of scholarship and research consistent with institutional mission and vision.
  - O The faculty recruitment strategy supports the expectation of scholarly activity for all BMS faculty, who are intentionally recruited "with a passion for teaching; enthusiasm for building new programs; commitment to excellence in research/scholarship; and interest and experience that enhances our educational and research endeavors."
  - o All BMS faculty have been tasked by the Chair to initiate relationships with clinical colleagues and to engage directly in patient care activities as appropriate for the purpose of developing an understanding of the patient care and clinical delivery opportunities and interests of our partner institution, GHS.
  - o All BMS faculty participated in the Student Scholarship Mentor's Day, which provided an opportunity for them to meet faculty within our institutional environment who already engage actively and productively in research and scholarship. This engagement has allowed the faculty to begin linking collaboratively and strategically to ongoing research projects consistent with the institutional mission and vision.
  - o The Chair's Advisory Group on Unit Criteria was formed for BMS faculty to engage in discussions aimed at creating rigorous unit criteria that are aligned with the core values of the institution and consistent with institutional mission and vision.

### Academic Health Center (USCSOMG and GHS) CME/CE Report (Fiscal Year Ended September 30, 2013):

Ī	Activities	Hours of Instruction	Physician Participants	Non-Physician	
				Participants	
ĺ	89	1,118.50	7,071	2,125	

### Academic Year 2015 Budget:

The proposed budget is included as **Attachment 3** and includes \$7.6 million in tuition funding and \$12.8 million in funding support from GHS. This amount includes \$107 thousand to fund the 90-day contingency fund approved by the Joint Board Liaison Committee in February, 2013.

### Research Plan:

GHS is actively involved in a collaborative strategic planning process for academics that includes education and research. As a part of the GHS Academic Health System, USCSOMG is party to that process. It is anticipated that there will emerge five research cluster areas consonant with the overall direction of the Academic Health System. USCSOMG faculty will be encouraged to align their research interests and initiatives with one or more of the following clusters.

- 1. Health Services Research under the aegis of the Institute for Advancement of Heath Care (IAHC). The IAHC is a key research entity for USCSOMG with a vision for "innovative research, training, and dissemination of discoveries promoting health and transforming health care delivery" and a mission to:
  - a. Compare effectiveness of interventions and inform policy.
  - b. Investigate patient centered models of care.
  - c. Study methods to build workforce capacity.

See **Attachment 4** for a list of IAHC scholars and Seed Grant awards. IAHC Scholars will serve as research mentors for students with an emphasis on health services research.

- 2. Oncology translational research within the following four programmatic pillars of ITOR:
  - a. Phase I Clinical Research Unit with 20 clinical trials open at any given time (see **Attachment 5**).
  - b. Biorepository as a component of the USC Cancer Center Tissue Bank (see **Attachment 6**).
  - c. Innovation Zone and research laboratories (Selah, Kyatek, and NuBad).
  - d. Clinical Genomics Center in association with Lab21 and anchored by a Life Technologies Ion Torrent next generation gene sequencer; GHS ITOR has been selected as one of the 10 initial global network partners to participate in Life Technologies' Genetic Care Interchange (GCI).

Additional GHS oncology translation research opportunities are found in the 270 active oncology clinical trials at GHS; the Integrative Cancer Therapy Rehabilitative Science Program with active research proceeding in collaboration with Mark Davis, PhD; and the FACT-accredited Bone Marrow Transplant Program.

- 3. Orthopaedic and cardiovascular translational research in collaboration with the Clemson University BioEngineering Department on the GHS Patewood Campus (CUBEInc See Attachments 7 and 8).
- 4. Education research to be developed as a collaborative initiative between USCSOMG, the GHS Center for Teaching and Learning (CTL), and the USC College of Education. The CTL provides resources to support the USCSOMG in the areas of faculty development opportunities, simulation education, strategic financial planning, student orientation, and assessment and evaluation. A focus of the CTL is to foster an environment that enhances academic experiences for learners on the GHS campuses.
- **5.** Health Care Technology Cluster; to be developed.



# Greenville Health System Health Sciences Library

Annual Report 2013

# **Overview**



The services at the Health Sciences Library at Greenville Health System are available to anyone associated with GHS, whether they are physicians, teaching faculty, residents, interns, students, or support staff. With over 11,000 GHS employees, the Health Sciences Library has a large number of people to support in patient care, education, and research. The library currently has two locations – one in Greenville Memorial Hospital and the other in the Health Sciences Education Building on the GMH campus. The Patewood campus houses an archive for historical material.

Within this report is an overview of what the Health Sciences Library accomplished in 2013, along with statistics and charts giving a snapshot of the services the library provides. The statistics were taken from both the Greenville Memorial Hospital library and the University of South Carolina School of Medicine Greenville library. With this report, the Health Sciences Library plans to demonstrate the educational value it offers not just to the Greenville Health System, but also to the community overall. As Mike Riordan said at the 2012 Experience the Dream Gala, "Our vision is to transform health care for the benefit of the people and communities we serve, and now we're transforming the way we think about the pipeline to careers in health care." The Health Sciences Library is in the unique position to be a part of that transformation, by helping to shape the education of all those people who are a part of the Greenville Health System.

# **Notable Points**



In preparation for a space reduction project, the Health Sciences Library increased the number of electronic materials in its collection. Many print journal subscriptions were replaced with electronic subscriptions in order to maintain the level of quality library users expect. This project quadruples the library's electronic journal access.

In addition to journal subscriptions, the library increased the electronic book collection by adding the Thieme E-Book Library to its list of resources. Thieme offers more than 70 image-rich, full-text downloadable books from the basic and clinical sciences, radiology, and anatomy. The books can be viewed online or can be downloaded to a device.

The University of South Carolina School of Medicine Greenville celebrated its second year with 54 students making up the Class of 2017. This brings the number of medical school students served by the library to 106.

The library also introduced its Facebook page in 2012. Users can find the page at <a href="http://www.facebook.com/GHSHealthSciencesLibrary">http://www.facebook.com/GHSHealthSciencesLibrary</a>.

# Staff





From left to right, top to bottom: Loretta Westcott, Medical Librarian; Fay Towell, Library Director / Archivist; Debbie Douglas, Senior Library Assistant; Deanna Handley, Medical Librarian; Teresa Head, Library Assistant; Peggy Zabel, Medical Librarian; Thomas Gore, Medical Librarian; Joye Edmonds, Medical Librarian

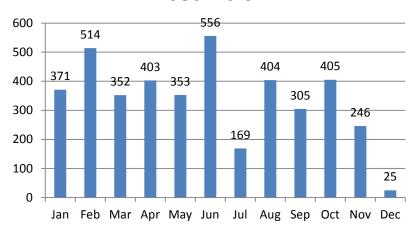
# **Material Utilization**



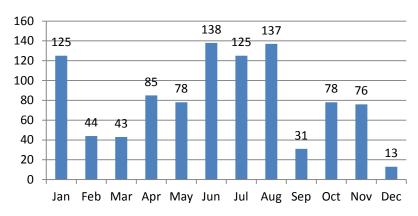
The library went through a space reduction at the end of 2013, which led to many of the physical materials being deleted or stored in a remote location. Staff continue to retrieve materials as needed for patrons, but the impact of the project can be seen in the number of items used in December. Despite that drop, patrons used **973** books and **4,103** journals over the course of the year. These materials were checked out or used in-house.

The students in the University of South Carolina School of Medicine Greenville continue to be avid users of the physical materials as well. In addition to checking out copies of their textbooks and browsing through the journal collection, they continued to use the Greenville Memorial Hospital library as a place to study. The addition of several study carrels in the Health Sciences Education Building library led to an increase of students using that area as a study place.

### **Journals**



### **Books**

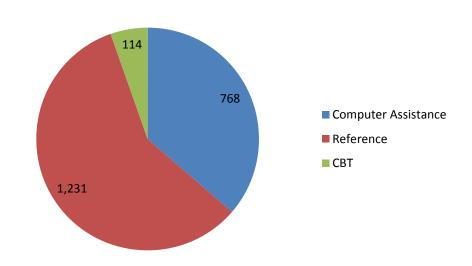




### Reference Assistance

Library staff are available to assist patrons however they need it. They offer advice on how to best locate materials in the library, direct patrons to other locations in the hospital system, assist patrons with their computers, show patrons how to search the electronic resources, and assist staff with their Computer Based Training (CBTs). The library staff serve as the point of contact for the library overall, and this is the most direct service they offer the GHS community.

Providing reference assistance is one of the most important responsibilities of the library staff. They serve not just the physicians and the allied health staff, but also the support staff and even the general public.

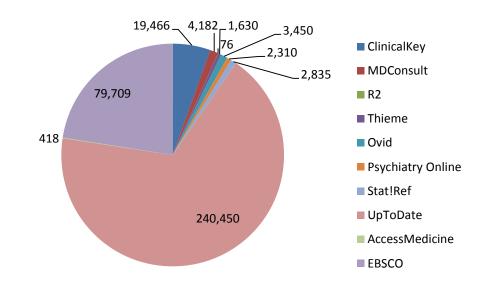






With access to ten databases and millions of articles, the electronic databases comprised a large percentage of the library's collection in 2013. UpToDate is still a clinician's favorite tool, with **nearly a quarter-million** topic reviews accessed over the entire year. That's more than 650 viewed every day! This is also a 15% increase over its use in 2012.

The Thieme E-Book Library was a new addition to the library resources in 2013, and saw heavy use, as well. It was added late in the year, which partly accounts for its 1,630 hits, but **1,154** of those hits were in December alone. We can expect the resource to be a big hit in the future.



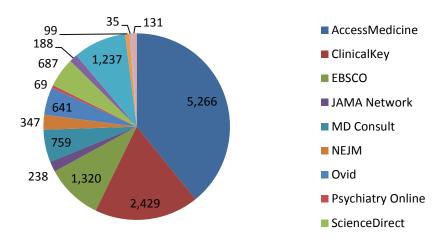


# **Off-Campus Access**

The main benefit to having electronic resources is the ability to access them from anywhere the patron has Internet access. The Health Sciences Library offers access to its resources on campus or away from the Greenville Health System facilities through a proxy server known as Athens. Users have to register from a GHS computer, but once registered, they have access to most of the resources the library offers.

In 2012, ClinicalKey was the most-accessed resource from outside of GHS, but this past year requests for AccessMedicine more than doubled those for ClinicalKey. This can mostly be attributed to the medical students at the University of South Carolina School of Medicine Greenville, as many of their textbooks are available through AccessMedicine.

### **Off-Campus Access 2013**

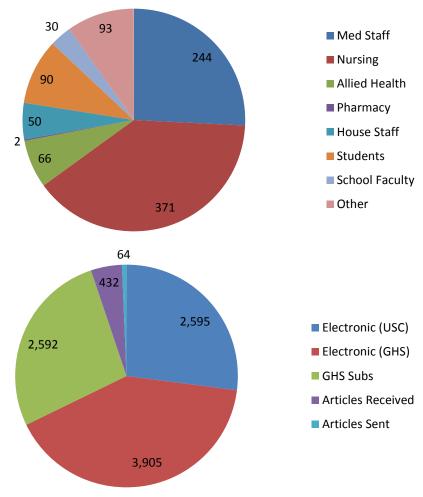


# Literature Searching



Whether for patient care, education, publication, or conference presentation, research is the heart of what the staff do in the Health Sciences Library. They receive hundreds of requests from Greenville Health System staff each year, most of which are completed and returned within a day.

In 2013, the Health Sciences Library received over **900** requests and sent out over **9,000** articles related to these requests. Nearly three-quarters of those articles came from print subscriptions and electronic databases to which the library currently subscribes. The remaining articles were acquired through a lending agreement with the University of South Carolina and other medical libraries across the country.



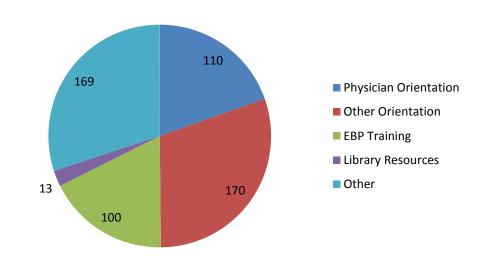
# Instructional Assistance



With access to a dozen databases, hundreds of journals, and thousands of books, the Health Sciences Library is sometimes asked to show patrons how to best find materials among all those resources. For that reason, the Health Sciences Library offers instructional assistance to teach users how to access all resources.

The bulk of the classes taught by the library staff is through orientations or general library resource classes. The orientations are used to introduce all of the library's resources to new staff of the Greenville Health System, and the general library resource classes are an in-depth look at each database.

Near the end of the year, the classes went from being offered on a regular basis to being offered on an as-needed basis. This was due in part to the loss of the classroom in the library.



# Conclusion



The GHS vision states that we "Transform health care to the benefit of the people and communities we serve." The Health Sciences Library is a part of that transformation as we assist GHS staff with their research, and are part of the learning process for the upcoming physicians in the University of South Carolina School of Medicine Greenville.

The GHS mission states that we "Heal compassionately, teach innovatively, improve constantly." By assisting physicians with their patient research, finding new resources to help the staff and students stay on top of their education, and always looking for resources that will make the Greenville Health System become more efficient and more effective, the Health Sciences Library adheres to that mission.

The GHS values state that "Together we serve with integrity, respect, trust, and openness." By providing services that support the medical staff, students, and Greenville Health System's goals with timely delivery of services, the Health Sciences Library is a part of the team that supports the community.

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### USC School of Medicine Greenville Institutional Setting

The Institutional Setting section of the LCME document articulates the mission, vision and guiding principles for the USCSOM Greenville. The *vision* is to transform health care for the benefit of the people and communities we serve; and the *mission* is improve the health of the people and diverse communities we serve by educating health professionals who will care compassionately, teach innovatively, and improve constantly. The USCSOM Greenville has resources via the GHS delivery system that strengthen the institutional support for faculty, students and administrators.

Specific institutional requirements that must be addressed are identified in the following sections: **IS-13**. A medical education program must be conducted in an *environment* that fosters the intellectual challenge and spirit of inquiry appropriate to a community of scholars.

**IS-14**. An institution that offers a medical education program should make available sufficient opportunities for medical students to participate in *research and other scholarly activities* of its faculty and encourage and support medical student participation.

**IS-16**. An institution that offers a medical education program must have policies and practices to achieve appropriate *diversity* among its students, faculty, staff, and other members of its academic community, and must engage in ongoing, systematic, and focused efforts to attract and retain students, faculty, staff, and others from demographically diverse backgrounds.

The following GHS entities are in place to respond to these requirements and aligned with USCSOM Greenville guiding principles.

### Ramage Center for Teaching and Learning (RCTL)

**Guiding Principle:** USCSOM Greenville will be integrated with all aspects of the *GHS delivery system*. **Guiding Principle:** USCSOM Greenville will utilize *educational resources*, infrastructure and technology in a fiscally responsible manner, incorporating external resources in the education of health care students when advantageous.

USCSOM Greenville's student learning experiences are integrated into the clinical learning environment of the GHS delivery system. This health care environment equips students to address contemporary issues that challenge clinical care delivery such as variation in quality, inadequate access, and uncontrolled cost. Specific guiding principles listed above articulate the importance of aligning GHS via the *Ramage Center for Teaching and Learning (RCTL)* as a resource that integrates USCSOM Greenville with the delivery system. The RCTL is an academic administration entity that houses five integrated offices: Office of Academic Effectiveness and Assessment; Office of Educational Affairs; Office of Faculty Affairs; Office of Finance and Administration; and Office of Student Services. These resources are available and utilized at the discretion of the Dean.

### **Institute for Advancement of Health Care (IAHC)**

**Guiding Principle:** USCSOM Greenville will graduate physicians who understand and participate in *research* that compares the relative clinical effectiveness and outcomes of various treatments.

The *IAHC* is a key research entity for the USCSOM Greenville with a vision for "innovative research, training, and dissemination of discoveries promoting health and transforming health care delivery" and a mission "to investigate patient-centered models of care; compare effectiveness of interventions and inform policy; study methods to build workforce capacity." IAHC Scholars will serve as research mentors for students with an emphasis on health services research. The three IAHC Directors are in place for GHS, USC and Clemson. Together, they are leading the strategic direction for the IAHC and aligning resources to support the USCSOM Greenville faculty and students research initiatives.

### Medical Experience (MedEx) Academy

**Guiding Principle:** USCSOM Greenville supports development of a health care workforce that reflects future societal needs and the *diversity* of the communities served.

**Guiding Principle:** USCSOM Greenville will educate physicians to be champions for patient safety, standardization, evidenced based care, and quality; responsible to the medical needs of their community; sensitive to the societal cost of medicine; activists for the education of the *future health care workforce*; and practitioners that care for all patients regardless of race, social stature, or ability to pay.

The *MedEx Academy* is a substantial and growing pipeline to the USCSOM Greenville that is evident by numerous MedEx students acceptance in the USCSOM Greenville. While initial engagement has begun with numerous colleges/universities, plans are underway to establish strategic partnerships with historically black colleges and universities (HBCUs) in South Carolina and surrounding states. These partnerships will foster and facilitate interest in medical school among students at HBCUs, as well as offer guidance and assistance to HBCUs in preparing students for medical school. Initial discussions are underway with Furman University and Claflin University to form a pipeline initiative that will provide a unique connection to the USCSOM Greenville. Additionally, initial meetings were held with USC Upstate, USC Beaufort and USC Honors College. As a result, a representative from the USC Honors College has been added to the MedEx Academy Advisory Board effective March 2014.

UNIVERSITY OF SOUTH CAROLINA SCHOOL OF M Proposed Unrestricted Current Fund Summary																
Proposed Offiestricted Current Fund Summary																
				AY 2013 -	2014	Drainstad						AV 201	1.4	2015 Budget		
		A Funds		Funds		Funds		Total		A Funds		Funds	14 -	E Funds		Total
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RESOURCES:								_								
D								-								
Revenue:		4					_			4 = 5= 5 = 5						
Tuition and Fees		\$ 4,328,115	\$	37,842	\$	2,385	\$	4,368,342		\$ 7,656,760	Ş	-	\$	-	\$	7,656,760
State Appropriations		-		-				<del>-</del>		-		-				
Grants, Contracts and Gifts				-	1	.1,589,796		11,589,796				-		12,791,906		12,791,906
Sales & Service of Educ and Other Sources		115,000		-		-		115,000		115,000		-		-		115,000
Sales & Service of Auxiliary Enterprise								<del>-</del> _			_		_			
Total		\$ 4,443,115	\$	37,842	\$ 1	1,592,181	\$	16,073,139		\$ 7,771,760	\$	-	\$	12,791,906	\$	20,563,666
<u>Transfers:</u>																
Transfers-In		\$ 13,614,741	\$	-	\$	-	\$	13,614,741		\$ 13,459,093	\$	-	\$	-	\$	13,459,093
Transfers-Out		-		-	(1	.3,614,741)		(13,614,741)		-		(75,684)		(13,383,409)		(13,459,093
Net Transfers		\$ 13,614,741	\$		\$ (1	3,614,741)	\$			\$ 13,459,093	\$	(75,684)	\$	(13,383,409)	\$	
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Prior Year's Fund Balance		\$ 126,225	Ś	37,842	Ś.	4,993,134	\$	5,157,201		\$ -	Ś	75,684	\$	2,970,575	ċ	3,046,259
Frior real 3 runu balance		7 120,223	<del>,</del>	37,042	<del>,</del>	4,333,134	<del>-</del>	3,137,201		<del>-</del>	<del>'</del>	73,004	<del>'</del>	2,370,373	<del>-</del>	3,040,233
TOTAL DESCRIPTION		A 40 404 004		<b></b> co.				24 222 242		A 24 222 252						22 522 527
TOTAL RESOURCES		\$ 18,184,081	\$	75,684	\$	2,970,575	\$	21,230,340		\$ 21,230,853	<u>\$</u>		<u>\$</u>	2,379,072	<u>\$</u>	23,609,925
								_								
USES:								_								
Educational and General Expenditures:								_								
Instruction		\$ 7,878,495	\$	-	\$	-	\$	7,878,495		\$ 8,572,635	\$	-	\$	-	\$	8,572,635
Research		-		-		-		-		-		-		-		-
Public Service		-		-		-		-		-		-		-		-
Academic Support		851,146		-		-		851,146		890,308		-		-		890,308
Student Services		1,447,507		-		-		1,447,507		2,319,961		-		-		2,319,961
Institutional Support		3,444,308		-		-		3,444,308		3,919,037		-		-		3,919,037
Operation and Maintenance of Plant		3,534,116		-		-		3,534,116		3,990,636		-		-		3,990,636
Scholarships and Fellowships		1,028,508		-		-		1,028,508		1,538,276		-		-		1,538,276
Total		\$ 18,184,081	\$		\$	-	\$	18,184,081		\$ 21,230,853	\$	_	\$		\$	21,230,853
		,,.,.,.								, 22,230						,,
Auxiliary Expenditures		\$ -	Ś	_	Ś	_	\$	_		\$ -	\$	_	Ś		\$	_
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TOTAL USES		\$ 18,184,081	Ś	_	Ś		\$	18,184,081		\$ 21,230,853	Ś	_	Ś		\$	21,230,853
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FUND BALANCE		\$ -	<u>,                                    </u>	75,684	\$ :	2,970,575	\$	3,046,259		\$ -	Ş		\$	2,379,072	<u>&gt;</u>	2,379,072
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Note: E Fund Balance in AY 2014-2015 includes th			-													

			GHS	
Name	Email address	Department	Area of Research Expertise	Brief Description of Scholarly Interests
Best, Robert	rbest@ghs.org	Biomedical Sciences/ Dean's Administration	Genetics, faculty governance, social/ethical/legal issues in emerging technologies, genetic counseling, screening	Healthcare transformation through medical education, genetics and genomics in medicine, philosophy and practice of medical laboratory diagnosis and communication of results, prevention/characterization of neural tube defects
Bethel, Susan	sbethel@ghs.org	Nursing Clinical Programs & Research	Nursing Practice	Use of research and evidence to improve patient outcomes affecting quality and safety; effectiveness of technology on nursing practice at the bedside; innovative methods for providing education for nurses and collaborative partners
Blackhurst, Dawn	dblackhurst@ghs.org	Quality Management	Epidemiology and biostatistics	Application of epidemiologic and biostatistical methods to the evaluation of programs and interventions aimed at improving clinical outcomes, patient safety, equity and cost-effectiveness of healthcare
Cass, Anna	acass@ghs.org	Quality Management	Epidemiology	Investigating questions raised in the course of clinical practice at GHS in collaboration with clinicians across specialty and discipline, partnered with my background in epidemiology as a field that seeks to understand the distribution and determinants of health conditions through systematic inquiry, has shaped my current scholarly interests. The opportunity to investigate research questions in a variety of disciplines and to teach and guide individuals through the research process has given me an appreciation for the varying types of research conducted within this system and has been personally rewarding. Additionally, conducting research out of the Quality Management department of the hospital system has focused my research perspective on seeking to answer questions regarding how to maximize the quality of healthcare delivery. As I work to develop my personal research agenda, I find myself drawn toward questions related to both clinical and social determinants of health as well as the investigation of ways that we can better provide health services for our population. At the same time, I am interested in addressing the challenge of adapting rigorous epidemiologic methods to those situations that do not fit the traditional model those methods were developed to address.
Coltman, Kinneil	kcoltman@ghs.org	Diversity	Health Equity, Health Disparities, Cultural Competence in Clinical Care, Diversity in Health Services Administration	Health Equity, Health Disparities, Cultural Competence in Clinical Care, Diversity in Health Services Administration
Crespo, Lynn	lcrespo@ghs.org	Medicine	Medical Education	Enhancing learning outcomes through innovative teaching and learning pedagogies, including use of technology, early clinical experiences, and interprofessional students teams. A primary focus is the importance of defining objectives, identifying cognitive level of learning, and determining outcome measures as criteria for selecting learning modality.
Higdon, Lee	lhigdon@ghs.org	OB/GYN UMG	Reproductive endocrinology/ infertility; also research development/study design/statistics	Improvement in cell culturing to benefit mammalian embryo production, education delivery systems, workforce development concepts
Hudson, Matthew	mfhudson@ghs.org	Academics Medicine - Division of	Health care system aptitude for Comparative Effectiveness Research (CER), Medical Decision Making, Behavioral Science	improvement, enhancing shared decision making between patients and health care teams  Have been involved in a range of projects from pharmaceutical trials to investigator initiated trials in
Hughes, Mary	mhughes@ghs.org	Neurology	Multiple Sclerosis	genetics, depression, wellness, patients centered core

Kelly, Desmond	dkelly@ghs.org	Pediatrics - Children's Hospital, Division of Developmental-Behavioral Pediatrics	Health Service Delivery	Earlier in my career I carried out descriptive research on attention and learning problems in children with hearing impairment. More recently I have published on survey results regarding workforce needs in developmental-behavioral pediatrics and been funded (Commonwealth Fund) to study a model of "Midlevel developmental-behavioral pediatrics assessment" and outcomes of a program to promote early identification of developmental delays (PRIDE - Duke Endowment).
Pham, Hiep	hpham@ghs.org	Division of Geriatrics and Palliative Medicine	Innovative interdisciplinary healthcare delivery and educational models based on intensive care integration and coordination.	Implementing and demonstrating efficiency and effectiveness of Holistic and Patient-Centered Interdisciplinary Team Based Care Models to targeted population of frail and vulnerable elders.
Picklesimer, Amy	apicklesimer@ghs.org	Obstetrics and Gynecology, Division of Maternal-Fetal Medicine	Prenatal care, preterm birth, breastfeeding, racial disparities in birth outcomes, access to care	My primary research focus relates to innovative models of prenatal care, specifically CenteringPregnancy group prenatal care. In our experience, group care has shown promise in reducing rates of prematurity, increasing rates of breastfeeding, improving patient education and satisfaction with care. We are also evaluating its role in medical student and resident education.
Reeves, Cara	creeves@ghs.org	Surgery/Pediatrics	Clinical/Pediatric Psychology	Prevention and treatment of pediatric obesity; factory associated with treatment compliance; psychological factors associated with obesity.
Russ-Sellers, Rebecca	rruss-sellers2@ghs.org	Office of Research Support/Department of Total Health	Health Policy	My research interests are aligned with the examination of models of care both as an influence and a response to system, state, and national health policy initiatives. Particularly, I am interested in exploring the influence of Total Health initiatives on access, cost, and improved clinical outcomes within a macro policy context.
Sease, Kerry	ksease@ghs.org	Pediatrics	Pediatric Obesity	Development of comprehensive treatment for pediatric obesity
Tobin, Brian	btobin@ghs.org	Biomedical Sciences	Diabetes, cardiovascular disease, insulin secretion, islet transplantation	1) Interdisciplinary research in nutrition science, nutritional determinants of human pancreatic islets of Langerhans and the interaction of endocrine, metabolic, and immunologic systems during pancreatic stress. 2) Interdisciplinary medical education programs focused upon the prevention and management of nutritionally-related metabolic diseases, such as diabetes, obesity, and cardiovascular disease.
Trilk, Jennifer	itrilk@ghs.org	Biomedical Sciences		Physical activity and healthy lifestyle interventions for non-communicable diseases in pediatrics, adults, and geriatrics; assessing physician self-efficacy in prescribing exercise.
Name	Email adduces	Demontracent	USC	Drief Description of Cohology, Interests
<u>Name</u>	Email address	<u>Department</u>	Area of Research Expertise	Brief Description of Scholarly Interests
Adams, Swann	swann.adams@sc.edu	Epidemiology & Biostatistics and the College of Nursing (joint faculty appt)	Cancer epidemiology; health disparities; mammography; breast cancer	The vast majority of my work has focused on mammography and breast cancer disparities experienced by African American women. Specific areas of focus have included abnormal mammography follow-up time, breast cancer survival, and healthy lifestyle interventions.
Bennett, Charles	bennettc@sccp.sc.edu	Clinical Pharmacy and Outcomes Sciences		Identification of new ADRs; Human factors as a cause of medication errors.
Destrict, charies	Semicice Scop.sc.cuu		Maternal and women's health,	Qualitative and quantitative research that examines innovative ways of delivering care, including prenatal care and overall sexual and reproductive health care. The impact of interventions that foster
Billings, Deborah	billindl@mailbox.sc.edu	and Behavior	sexual and reproductive health	social support on women's health and maternal-child health.

		T	T	Research areas focus primarily in the clinical arena to include hospital-acquired infections, specifically
				Clostridium difficile infections and central line associated bloodstream infections; antimicrobial lock
				therapy; antimicrobial dosing and clinical outcomes in obese adults and children; and antimicrobial
		Clinical Pharmacy and	Infectious diseases;	stewardship outcomes. In addition, currently serving as PI of a statewide collaborative to develop a
Bookstaver, Brandon	bookstaver@sccp.sc.edu	Outcomes Sciences	pharmacokinetics	cumulative 5-year antibiogram.
bookstaver, brandon	bookstaver (e-seep.se.eau	Successives serences	pharmacokinetics	Psychosocial barrier to health outcomes; health disparity; transdisciplinary health teams; kidney
			Psychosocial barrier to health	disease; kidney transplant disparity; oral medication self management; chronic illness; quality of life;
Browne, Teri	browne@sc.edu	College of Social Work	outcomes; health disparity	racialized context of health disparities research
browne, ren	si owneg soledd	Some ge of Social Work	l accomes, meanin dispancy	- additized context of median dispartites research
		Health Service Policy and	Health economics, health policy,	I am broadly interested in applying my econometric and legal analytical skills to translate empirical
Chen, Brian	bchen@mailbox.sc.edu	Management	health law, health management	research findings in medicine to inform policy in chronic illnesses and pharmaceutical safety
			Research methods (both	
			quantitative and qualitative);	
			Program and Practice Evaluation;	
			Aging; Long-Term Care; Elder	
			Support; Quality of Life; Older	Health Disparities; Quality of Life; Psychological Well-Being of Older Adults; Elder Support; Caregiving;
Chou, Rita	rjchou@sc.edu	College of Social Work	Workers	Older workers; Social Policy
,		Dept of Exercise Science,		' '
		Arnold School of Public		Biological mechanisms of mental and physical fatigue, and the role of exercise in nutrition in prevention
Davis, Mark	markd@mailbox.sc.edu	Health	Exercise Physiology/Immunology	and treatment of infection and cancer.
			, ,,	Use of quality improvement methodologies to improve patient care. Relationship between
		Center for Health Services	Quality improvement in	organizational culture/change/readiness and use of QI methods. Interested in looking at use of QI to
Gillam, Pamela	gillamps@mailbox.sc.edu	and Policy Research (CHSPR)	Healthcare systems	develop Accountable Care Organizations/Medical Homes.
		Health Service Policy and	Health services research,	Engaging in research focused on the organizational and management health care delivery systems and
Hale, Nathan	halen@mailbox.sc.edu	Management	maternal and child health	the impact on quality of care and outcomes among mothers and children.
				I am interested in developing and evaluating family system interventions for families who have
			Autism Spectrum Disorders and	members with an autism spectrum disorder. The focus of these interventions is to improve family
Hock, Robert	roberth@sc.edu	College of Social Work	Family Functioning	adaptability as well as adherence to behavioral and medical interventions.
			Physical activity and physical	Exercise physiologist with interests in physical activity and physical fitness in children and the health
Pate, Russell	rpate@mailbox.sc.edu	Exercise Science	fitness in children	implications of physical activity
			Medication adherence, quality of	Examines how and why people take medicines, and tests interventions to improve adherence and
Schulz, Richard	schulz@sccp.sc.edu	SC College of Pharmacy	life, pharmacoepidemiology	outcomes
			Stroke and Cardiovascular	1) Aortic arch atheroma and stroke; 2) Inflammation and stroke; 3) Stroke trials; 4) Alternative methods
Sen, Souvik	souvik.sen@uscmed.sc.edu	Neurology	Epidemiology	to test comparative effectiveness; 5) HIV and stroke
				My current collaboration with GHS involves work with the Reproductive Endocrinology Department
			Nutrition, obesity, and chronic	where we are exploring two different dietary approaches for managing PCOS and promoting weight
		Health Promotion, Education	disease prevention and treatment	loss among overweight women. Additionally, I have interests in using mobile technology to deliver
Turner-McGrievy, Brie	<u>brie@sc.edu</u>	and Behavior	through diet and physical activity	health behavior interventions and exploring different diet approaches for diabetes and weight loss.
1		Department of Family and	Patient-centered care, health	Primary research interests include: innovations that improve patient-centered care; patient safety and
ĺ		Community Medicine,	information technology, clinical	quality, use of practice-based research networks for discovery and clinical practice redesign, elements
Wagner, Peggy	pwagner@ghs.org	School of Medicine	practice change	of individual patient and physician behavior change, and health information technology innovations
				1) Develop patient-centered outcomes research relevant to medication use in disadvantaged
				populations to improve pharmaceutical health services. 2) Evaluate medication use and associated
				health and economic outcomes using large claims database to provide evidence to healthcare
			Health outcomes, medication	professionals and policymakers. 3) Develop novel drug delivery system using nanotechnology in
			adherence, pharmaceutical	chemotherapy to reduce adverse drug events and to improve drug effectiveness and patient quality of
Wu, Jun	wujun@sccp.sc.edu	College of Pharmacy	sciences	life.
			CLEMSON	
Name	Funcil adduses	Deneutroent		Drief Description of Cabalanh, Interests
<u>Name</u>	Email address	<u>Department</u>	Area of Research Expertise	Brief Description of Scholarly Interests

A 11			Psychology and anthropology of	
Alley, Thomas	alley@clemson.edu	Psychology	food and eating	Food choice and avoidance; obesity; food neophobia
				Individual and organizational factors that promote employee resilience under stress, the determinants
			Organizational stress, mental	of whether individuals seek treatment for mental health problems before the problems require
Britt, Thomas	twbritt@clemson.edu	Psychology	health, and treatment seeking	emergency care, recognizing mental health symptoms in combat veterans.
		Campbell Graduate	· ·	Enable population to drive as long as safely possible; development and integration of new clinical tools
Brooks, Johnell	jobrook@clemson.edu	Engineering Program	Aging	to aid mobility and transportion
l			Tissue engingeering, absorbable	Interdisciplinary research initiatives with focus on personalized medicine; training students in
Burg, Karen	kburg@clemson.edu	Bioengineering	biomaterials	interdisciplinary setting
				Applying basic control theory to applications where computer monitoring and control could enhance
				performance of the system. One application is the use of computer control to apply an optimal dose of
				an anti-angiogenic treatment to shrink a tumor. The growth of vasculature and tumor co-develop in a
				nonlinear fashion and a standard, constant dose may not be the most cost effective or cheapest
				approach to shrink the tumor. A second project is the design of a heptic device, an interaction device to
				a comptuer game where the user "feels" the virtual world through sense of touch, to help train
		Electrical & Computer	Robotics, Control Systems,	laparoscopic surgeons. Finally, I have been buildign a machine to build 3D cellular constructs (cell
Burg, Timothy	tburg@clemson.edu	Engineering	Haptics, Education	printing and biomaterials deposition) for tissue engineering applications.
			Study desin (cross-sectional	
			study, cohort study and clinical	My primary research interests lie in nutritional epidemiology and chronic diseases prevention, including
			trial) and data analysis	obesity, diabetes, hypertension, and cardiovascular diseases. My specific interests are:
			(longitudinal analysis, survival	- Dietary approaches as a means to prevent and manage chronic diseases
			analysis, complex survey design	- Optimal strategies for identification of individuals at high risk of diabetes and cardiovascular diseases
			analysis, factor analysis,	- Systematic reviews and meta-analysis for evidence-based medicine
<b>.</b>			systematic review and meta-	- Comparative Effectiveness Research (CER)
Chen, Liwei	liweic@clemson.edu	Public Health Sciences	analysis, etc. Affective (Emotion recognizing)	- Electronic Health Information/Electronic Medical Records (EHI/EMR)
			Computing; empathy	
			development; K-12 education	Understanding physiological response to interventions; virtual worlds; project-based learning
Daily, Shaundra	sdaily@clemson.edu	School of Computing	outreach	environments; physician-patient relationships
5,, 5	<del>Juany &amp; cicinoonicuu</del>	Jensel et cempating	- Cathedra	טר. Designations received his Pri.D. in bioengineering from Ciemson Oniversity in December 2006, and ne
				has worked for over 20 years as a biomechanical research engineer. He has co-authored over 150 peer-
				reviewed conference or journal publications in the areas of biomechanics, biomaterials tribology,
				engineering education and mechanical testing, and he directs the Laboratory of Orthopaedics Design
				and Engineering on the main campus of Clemson University. He currently leads or is a co-PI on multi-
				disciplinary research teams funded through NASA, DoT, NSF, the Gates Foundation, biomedical industry
				and other regional non-profit foundations. His research interests lie in Orthopaedic Biomechanics,
			Orthopaedic Biomechanics,	physical rehabilitation and sports engineering, total joing biomaterials, biomedical device design and
Desjardins, John	jdesjar@clemson.edu	Bioengineering	Rehabilitation, Biomaterials	total joing biomechanics.
				Thave been involved in research with one for several years both with nursing students and physicians.
				My areas of interest include: women's health, vulnerable populations, birth outcomes, needs and care; prenatal care, maternal transitions and adaptations both physical and psychosocial; infant health and
				bonding; and policy related to maternal/child health. I have just begun my career as a researcher,
				recently graduating from the University of South Carolina with a PhD in Nursing. I also obtain a
				Graduate Certificate in Women's Studies while pursuing my PhD. I have presented poster and podium
				presentations locally and have recently been invited to present at the Internataional Congress of
				Women's Health in Bangkok Thailand in November of this year. My presentation will be concerning my
			Women's Health,	recently completed research at the OB Center at GHS concerning maternal transitions in vulnerable
Duggan, Lisa	duggan@clemson.edu	School of Nursing	Obstetrics/Gynecology	populations.
2 4884.1, 2134	aaggane cicinson.caa	- Construction of the control of the	Chronic disease self-management	populations.
•				
			and health promotion of older	

				Impact of simple early life experience interventions on cognition in the elderly; Engagement in LTC;
				Healthcare genetics (HCG) as it relates to healthcare provider and patient literacy; Healthcare genetics
Eggert, Julia	jaegger@clemson.edu	School of Nursing	Geriatrics; Genetics; Oncology	molecular translation to the bedside/environment/prevention.
00 - 4,			Operations Management /	Scheduling, inter-departmental coordination, implementing quality improvement, lean operations,
Fredendall, Lawrence	flawren@clemson.edu	Management	Process Flows	using technology to improve quality and process flows in clinical and non-clinical departments.
, , , , , , , , , , , , , , , , , , , ,			Obesity & Weight Loss; Mental	1) Social, self, and identity impacts of sustained weight loss; 2) Body image and self esteem among
Granberg, Ellen	granber@clemson.edu	Sociology & Anthropology	Health	African American girls; 3) The impact of racial discrimination on health and mental health.
	A control of the cont	Food, Nutrition and	1155.01	6.4/-7/
Haley-Zitlin, Vivian	vivianh@clemson.edu	Packaging Science		
,,		Electrical & Computer		
Hoover, Adam	ahoover@clemson.edu	Engineering	Tracking, embedded systems	Obesity; automated tools for measuring energy intake
King, Bruce	bking2@clemson.edu	New per Windsor 2/7/13	Tracking, embedded systems	best, automated tools for measuring energy intene
8/ =		, , , , , , , , , , , , , , , , , , ,		Previously I conducted research in the area of organ donation as well as cervical cancer screening.
				Currently, I do research on bully/cyberbullying among youth and adults. This research also looks at
Kowalski, Robin	rkowals@clemson.edu	Psychology	Bullying/Cyberbullying	prevention and intervention efforts. Finally, I conduct research in the area of sports psychology.
no walonij noom	- Nowaise demodrate	. syeneingy		My current interests include the development of new medical technologies and procedures using
			Medical Imaging, Image-	medical imaging as the basis for navigation, visualization, and diagnostics. Within this work, we are
			processing, and image-guided	exploring ways of reducing the need for ionizing radiation while maintaing minimal collateral damage
Kwartowitz, David	robodoc@clemson.edu	Bioengineering	procedures	to health tissues, through computing and image processing.
Mayo, Rachel	rmayo@clemson.edu	Public Health Sciences	procedures	to hearth assaes, through computing and muge processing.
Mayo, Racher	imayor cicmson.caa	Tublic Freditif Sciences	Cardiovascular Disease,	I am currently studying changes in CNS and autonomic function in the early stages of development of
McCubbin, James	imccubb@clemson.edu	Psychology	Hypertension, CHD, Diabetes	essential hypertension. I also study mechanisms of acute and chronic pain sensitivity.
Wiccubbill, Julies	iniccaso e cicinsonica a	1 Sychology	Health and demographic	essential hypertension, raiso stady mechanisms of deate and emonie pain sensitivity.
Mroz, Tom	tmroz@clemson.edu	Economics	economics; labor economics	Analysis of intervention programs and statistical analysis
141102, 10111	timoz@cicinson.cdd	Economics	· ·	, , , , , , , , , , , , , , , , , , , ,
Name of Devil	de como Calamana a da	In district English and a	Patient Safety and Quality,	Assessing patient safety and quality improvement projects that lead to more effective and safer
Neyens, David	dneyens@clemson.edu	Industrial Engineering	Human Factors, Driver Safety	experiences for patients
			Health disparities/inequities;	My interests involve the conduct of cutting edge research focusing on chronic conditions and the
			obesity & obesity related	dissemination of findings, thereof, that promote health in an effort to improve health care and health
			illnesses; asset mapping;	outcomes among populations and sub-populations of people. I have a particular interest in the
			community-based and faith-	reduction and ultimare elimination of ill health conditions that disproportionately plague a vairety of
Parker, Veronica	veronic@clemson.edu	School of Nursing	based initiatives/interventions	sub-groups of individuals in the state and in the nation.
				My research examines the effects of stress and fatigue on performance, social functioning, health, and
				well-being. My sleep deprivation research simulates shiftwork and provides information on how
			stress, fatigue, sleep deprivation,	persons perform while working at night. I'm interested in the effects of sleep habits and shiftwork in
Pilcher, June	jpilche@clemson.edu	Psychology	sleep habits	health-care settings and their effects on the health-care practitioner and the patients.
				I am developing an empirically-based psychological theory of courage and using it to develop
				assessments and interventions. I am also developing taxonomy of situational factors that influence
			Positive Psychology, Emotions,	behavior in a wide range of settings; we envision this as a complement to the Big 5 model of
Pury, Cynthia	cpurv@clemson.edu	Psychology	Subjective Experience	personality.
,, 6,	opa. ye. o.e. noomeda	. syenelogy	Dabjective Experience	personality:
				I study the interactions clinicians have with each other and with their patients keepint in mind the
				organizational and environmental context in which they work in. These interactions include, but are not
				limited to, communication, problem solving, teamwork, decision making, etc. I also study how these
				interactions are affected (in both positive and negative ways) by Health Information Technologies. The
			Human Factors (i.e.,	end goal is to redesign the system to make clinicians work easier and more efficient, all while increasing
Rodriguez, Joy	rodrig7@clemson.edu	Industrial Engineering	Macroergonomics) in Healthcare	the quality of patient care and patient and worker safety.
			Health services evaluation,	
			medical education, health care	health delivery system structure and innovation, medical education and physician
Sherrill, Windsor	wsherri@clemson.edu	Public Health Sciences	finance	executive education, cultural competence and impact on health disparities

			Behavioral economics, health	Long-term model-based evaluation of health intervention for a given population; Modeling
			communication, quantitative	population health trends and individual health behavior, especially interested in the state
Shi, Lu	lus@clemson.edu	Public Health Sciences	methods	of human mind when a health-related decision is made.
Jiii, Eu	ids@cicinson.cdd	T done Treater Sciences	methods	or name when a nearth related accision is made.
Smith, Kelly	kcs@clemson.edu	Philosophy & Religion	Bioethics, Philosophy of Medicine	Ethics education and assessment, empirical studies of ethical reasoning
Taaffe, Kevin	<u>taaffe@clemson.edu</u>	Industrial Engineering	Patient flow, OR capacity planning, scheduling, staffing, data-driven decision making	I have been conducting health care-related research to improve the ability of a health care facility to provide quality care, paying special attention to the logistics of enabling staff to accomplish their tasks with minimal delays. I have also investigated the use of engineering management intervention tools to enhance the communication and coordination I have been conducting health care-related research to improve the ability of a health care facility to provide quality care, paying special attention to the logistics of enabling staff to accomplish their tasks with minimal delays. I have also investigated the use of engineering management intervention tools to enhance the communication and coordination of medical staff by understanding the impact of various actions that cause ripple effects in the system and lead to patient and surgeon delays. Please see the Working Papers section of my CV for the pipeline of current health care-related research contributions.
		,	Statistics, modeling, cost-	
			effectiveness analysis, economic	
			impact evaluation, and research	Healthcare delivery systems, treatment modalities, healthcare costs and benefits, preventive
Truong, Khoa	ktruong@clemson.edu	Public Health Sciences	design	healthcare, and health policies
Van Puymbroeck, Mariake	mvp@clemson.edu	Parks, Recreation & Tourism Management	Complementary and Alternative Medicine Interventions, Rehabilitation, Neurology, Geriatrics	I am interested in the therapeutic use of yoga to improve functional outcomes and well-being in a variety of populations.
Whitcomb, John	jwhitco@clemson.edu	School of Nursing	Critical Care, Resusitative Outcomes, Ethics, Military Nursing, Leadership	I support the learning, knowledge, and professional development of nurses committed to making a difference in health world wide and advance quality nursing education that prepares the nursing workforce to meet the needs of diverse populations in an ever changing healthcare environment. I have demonstrated this as evidence by publications in scholarly journals such as Nursing Research, Advances in Nursing Science and Critical Care Nursing Clinics of North America. I have presented locally, nationally and internationally in such places as Belfast Ireland, Yokosuka Japan and Montreal Canada. My commitment to lifelong learning has led to many opportunities where I have been able to make a difference for nursing worldwide. I am a Fellow of Critical Care Medicine (FCCM) becoming the 3rd nurse in South Caroline to hold this distinction.
Zinzow, Heidi	<u>hzinzow@clemson.edu</u>	Psychology	trauma-related mental and physical health outcomes: risk factors, PTSD, substance use, marginalized populations, military, clinical interventions, health service-seeking	I would like to collaborate on projects that involve identifying and connecting trauma victims with needed mental health and medical services. I would also be interested in developing and evaluating interdisciplinary interventions that allow medical providers to identify and address trauma-related mental health needs. Trauma victims are often more likely to seek medical care than mental health treatment; therefore, medical clinics represent important points of entry into the healthcare system. Furthermore, trauma victims frequently suffer comorbid medical and psychiatric diagnoses and would benefit from improvements in interdisciplinary care. I am particulary interested in research that focuses on racial/ethnic minorities, women, sexual assault victims, and individuals who have lost a loved one to homicide.

### **ITOR**

### Institute for Translational Oncology Research

Greenville Health System Clinical University Research Cluster

### Executive Update - 5 Major ITOR Pillars:

### **CLINICAL RESEARCH UNIT**

- With 39 active drug trials underway, ITOR's nationally prominent phase I clinical research unit continues to serve as a top site for multiple pharmaceutical partners to develop leading-edge cancer drugs.
- There are current trials available for Solid Tumors (including AMG 820, a First in Man Trial), Bladder, Breast, Colon, GI, Leukemia, Lung, Lymphoma, Melanoma, Multiple Myeloma, Myelodysplasia, Ovarian, Pancreas, Prostate, and Renal cancers.

#### **BIOREPOSITORY**

- With 4 full-time employees and a universal consent in place for all patients of GHS to have the option of donating excess tissue for research, ITOR's rapidly growing biorepository continues to make significant strides. It is a critical component of the GHS Clinical University's research infrastructure that helps attract pharmaceutical and biotechnology companies interested in developing the next generation of cancer therapies.
- Hundreds of tissue samples have been collected over the past year with rigorous guidelines for processing and clinically annotating frozen tissue, fresh tissue, and peripheral blood – including flash freezing in liquid nitrogen within 15 minutes of harvest to maximize cell viability for basic science research.
- A major Biorepository achievement over the past 6 months has been the introduction and full implementation of Freezerworks tissue sample management software.

### **CLINICAL GENOMICS CENTER**

- The Selah Clinical Genomics Center at ITOR represents the first advanced genetic test developed, validated, and employed in a clinical setting in South Carolina to empower oncologists to tailor specific treatment plans based on the particular molecular profile of each patient's cancer.
- A unique multiplex biomarker panel trademarked as *PrecisionPath* which addresses
  the paradigm-shifting redefinition of the classification of cancer has been
  collaboratively developed by Selah with clinical guidance from GHS oncologists. It is
  currently being utilized at GHS, with onsite molecular profiling available to GHS cancer
  patients, and is built on Life Technologies' new Ion Torrent Personal Genome Machine.
  To date, *PrecisionPath* has been performed on six common cancers: non-small cell lung
  cancer, breast cancer, colon cancer, ovarian cancer, pancreatic cancer and melanoma.

#### INNOVATION ZONE

- The ITOR Innovation Zone represents a unique physical convergence of clinicians, industry and academic researchers and is fostering multiple collaborative research initiatives, development of new diagnostic tools for cancer, and the early development of new cancer drugs. The Innovation Zone includes more than 20,000 square feet of world-class laboratory space, and provides a home to multiple private sector research collaborators (including Selah Genomics, KIYATEC, and NUBAD), GHS physician researchers, and faculty researchers from the University of South Carolina School of Medicine-Greenville and Clemson University. Utilization of the high demand space is approaching 90% with additional research tenants currently under development.
- Among the successful research projects that have been achieved by ITOR collaborators in recent months is KIYATEC's NCI contract to establish predictive 3D breast cancer models. The contract was awarded under the SBIR Program to establish patient-derived samples in real time to assist clinical decision-making.

#### RARE TUMOR CENTER

- On March 4<sup>th</sup>, 2014, ITOR's "5<sup>th</sup> Pillar" was announced with the launch of the ITOR Rare Tumor Center which represents the first such center in the US dedicated exclusively to the research and treatment of rare cancers (which affect one in five cancer patients).
- The announcement was highlighted by the formation of a strategic alliance with Bostonbased Foundation Medicine (that will co-sponsor a major research study at the Rare Tumor Center over the next 18-months), and a \$1 million dollar gift from local philanthropist, Jerry Dempsey.
- Through the unique partnership between GHS, Foundation Medicine, and Selah Genomics, patients will gain access to sophisticated genomic testing that may help determine relevant treatment options or clinical trials based on their unique molecular profiles.

### ITOR MONTHLY TREND REPORT FY14

	CRU Enrollment													
	FY13 Enrollment													FY14 Enrollment
Trial Sponsor	Total	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Independent	72	6	2	6	5	6	111		,					25
USO	4	2	1	2	2	3								10
Total Enrollment	76	8	3	8	7	9	0	0	0	0	0	0	0	35

CRU Referrals														
Referral Source	FY13 Referral Total	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	FY14 Referral Total
ITOR MDs	48	7	6	6	10	7								36
GHS Oncologists	93	12	5	5	14	6								42
Outside GHS	25	4	1	5	3	5								18
Total Referrals	166	23	12	16	27	18	0	0	0	0	0	0	0	96

				Bio	orepository F	Projects								
Overall Volume thru FY13	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	FY14 Total Volume	Overall Totals
467	38	65	NA	NA	NA								103	570
145	0	0	0	0	0								0	145
21	7	2	1	2	2								14	35
0	0	1	1	1	1								4	4
0	6	0	9	0	0								15	15
633	51	68	11	3	3	0	0	0	0	0	0	0	136	769
248	32	30											62	310
177	62	47	54	70	49								282	459
488	3	3	1	0	2								6	494
0	0	0	0	0	0								0	0
					On hold per Selah's request until									
	Volume thru FY13 467 145 21 0 0 633 248 177 488	Volume thru         FY13         Oct           467         38           145         0           21         7           0         0           6         633           51           248         32           177         62           488         3	Volume thru         Nov           467         38         65           145         0         0           21         7         2           0         0         1           0         6         0           633         51         68	Volume thru         Oct         Nov         Dec           467         38         65         NA           145         0         0         0           21         7         2         1           0         0         1         1           0         6         0         9           633         51         68         11           248         32         30         transit           177         62         47         54           488         3         3         1	Overall Volume thru FY13         Oct         Nov         Dec         Jan           467         38         65         NA         NA           145         0         0         0         0           21         7         2         1         2           0         0         1         1         1           0         6         0         9         0           633         51         68         11         3           tally on hold until data of transitioned to freeze           177         62         47         54         70           488         3         3         1         0	Overall Volume thru FY13         Oct         Nov         Dec         Jan         Feb           467         38         65         NA         NA         NA           145         0         0         0         0         0           21         7         2         1         2         2           0         0         1         1         1         1         1           0         6         0         9         0 <td>  Volume thru   FY13   Oct   Nov   Dec   Jan   Feb   Mar    </td> <td>Overall Volume thru FY13         Oct         Nov         Dec         Jan         Feb         Mar         Apr           467         38         65         NA         NA         NA         NA           145         0         0         0         0         0         0         0           21         7         2         1         2         2         0         <td< td=""><td>Overall Volume thru FY13         Oct         Nov         Dec         Jan         Feb         Mar         Apr         May           467         38         65         NA         NA</td><td>Overall Volume thru FY13         Oct         Nov         Dec         Jan         Feb         Mar         Apr         May         Jun           467         38         65         NA         NA</td><td>  Overall   Volume thru   FY13</td><td>  Overall   Volume thru   FY13</td><td>  Overall   Volume thru   FY13</td><td>  Overall   Volume thru   FY13   Oct   Nov   Dec   Jan   Feb   Mar   Apr   May   Jun   Jul   Aug   Sep   Volume    </td></td<></td>	Volume thru   FY13   Oct   Nov   Dec   Jan   Feb   Mar	Overall Volume thru FY13         Oct         Nov         Dec         Jan         Feb         Mar         Apr           467         38         65         NA         NA         NA         NA           145         0         0         0         0         0         0         0           21         7         2         1         2         2         0 <td< td=""><td>Overall Volume thru FY13         Oct         Nov         Dec         Jan         Feb         Mar         Apr         May           467         38         65         NA         NA</td><td>Overall Volume thru FY13         Oct         Nov         Dec         Jan         Feb         Mar         Apr         May         Jun           467         38         65         NA         NA</td><td>  Overall   Volume thru   FY13</td><td>  Overall   Volume thru   FY13</td><td>  Overall   Volume thru   FY13</td><td>  Overall   Volume thru   FY13   Oct   Nov   Dec   Jan   Feb   Mar   Apr   May   Jun   Jul   Aug   Sep   Volume    </td></td<>	Overall Volume thru FY13         Oct         Nov         Dec         Jan         Feb         Mar         Apr         May           467         38         65         NA         NA	Overall Volume thru FY13         Oct         Nov         Dec         Jan         Feb         Mar         Apr         May         Jun           467         38         65         NA         NA	Overall   Volume thru   FY13   Oct   Nov   Dec   Jan   Feb   Mar   Apr   May   Jun   Jul   Aug   Sep   Volume			

	ITOR Study Revenue													
	FY13 Total	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	FY14 Total
USO Trials	\$ 162,329.10	\$ 2,400.00	\$ 6,534.00	\$ -	\$ 8,947.00	\$ 16,360.00								\$ 34,241.00
Independent Trials	\$ 580,455.27	\$ 56,843.16	\$ 49,314.76	\$ 13,415.00	\$ 263,760.40	\$ 36,406.30								\$ 419,739.62
Biorepository Services	\$ 104,144.00	\$ 1,850.00	\$ -	\$ -	\$ 400.00	\$ 5,640.00								\$ 7,890.00
Total Revenue	\$ 846,928.37	\$ 61,093.16	\$ 55,848.76	\$ 13,415.00	\$ 273,107.40	\$ 58,406.30	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 461,870.62

10

20

PrecisionPath Specimen
Acquisition and Transfer

N/A

N/A

N/A

10

### **CUBEInC**

# **Clemson University Bioengineering Innovation Campus**

Greenville Health System Clinical University Research Cluster

### **Executive Update:**

### **CUBInC**

- Clemson University's Bioengineering Innovation Campus (CUBEInC), located on a 30,000+ sq ft floor on GHS' Patewood Memorial Campus in Greenville, SC, is recognized as one of the GHS Clinical University's four formally defined research clusters.
- CUBEInC shares space adjacent to GHS orthopaedic surgeons, the GHS Institute for Vascular Health, and the Orthopaedic Research Foundation of the Carolinas.
- CUBEInC provides a unique platform for the training of a highly qualified biomedical
  workforce of the future, and focuses on the development of clinically-driven technology
  and treatment methods, and health system optimizations practiced with an intent to
  assist clinicians for improved healthcare delivery.
- CUBEInC and Clemson University's Bioengineering Department represent a top technology pipeline for GHS – with multiple new technologies actively under development, and being patented, as a result of research collaborations and coinvention between Clemson researchers and GHS clinicians.
- Michael J. Gara was hired as CUBEInC's Director of Technology Development in 2013, bringing a wealth of experience to CUBEInC's mission of developing high-impact medical technologies and devices for disease management and the transfer of technologies from bench to bedside. Most recently, Mr. Gara was director at the Wallace H. Coulter Foundation, where he was involved in managing translational research programs in biomedical engineering at major universities across the US.
- Industry partners are invited to team-up with CUBEInC for the overarching purposes of education, innovation and development – and two (soon to be announced) private sector companies are currently finalizing sublease agreements with GHS and Clemson to occupy leading-edge incubator space within CUBEInC.

### **Recent Achievements**

(March 2014 Announcement) A cross-functional Clemson University/CUBEInC team was
recently named a finalist in a challenge to accelerate commercialization and spur
entrepreneurship, based on their business plan for an invention that provides a new
approach to tissue regeneration following breast cancer surgery. As a finalist, the
Clemson team has been given an opportunity to launch a start-up company, negotiate
licensing agreements and raise seed funding to further develop these NCI and Avon
Foundation grantee inventions. The cross-functional team included CUBEInC's
Technology Director, CU Bioengineering graduate students, CU Business Administration
students, a GHS surgical oncologist, and private sector company KIYATEC (a GHS-ITOR
research collaborator).

• (February 2014 Announcement) Clemson University/CUBEInC researchers have developed nanoparticles that can deliver drugs targeting damaged arteries, as a non-invasive method to fight heart disease. The researchers were led by CU bioengineering professor Naren Vyavahare, and the novel technology represents a promising step toward new treatments for cardiovascular and other diseases.

			CUBE INC (GHS/Cle	mson)
Name	Email address	Department	Area of Research Expertise	Brief Description of Scholarly Interests
Alexis, Frank	falexis@clemson.edu		Polymeric Nanoparticles, Targeting, Controlled Release	Biodegradable Polymers - Design and synthesize advanced polymers; Polymer-drug conjugates; High-throughput synthesis / Targeted Drug Delivery - Nanoparticle in the biological environment; therapeutic applications; Imaging applications / Nanoparticles - Hybrid nanoparticles; multifunctional nanoparticles
Benson, Lisa	lbenson@clemson.edu	Engineering and Science Education	Student Motivation, Engineering Problem Solving, Biomechanics	<u>Student Motivation</u> - Retention, major, and learning; Engineering problem solving; Assessment methods / <u>Active Learning</u> - classroom activity design; Tablet PCs; First-year engineering / <u>Human Motion</u> - Design, Quantification, Assessment
Black, Jonathan	black.jonathan1@gmail.com	A Founder of Our Field	Orthopaedic Research, Biological Performance of Implant Materials	Physical factors in cell-substrate interactions/Micromechanical behavior of tissue/Organometallic-implant corrosion products/Wear debris: production, biological sequelae/ Surgical implants: retrieval, analysis
Blob, Richard W.	<u>rblob@clemson.edu</u>	Biomechanics	Biomechanics, Locomotion, Bone, Biomaterials	<u>Skeletal loading in vertebrate locomotion</u> - Measurement: load and safety factors; Integrated video, forece-platform recordings / <u>Comparative mechanical properties</u> - Characterization: structure, material; Evaluation of skeletal safety factors; Comparisons: age, sex, and species / <u>Modeling musculoskeletal function</u> - Hypotheses of performance; Intractable systems: predicting performance; Diverse system components
Burg, Karen J.L.	kburg@clemson.edu	Cellular Biomaterials Education	Absorbable Polymers, Biofabrication, Tissue Engineering	Advanced Biomaterials - Tissue reconstruction: injectable composites; Tissue systems: polymeric materials; Complex materials for transition tissues / <u>Bioreactors</u> - Engineered tissue growth: modular systems; Units for coculture and drug discovery; Systems with biomechanical inputs / <u>Tissue Fabrication and Test Systems</u> - 3D engineered tissues for benchtop analysis; Biofabrication methods for 3D tissue; Orthopaedic, soft tissue, disease applications
Dean, Delphine	finou@clemson.edu	Biology from Nanonewtons to Microvolts	AFM, Multiscale, Modeling	Nano- and Micromechanics - Cardiovascular cell mechanics and interactions; Dental cell and tissue characterization; Characterizing small tissue samples / Nanoparticle-Cell Interactions- Evaluating the cytotoxicity of nanoparticles; Modulation of muscle-cell function; Stem cell differentiation and nanomaterials / Multiscale Modeling of Cells and Tissues - Modeling heterogeneity across length scales; Converting image data to model geometries
DesJardins, John	jdesjar@clemson.edu	Designing Orthopaedic Implants College of Engineering and	Total Joint Replacement, Orthopaedic Biomechanics Advanced Manufacturing	Total-Joint Replacement Design-Kinematic and kinetic performance; Biomaterials tribology, friction, and wear; Knee-joint anatomy and function / Translational Orthopaedic Research - Novel surgical techniques: quantifying effectiveness; Evaluating fracture-fixation design; Orthopaedic rehabilitation / Implant Retrieval Analysis-Implant design and material longevity; Designing new implant surfaces; Biomaterials surface characterization  Scientific visualization; Computational modeling; Advanced manufacturing techniques; Microstructural
Dooley, Larry R.  Figliola, Richard	dooley@clemson.edu	Science  Modeling Physiology	Techniques  Modeling, Simulation, Fontan	engineering of materials  Simulation with patient-specific anatomy- In vitro circuits of altered anatomy; Flow studies for geometry-flow interactions; Respiration and exercise on efficiency / Ventricular-arterial coupling mismatches - In vitro modeling of neoaortic reconstruction; Vascular property effects on ventricular efficiency; Validation of MRI and clinical measurements / Regulating congenital heart disease circulations - Novel valve solutions; Patient-specific in vitro validations; Numerical simulation of altered anatomy
Foulger, Stephen H.	foulger@clemson.edu	Optoelectronic Colloids	Colloid Synthesis, Nanostructured Materials	Applications of multifunctional nanoparticles- Protein inhibition: enhanced cancer-cell apoptosis;  Protein-activated fluoroprobes: imaging, therapy; Enzyme harvesting: rational design of ligands
Gao, Bruce Z.	zgao@clemson.edu	Imaging Cell Interactions	Optical Imaging, Microfabrication, Cell-ECM Interaction	Biophotonics-Coherence-based optical imaging; Nonlinear optics-based imaging; Laser tweezers, laser cell micropatterning / Microfabrication - Cell culture: engineered microenvironments; Lab-on-a chip cell and tissue culture; Microfluidics-based laser cell-sorting / Cell-cell and cell-ECM interactions - Cardiac-cell electrical, mechanical coupling; Microniche: Stem- and cancer-cells

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Guiseppi-Elie, Anthony	aguisep@clemson.edu	C3B Laboratories	Biosensors, Trauma, Wounds	Implantable bisensors for continuous monitoring - Bioelectrochemistry; Nanobio interfaces; Enzymenano conjugates / Physiologic status monitoring - Trauma and hemorrhagic shock; Molecular markers; Animal studies / Would healing - Programmed release of bioactive agents; Bioactive hydrogels; Animal studies
Harcum, Sarah	harcum@clemson.edu	Bioreactor control	Recombinant DNA, Bioreactor Control, Gene Expression	Gene Expression in Escherichia coli - Effects of protein solubility; Improving protein expression; Fedbatch protocols; Bioreactor control: process control / Chinese Hamster Ovary (CHO) Cell - Glycosylation quality; Protein aggregation prevention; Sequencing the genome of CHO cells / Biofuels Production - Using Saccharomyces bayanus; Oleaginous yeast: lipids for biodiesel
Harman, Melinda K.	harman2@clemson.edu	Medical Device Reprocessing	Orthopaedic-Implant Performance, Recycling, Reuse	Orthopaedic Implant Performance - Analyze retrieved implants, devices; Joint replacements: Preclinical testing, simulations; Bearing surfaces, bone-biomaterial interface / Innovation for Reprocessing, Reuse - Medical device designs: Optimizing for reprocessing; Reprocessing protocols: Verification, validation; Reusable technology for low-resource settings / Translational Orthopaedic Research - Implant registries, postmarketing surveillance; Musculoskeletal biomechanics, functional assessments; Novel surgical instruments, operative techniques
riarman, Memua K.	narmanz@cicmson.cdu	Wedical Device Reprocessing	l criormance, recycling, rease	Biomaterials Development: Commercial Clinical Outcomes / Absorbable Implants - Synthesis,
		Commercial Clinical	Biomaterials, Commercial	Manufacture and Quality Maintenance; High-risk surgical-implant candidates; Implant retrieval and
Hermes, Matthew	hermes@clemson.edu	Outcomes	Clinical Outcomes	evaluation; Presurgical patient-evaluation systems
Kwartowitz, David M.	robodoc@clemson.edu	Personalized Medicine	Image-Guided Surgery, Robotics, Medical Imaging	Image-Guided Surgery-Analysis of localization and tracking systems; visualization techniques; registration accuracy / Robotic-Assisted Surgery-Analysis of accuracy and precision; Integration of preand intra-operative data; New applications / Medical Imaging and Image Processing-Novel applications of medical imaging; Disease measurement and therapeutics
LaBerge, Martine	laberge@clemson.edu	Medical Tribology	Total Knee Implant, Tribology, Endovascular Stent	Orthopaedic Bearing Materials-Material synthesis and characterization; Total knee replacement friction, wear, and lubrication; Lubricant development for simulation and in vivo use / Endovascular Stent Restenosis - Implant design and modeling; Contact mechanics and tribology; In vitro experimentation and animal modeling / Vascular Smooth Muscle Response - Implant-contact experimental simulation
Latour, Robert	latourr@clemson.edu	Protein-Surface Interactions	Proteins, Adsorption, Simulation	Molecular Simulation Methods for Biomaterials - Force-field parameterization for protein adsorption simulation; Advanced sampling methods for large molecular systems; Biomaterials design at the atomic level / Molecular Structure of Adsorbed Proteins - Experimental methods to measure adsorbed protein structure - Orientation, Conformation, Bioactivity / Biomaterials Design to Control Cellular Response - Blood contact materials; Platelet adhesion and thrombogenicity
Lee, Jeoung Soo	<u>ljspia@clemson.edu</u>	Biomaterials for Drug/Gene Delivery	Target-Specific Polymeric Nanotherapeutics	Colon-specific bi-functional polymeric prodrug for treatment of amebiasis - Polymeric prodrug synthesis and characterization; Active drug release kinetics; Amebicidal activity and inhibition of parasite-host cell interaction / Neuron-specific polymeric nanotherapeutics for CNS regeneration-Neuronal targeting; Combinatorial drug/siRNA delivery; Axonal regeneration and functional recovery / Target-specific mixed polymeric micelle for metastatic breast cancer - Mixed polymeric micelle as drug/gene delivery carrier; Transfection efficiency, specificity, and cytotoxicity; Gene knockdown efficiency and biological activity
Mei, Ying	mei@clemson.edu	Biomaterials and Cell and Tissue Engineering	Biomaterials, Stem Cell/Tissue Engineering	Biomaterials-Combinatorial biomaterials development; Surface engineering of biomaterials; Smart biomaterials / Stem Cell Engineering - Cell reprogramming, Substrate-stem-cell interactions; Artificial stem cell niche / Tissue Engineering - 3D printing; stem cells for tissue engineering
Nagatomi, Jiro	inagato@clemson.edu	Cell Mechanics and Mechanobiology	Mechanotransduction, Tissue Engineering	Cellular mechanotransduction of hydrostatic pressure - Mechanosensitive ion channels of bladder urothelial cells; Intracellular signal transduction pathways; Bone-marrow stem cell differentiation under pressure / Mechanically guided urological tissue regeneration - Novel tissue engineering scaffold materials; Bioreactors for mechanical stimulation; Mechanical characterization of engineered tissue / Hydrogel-based smart tissue adhesive - Thermal crosslinking polymer; Mechanical properties tailored for urological organs; Drug-delivery for scar inhibition

Reukov, Vladimir	reukov@clemson.edu	Bioimaging, Nanoparticles	Imaging, Drug Delivery, Nanoparticles	Cell imaging by SPM - Bacteria recognition based on dynamic electromechanical response; Live cell band excitation piezo-response force microscopy; Electromechanical properties of cells / Enzyme-nanoparticles conjugates for drug delivery - Nasal delivery of anti-inflammatory agents; Cholesterol-lowering therapeutics during hyperlipidemia; Targeted delivery of free-radical scavengers through BBB / Fiber-based materials for diagnostic applications - Nanocoated fibers for self-diagnosis of bacterial vaginosis; Fast tests for viral infections (flu, HIV, etc.); Nanofibers for single cell analysis
Simionescu, Agneta	agneta@clemson.edu	Tissue Regeneration Laboratory	Translational Tissue Engineering	Diabetes-related modifications of biomaterials-Irreversible chemical modifications: collagen and elastin scaffolds; Cardiovascular biomaterial stiffness in diabetes; Diabetes-resistant scaffolds treated with antioxidant agents / Stem cells derived from diabetic subjects - Diabetic stem cell characterization and differentiation; Stem cell responses to biochemical, mechanical cues; Matrix remodeling in diabetic subjects / Microvascular network formation in diabetes - Proangiogenic peptide immobilization to 3D tissue constructs; Biomaterial-stiffness adjustment; Testing in diabetic animal models  Biomaterials: Cardiovascular and Orthopaedic Applications - Artificial heart valves, vascular grafts, myocardial patches; Engineered intervertebral disc components; Biocompatibility testing in vitro and
Simionescu, Dan	dsimion@clemson.edu	Tissue Regeneration Laboratory	Tissue Regeneration	in vivo / <u>Patient-Tailored Tissue Regeneration</u> - Tissue and organ 3D reconstruction; Human mesenchymal stem cells; Organ-specific bioreactors / <u>Tissue Engineering</u> - Biological scaffolds with controlled degradation; Cues for stem cell differentiation; Living heart valves, arteries, veins, heart muscle
			Biomolecule-Surface	Molecular Simulation Methods for Biomaterials - Force-field parameterization for protein adsorption simulation / Molecular Structure of Adsorbed Proteins - Molecular-modeling-simulation methods to determine adsorbed protein structure; Orientation; Conformation; Influence of protein-surface interaction on mechanism of enzyme catalysis / Computational Studies of Reactions Subject to
Snyder, James	jsnyde2@clemson.edu	Surface-Adsorption Studies  Bioengineering Leadership	Bioengineering Leadership,	<u>Confinement</u> - Reactions confined to a nanotube interior <u>Regenerative Medicine</u> - Stem cell sources and differentiation; Tissue and organ biofabrication; Engineering the vascular tree / <u>Bioengineering Leadership</u> - Clemson-MUSC Joint Bioengineering
Swaja, Richard is Retired  Vanden Berg-Foels, Wendy S.	swajar@musc.edu wendyvf@clemson.edu	and Regenerative Medicine  The Articular Surface	Cartilage Development, Remodeling, Regeneration	Program; South Carolina Bioengineering Alliance; South Carolina Centers of Economic Excellence  Cartilage development and remodeling - Cartilage-collagen netword characterization; Collagen network differences with age, among joints; Helium-ion microscopy / Mesenchymal Stromal Cells-Characterization local to the articular joint space; Signaling molecules: Induce in vivo tissue regeneration; In vitro, in vivo responses to signaling molecules / Cartilage regeneration - Biomaterials for controlled signaling molecule delivery; Temporal signal sequences for robust chondrogenesis in vivo; Characterization of regenerated tissue structure
Vertegal, Alexey	vertege@clemson.edu	Surface Bioengineering	Biosurface Engineering, Scanning Probe Microscopy	Nanoparticles for targeted drug delivery - Antioxidant nanoparticles for respiratory-tract protection; Thrombolytic nanodevices; Nanoparticles for neuroprotection; Antibacterial enzyme-nanoparticles conjugates / Fiber-based biosensors and biodevices - Biosensors for self-diagnosis of bacterial vaginosis; Biosensors embeddable in ordinary household items; Artificial proboscis for probing individual cells / Advanced scanning-probe-microscopy techniques - Mapping mechanical properties of cells and tissues; Bacterial recognition using piezoresponse force microscopy  Cardiovascular Calcification: Mechanisms, Therapies - Elastin degradation and stabilization; Prevention
Vyavahare, Naren	narenv@clemson.edu	Cardiovascular Disease Therapy	Extracellular Matrix, Heart Valve, Elastin	of enzyme activities; Suppression of bone proteins; Demineralization / <u>Aortic Aneurysms: Mechanisms, Therapies</u> - ECM stabilization, regeneration; Animal models; Site-specific delivery / <u>Heart-valve Implants</u> - Durable materials; Functional role of glycosaminoglycans in heart valves

Webb, Ken	kwebb@clemson.edu	Redirecting the Wound- Healing Process	Mechanotransduction, Extracellular-Matrix, Hydrogels	<u>Vibratory Mechanotransduction</u> - Extracellular-matrix metabolism; Cytokine expression; Activation of signaling pathways / <u>Scaffolds for Spinal Cord Regeneration</u> - Polymer fibers with micrometer-scale surface channels; Expression and immobilization of neural cell adhesion molecules; Controlled neurotrophin release / <u>Bioactive Tissue Adhesives</u> - Elastic hydrogels with variable degradation rates; <u>Localized</u> , sustained release of nonviral vectors
Yao, Hai	haiyao@clemson.edu	Cartilage Regeneration	Cartilage Mechanics, Tissue Engineering	<u>Cartilaginous Tissue Mechanics</u> - Constitutive modeling and numerical simulation; Structure-Function relationship: biomechanical characterization; Fluid and solute transport: tissue nutrition / <u>Cartilage-Cell Mechanobiology</u> - Single-cell mechanics: Characterization and modeling; effects of physical stimuli: mechanotransduction; Cartilage-cell energy metabolism / <u>Functional Imaging</u> - In vivo cartilaginous tissue imaging; Fluorescent imaging for solute transport; radiation dosimetry: Monte Carlo simulation
Zhang, Guigen	guigen@clemson.edu	Novel Biosensors: Nanoscience and Engineering	Biosensors, Micro/Nanotechnology, Multiphysics Modeling	Integrated structures and biosensors - Fabrication of nanostructures; Integration of nanostructures into microdevices; Development and evaluation of novel biosensors / Characterization of structures - Surface binding of peptides and proteins; Structural characterization of macromolecules / Modeling of multidisciplinary problems - Multiphysics, multiscale simulation of complex problems; Holistic, interdisciplinary approach to biomedical systems



# GREENVILLE HEALTH SYSTEM SCHOLARLY ACTIVITY: OCT 2012-SEPT 2013



# **CANCER INSTITUTE**

# PEER REVIEWED JOURNAL ARTICLES/ABSTRACTS

1. Fanning SR. Addressing ongoing challenges in the treatment of myeloma. Value-Based Care in Multiple Myeloma. 2013; (supp 3):5.

NON PEER REVIEWED JOURNAL ARTICLES/ABSTRACTS

**BOOK AND BOOK CHAPTERS** 

REGIONAL/NATIONAL PRESENTATIONS



# PEER REVIEWED JOURNAL ARTICLES/ABSTRACTS NON PEER REVIEWED JOURNAL ARTICLES/ABSTRACTS BOOK AND BOOK CHAPTERS REGIONAL/NATIONAL PRESENTATIONS



# PEER REVIEWED JOURNAL ARTICLES/ABSTRACTS NON PEER REVIEWED JOURNAL ARTICLES/ABSTRACTS BOOK AND BOOK CHAPTERS REGIONAL/NATIONAL PRESENTATIONS



### GHS DEPARTMENT OF FAMILY MEDICINE

### PEER REVIEWED JOURNAL ARTICLES/ABSTRACTS

1. Chaudhri A. Acne Keloidalis Nuchae. Consultant. 2013 May; 53(5):367.

## NON PEER REVIEWED JOURNAL ARTICLES/ABSTRACTS

### **BOOK AND BOOK CHAPTERS**

1. Konin JG, **Bryan ST**, Shimer A. Athletic Training and Sports Medicine: An Integrated Approach. 5th edition ed. Starkey C editor. Burlington, MA: American Academy of Orthopaedic Surgeons/Jones & Bartlett Learning; 2013. Cervical Spine Injuries; p.544-579.

# REGIONAL/NATIONAL PRESENTATIONS



### GHS DEPARTMENT OF INTERNAL MEDICINE

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- 1. Rubenstein DS, Weston LT, Kneller J, Wright C, Yin H. Safe extraction of riata looped extruding filler cables. J Cardiovasc Electrophysiol. 2013 Aug;24(8):942-6. doi: 10.1111/jce.12196. Epub 2013 Jul 9. PubMed PMID: 23837462.
- 2. Sizemore TC. Rheumatologic manifestations of histoplasmosis: a review. Rheumatol Int. 2013 Jul 9;PubMed PMID: 23835880.
- 3. Woody C, **Weber S**, Bruch J, Furmanek D, Scott V. Comparison of Premixed and Basal Bolus Insulin on the Risk of Hypoglycemia. Endocrine Practice. 2013;

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### **BOOK AND BOOK CHAPTERS**

### REGIONAL/NATIONAL PRESENTATIONS

Attachment 9

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# **GHS DEPARTMENT OF NEUROLOGY**

### PEER REVIEWED JOURNAL ARTICLES/ABSTRACTS

1. **Hughes MD, Wu J**, Williams TC, Loberger JM, **Hudson MF**, Burdine JR, **Wagner PJ**. The experience of headaches in health care workers: opportunity for care improvement. Headache. 2013 Jun;53(6):962-9. PubMed PMID: 23463958.

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### REGIONAL/NATIONAL PRESENTATIONS



### GHS DEPARTMENT OF NURSING

### PEER REVIEWED JOURNAL ARTICLES/ABSTRACTS

- 1. **Bethel SA, Seitz S, Landreth CO**, Gibson L, Whitcomb JJ. Energize staff to create a research agenda. Clin Nurse Spec. 2012 Sep-Oct;26(5):272-6. PubMed PMID: 22903207.
- 2. **Garner C, Bethel S**, Pruitt R. A community summit on enhancing the nursing student clinical experience. Nurse Leader. 2013; 11(4):57-61.
- 3. Johnson VD, Whitcomb J. Neuro/trauma intensive care unit nurses' perception of the use of the full outline of unresponsiveness score versus the Glasgow Coma Scale when assessing the neurological status of intensive care unit patients. Dimensions in Critical Care Nursing. 2013; 32(4).
- 4. **Moureau N**, Lamperti M, Kelly LJ, Dawson R, Elbarbary M, van Boxtel AJ, Pittiruti M. Evidence-based consensus on the insertion of central venous access devices: definition of minimal requirements for training. Br J Anaesth. 2013 Mar;110(3):347-56. PubMed PMID: 23361124.
- 5. **Moureau** N. <u>Safe patient care when using vascular access devices.</u> Br J Nurs. 2013 Jan 24-Feb 13;22(2):S14, S16, S18 passim. PubMed PMID: 23634458.
- 6. Olyarchuk LD, Willoughby D, Davis SC, Newsom SA. Examining the benefit of vaccinating adults against pertussis. J Am Acad Nurse Pract. 2012 Oct;24(10):587-94. PubMed PMID: 23006017.
- 7. **Seitz S**. Perspectives of a Clinical Nurse Specialist about improving the quality of nursing services. Quality Management Journal. 2013; 20(2):8-11.
- 8. **Taylor-Smith MA**. Coaching for organizational success. Healthc Exec. 2012 Sep-Oct;27(5):64-6. PubMed PMID: 22973798.
- 9. **Woods LW, Snow SW**. The impact of telehealth monitoring on acute care hospitalization rates and emergency department visit rates for patients using home health skilled nursing care. Home Healthc Nurse. 2013 Jan;31(1):39-45. PubMed PMID: 23238623.

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- 1. MacIntyre R, Niederhauser V, **Garner C**, Murray T, Teel C. Institute of Medicine Report, The Future of Nursing: Leading Change, Advancing Health. Washington DC: The National Academics Press; 2012. Transformational Partnerships in Nursing Education; p.404-408.
- 2. Wittman-Price R, Thompson BR, Sutton SM, **Eskew SR**. Nursing Concept Care Maps for Safe Patient Care. Philadelphia: FA Davis Company; 2012.

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### PEER REVIEWED JOURNAL ARTICLES/ABSTRACTS

- 1. Archer SL, **Roudebush WE**. Enhancement of sperm motility using pentoxifylline and platelet-activating factor. Methods Mol Biol. 2013;927:241-5. PubMed PMID: 22992918.
- 2. **Boone WR**, Johnson JE. Cleanroom alpha. J Clin Embryol. 2012; 15(2):30-1.
- 3. Butler JM, Johnson JE, **Boone WR**. The heat is on: room temperature affects laboratory equipment-an observational study. J Assist Reprod Genet. 2013 Aug 7;PubMed PMID: 23918464.
- 4. Canny GO, **Lessey BA**. The role of lipoxin A4 in endometrial biology and endometriosis. Mucosal Immunol. 2013 May;6(3):439-50. PubMed PMID: 23485944.
- 5. Craig AM, **Roudebush WE, Houwing A, Higdon HL, Boone WR**. Sperm head morphology (size and shape) and length-to-head ratios: An objective analysis for classification. American Association of Bioanalysts Conference & College of Reproductive Biology Symposium; 2013 May; Las Vegas, NV. 7; c2013.
- 6. **Forstein DA**, Bernardini C, Cole RE, Harris ST, Singer A. Before the breaking point: reducing the risk of osteoporotic fracture. J Am Osteopath Assoc. 2013 Feb;113(2 Suppl 1):S5-24; quiz S25. PubMed PMID: 23425935.
- 7. **Gill SE, Ruple SM,** Wolff CM, **Puls LE**. Simultaneous occurrence of well-differentiated papillary mesothelioma and endometrioid ovarian cancer: a case report. Gynecologic Oncology: Case Reports. 2013; 4:53-55.
- 8. **Gill SE**, Savage K, Wysham WZ, Blackhurst DW, Winter WE, **Puls LE**. Continuing routine cardiac surveillance in long-term use of pegylated liposomal doxorubicin: Is it necessary?. Gynecol Oncol. 2013 Jun;129(3):544-7. PubMed PMID: 23523653.
- 9. **Gill SE**, **Mills BB**. Physician opinions regarding bilateral salpingectomy with hysterectomy and for sterilization. J Minim Invasive Gynecol.. Forthcoming;
- 10. Harmanli O, **Wheeler TL**, Matteson KA, Abed H, Sung VW, Rahn DD, Schaffer JI, Uhlig K, Balk EM. Evidence-based recommendations for abnormal uterine bleeding: Hysterectomy versus alternative therapy. The Female Patient. 2012; 37:28-32.
- 11. Kaczmarczyk JM, Chuang A, Dugoff L, Abbott JF, Cullimore AJ, Dalrymple J, Davis KR, Hueppchen NA, Katz NT, **Nuthalapaty FS**, Pradhan A, Wolf A, Casey PM. e-Professionalism: a new frontier in medical education. Teach Learn Med. 2013;25(2):165-70. PubMed PMID: 23530680.



- 12. **Kolb KH, Picklesimer AH, Covington-Kolb S, Hines L**. Centering pregnancy electives: a case study in the shift toward student-centered learning in medical education. J S C Med Assoc. 2012 Aug;108(4):103-5. PubMed PMID: 23270104.
- 13. Korch C, Spillman MA, Jackson TA, Jacobsen BM, Murphy SK, **Lessey BA**, Jordan VC, Bradford AP. DNA profiling analysis of endometrial and ovarian cell lines reveals misidentification, redundancy and contamination. Gynecol Oncol. 2012 Oct;127 (1):241-8. PubMed PMID: 22710073; PubMed Central PMCID: PMC3432677.
- 14. **Lessey BA**. The pathologists are free to go, or are they?. Fertil Steril. 2013 Feb;99(2):350-1. PubMed PMID: 23246452.
- 15. **Lessey BA, Higdon HL III**, Miller SE, Price TA. Intraoperative detection of subtle endometriosis: a novel paradigm for detection and treatment of pelvic pain associated with the loss of peritoneal integrity. J Vis Exp. 2012 Dec 21;PubMed PMID: 23288271.
- 16. **Lessey BA**, Lebovic DI, Taylor RN. Eutopic endometrium in women with endometriosis: ground zero for the study of implantation defects. Semin Reprod Med. 2013 Mar;31(2):109-24. PubMed PMID: 23446858.
- 17. **Likes III CE**, Craig AM, **Johnson JE**, **Higdon III HL**, **Roudebush WE**, **Boone WR**. Predicting pregnancy potential using anti-mullerian hormone (AMH) and calculating an AMH reference point (Abstract). Fertil Steril. Forthcoming;
- 18. Matteson KA, Rahn DD, **Wheeler TL**, Casiano E, Siddiqui NY, Harvie HS, Mamik MM, Balk EM, Sung VW, for the Society of Gynecologic Surgeons Systematic Review Group. Nonsurgical Management of Heavy Menstrual Bleeding: A Systematic Review. Obstet Gynecol. 2013 Mar;121(3):632-643. PubMed PMID: 23635628.
- 19. **Nuthalapaty FS, Lee CM, Lee JH**, Kuper SG, **Higdon III HL**. A randomized controlled trial of early versus delayed skin staple removal following Cesarean delivery in the obese patient. J Obstet Gynaecol Can. 2013; 35(5):426-433.
- 20. **Roudebush WE**, Nethery RA, Heldreth T. Presence of anti-müllerian hormone in the squirrel monkey (Saimiri boliviensis): gender and seasonal differences. J Med Primatol. 2013 Feb;42(1):15-9. PubMed PMID: 23082826.
- 21. Seo JO, Shin JH, Kim TH, Lee HS, Y JY, A JY, Broaddus RR, Taketo MM, Lydon JP, Leach RE, **Lessey BA**, Fazleabas AT, Lim JM, Jeong JW. 'β-catenin activation contributes to the pathogenesis of adenomyosis through epithelial-mesenchymal transition. J Pathol. Forthcoming;
- 22. **Shrum KJ**, **Gill SE**, Thompson LK, Blackhurst DW, **Puls LE**. New-Onset Congestive Heart Failure With Gemcitabine in Ovarian and Other Solid Cancers. Am J Clin Oncol. 2013 Jan 24;PubMed PMID: 23357971.

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- **1. Roudebush WE**. How to optimize your IUI pregnancy outcomes without a sperm wash additive. Proceedings of the American Association of Bioanalyst's Educational Conference and College of Reproductive Biology Symposium, Las Vegas, NV, 2013:51-59.
- **2. Roudebush WE**, Callihan CP, Hamilton M, See AG, Reuben JS. Effect of drugs and homeopathic remedies on semen parameters. Proceedings of the American Association of Bioanalyst's Educational Conference and College of Reproductive Biology Symposium, Las Vegas, NV, 2013:61-74.

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- 1. **Picklesimer AH**, Dorman K. High Risk and Critical Care Obstetrics. Troiano N, Harvey C, Chez B, editors. Philadelphia: Lippincott Williams and Wilkins; 2012. Maternal Obesity: Effects on Pregnancy; p.357-70.
- 2. **Street LM, Patel B, Roudebush WE**. Intra-Uterine Insemination: Evidence Based Guidelines for Daily Practice. Cohlen B, Ombelet W, editors. United Kingdom: Taylor & Francis/CRC Press; 2013. Platelet activating factor improves sperm motility and intrauterine insemination pregnancy outcomes.

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- 1. **Boone WR**, Butler JM, Walker MW, Johnson JE. The heat is on: Room temperature affects laboratory equipment. AAB Conference and CRB Symposium. Las Vegas, Nevada. May 2013.
- 2. **Boone WR**, Motes LT, Qiao H, **Higdon III HL**, Bridges WC, **Shoultz JD**. The hunt for a method to predict pregnancy outcome based on spermatozoal parameters A continuing saga. AAB Conference and CRB Symposium. Las Vegas, Nevada. May 2013.
- 3. **Boone WR**, Motes LT, Qiao H, **Higdon III HL**, Bridges WC, **Shoultz JD**. The hunt for a method to predict pregnancy outcome based on spermatozoal parameters- a continuing saga. Bulletin of the South Carolina Academy of Science. 2013; 75.
- 4. **Boone WR**, Vernon DD, Johnson JE, Houwing AM, **Higdon III HL**. The use of Accu-Beads as a quality control for the computer automated semen analyzer. AAB Conference and CRB Symposium. Las Vegas, Nevada. May 2013.
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- 7. **Boone WR**, Walker MW, Butler JM, **Higdon III HL**. Temperature variations within and between incubators. Bulletin of the South Carolina Academy of Science. 2013; 75.
- 8. **Boone WR**, Eller LE, **Forstein DA**, **Higdon III HL**. Embryo transfer (ET) factors affecting clinical pregnancy rates: a univariate analysis. Bulletin of the South Carolina Academy of Science. 2013; 75.
- 9. Craig AM, **Roudebush WE**, Houwing A, **Higdon III HL**, **Boone WR**. Sperm head morphology (size and shape) and length-to-width ratios: An objective analysis for classification. AAB Conference and CRB Symposium. Las Vegas, Nevada. May 2013.
- 10. Das K, Matthews MA, **Higdon III HL**, Jolley M, Jolley J, **Forstein DA**. The Effect of a Review Course on American Board of Obstetrics and Gynecology Exam Results. 2013 CREOG &APGO Annual Meeting. Phoenix, Arizona. February 27-March 2, 2013.
- 11. **Forstein DA**: "Menopause and Hormone Therapy" Grand Rounds, Michigan State University College of Osteopathic Medicine. East Lansing, Michigan. April 18, 2013.
- 12. **Garris JB**: "What's New in the Treatment of Urinary Incontinence?" 57th Annual Greenville Postgraduate Seminar. Greenville, South Carolina. April 19, 2013.
- 13. **Gill SE**, Savage K, Wysham W, Winter W, **Puls LE**. Continuing routine cardiac surveillance in long-term use of pegylated liposomal doxorubicin: Is it necessary? Poster presented at the SGO 18th Winter Meeting. Avon, Colorado. February 2013.
- 14. Hale N, **Picklesimer AH**, Billings D. "The effect of CenteringPregnancy group prenatal care on enrollment in the post-partum family planning Medicaid waiver program." Poster Presentation, Society for Maternal-Fetal Medicine Annual 33<sup>nd</sup> Annual Meeting in San Francisco, California, February 2013.
- 15. **Illston JD, Garris JB, Morris MM, Wheeler TL**. A Single Surgeon's Experience with Prolift and Patient Perception of Pain. 33<sup>rd</sup> Annual American Urogynecologic Society Meeting. Chicago, Illinois. October 5, 2012.
- 16. **Illston JD, Garris JB, Morris MM, Wheeler TL**. A Single Surgeon's Experience with Prolift and Patient Perception of Pain. Carolina Women's Health Research Forum. Columbia, South Carolina. November 2, 2012.
- 17. **Lessey BA,** Nagarkatti M, Zhou J, Young SL, Adur MK, Nowak RA. Peripheral and local cytokines including IL-8, IL-9 and IL-17 are elevated in endometriosis: an in vivo and in vitro analysis before and after surgery suggests a mechanism for endometrial dysfunction. 68th Annual Meeting ASRM. San Diego, California. October 20-24, 2012.



- 18. **Nuthalapaty FS**: "Take Your Curriculum to the Cloud" Association of Professors of Obstetrics & Gynecology Faculty Development Seminar. Maui, Hawaii. January 2013.
- 19. **Nuthalapaty FS,** Patel P, Wiper DW. Patient Recall of Surgeon Identity following Cesarean in a Residency Clinical Practice Setting. APGO/CREOG Annual Meeting. Phoenix, Arizona. February 2013.
- 20. **Nuthalapaty FS**: "Improving Clinical Teaching: Moving from Evaluation to Assessment." APGO/CREOG Annual Meeting. Phoenix, Arizona. February 2013.
- 21. **Nuthalapaty FS**: "How to Navigate the Residency Selection Process" Life Skills Institute. Christian Medical Dental Association's National Convention. Ridgecrest, North Carolina. May 2013.
- 22. **Picklesimer AH.** Centering Pregnancy: Improving the standard of care with an innovative, evidence-based approach. North Carolina and South Carolina Perinatal Assoc 19th Annual Perinatal Partnership Conference. Myrtle Beach, South Carolina. October 1, 2012.
- 23. **Picklesimer AH.** Update on gestational diabetes. American Assoc of Birth Centers 6<sup>th</sup> Annual Birth Institute. St. Pete Beach, Florida. October 5, 2012.
- 24. **Picklesimer AH.** Update on gestational diabetes. Upper Piedmont Assoc of Diabetic Educators 25<sup>th</sup> Annual Conference. Greenville, South Carolina. November 1, 2012.
- 25. **Roudebush WE** "The Bovine Anti-Müllerian Hormone Assay: Assay Selection, Specifics and Utility", International Embryo Transfer Society, St. Augustine, Florida. October 2012.



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- 1. Bries AD, Pill SG, Wade Krause FR, **Kissenberth MJ, Hawkins RJ**. Accuracy of obtaining optimal base plate declination in reverse shoulder arthroplasty. J Shoulder Elbow Surg. 2012 Dec;21(12):1770-5. PubMed PMID: 22554877.
- 2. Bush CA, **Hawkins RJ**. Prevention of complications in shoulder arthroplasty: understanding options and critical steps. Instr Course Lect. 2013;62:115-33. PubMed PMID: 23395019.
- 3. Davids JR, **Gibson TW**, Pugh LI, Hardin JW. Proximal femoral geometry before and after varus rotational osteotomy in children with cerebral palsy and neuromuscular hip dysplasia. J Pediatr Orthop. 2013 Mar;33(2):182-9. PubMed PMID: 23389574.
- 4. Hart ND, Clark JC, Wade Krause FR, **Kissenberth MJ**, Bragg WE, **Hawkins RJ**. Glenoid screw position in the Encore Reverse Shoulder Prosthesis: an anatomic dissection study of screw relationship to surrounding structures. J Shoulder Elbow Surg. 2013 Jun;22(6):814-20. PubMed PMID: 23158042.
- 5. **Jackson LT, Schaller TM**. Surgery for Morton Neuroma. 2012 November 09.
- 6. **Jeray KJ**. Femoral neck fractures: Should we cement the implants?. JBJS Orthop Highlights: Trauma. 2013 February; 3(2):e5.
- 7. **Jeray KJ**. Pin Care: What should we be doing?. JBJS Orthop Highlights: Trauma. 2013 January 02; 3(1):e4.
- 8. **Jeray KJ**. Is there an optimal time to consider dynamizing femoral shaft fractures?. JBJS Orthop Highlights: Trauma. 2012 November 21; 2(11):e7.
- 9. **Jeray KJ**. Increased incidence of operatively treated humeral shaft fractures in Finland. JBJS Orthop Highlights: Trauma. 2012 November 21; 2(11):e10.
- 10. **Jeray KJ**. How often are injuries missed in trauma patients? JBJS Orthop Highlights: Trauma. 2012 October 17; 2(10):e7.
- 11. Lee AT, Williams AA, **Lee J**, Cheng R, Lindsey DP, Ladd AL. Trapezium trabecular morphology in carpometacarpal arthritis. J Hand Surg Am. 2013 Feb;38(2):309-15. PubMed PMID: 23267754.
- 12. Nunez L, **Broome CB, Pace TB**, Harman M. Treatment for wear and osteolysis in well fixed uncemented TKR. ISRN Orthopedics. 2013; Article ID 398298(6 pages).



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- 14. Pace TB, Rusaw KA, Minette LJ, Shirley BR, Snider RG, Desjardins JD. Metal-on-Metal Hip Retrieval Analysis: A Case Report. Case Rep Orthop. 2013;2013:398973. PubMed PMID: 23840999; PubMed Central PMCID: PMC3690678.
- 15. **Pappas ND**, Hall DC, Lee DH. Prevalence of labral tears in the elderly. J Shoulder Elbow Surg. 2013 Jun;22(6):e11-5. PubMed PMID: 23237722.
- 16. Phillips JC, Cook C, Beaty S, **Kissenberth MJ**, **Siffri P**, **Hawkins RJ**. Validity of noncontrast magnetic resonance imaging in diagnosing superior labrum anterior-posterior tears. J Shoulder Elbow Surg. 2013 Jan;22(1):3-8. PubMed PMID: 22938789.
- 17. Pill SG, Phillips J, **Kissenberth MJ, Hawkins RJ**. Decision making in massive rotator cuff tears. Instr Course Lect. 2012;61:97-111. PubMed PMID: 22301225.
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- 19. Rulewicz GJ, Beaty S, **Hawkins RJ, Kissenberth MJ**. Supraspinatus atrophy as a predictor of rotator cuff tear size: an MRI study utilizing the tangent sign. J Shoulder Elbow Surg. 2013 Jun;22(6):e6-e10. PubMed PMID: 23352548.
- 20. Schemitsch EH, Bhandari M, Guyatt G, Sanders DW, Swiontkowski M, Tornetta P, Walter SD, Zdero R, Goslings JC, Teague D, Jeray K, McKee MD, Study to Prospectively Evaluate Reamed Intramedullary Nails in Patients with Tibial Fractures (SPRINT) Investigators. Prognostic factors for predicting outcomes after intramedullary nailing of the tibia. J Bone Joint Surg Am. 2012 Oct 3;94(19):1786-93. PubMed PMID: 23032589; PubMed Central PMCID: PMC3448300.
- 21. Sperling JW, **Hawkins RJ**, Walch G, Zuckerman JD. Complications in total shoulder arthroplasty. J Bone Joint Surg Am. 2013 Mar 20;95(6):563-9. PubMed PMID: 23553257.
- 22. SPRINT Investigators, Bhandari M, Tornetta P 3rd, Rampersad SA, Sprague S, Heels-Ansdell D, Sanders DW, Schemitsch EH, Swiontkowski M, Walter S. (Collaborator: **Jeray K**). (Sample) size matters! An examination of sample size from the SPRINT trial study to prospectively evaluate reamed intramedullary nails in patients with tibial fractures. J Orthop Trauma. 2013 Apr;27(4):183-8. PubMed PMID: 23525086; PubMed Central PMCID: PMC3510324.
- 23. To P, Atkinson CT, Lee DH, **Pappas ND**. The most cited articles in hand surgery over the past 20-plus years: a modern-day reading list. J Hand Surg Am. 2013 May;38(5):983-7. PubMed PMID: 23561722.



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**Adams JD, Tanner SL, Jeray KJ**. Angle Stable Locking Screws Reduce Incidence of Malalignment in Distal Tibia Fractures Treated with Intramedullary Nails . American Academy of Orthopaedic Surgeons. Chicago, IL. March 18-23, 2013. (Poster)



### GHS DEPARTMENT OF PAEDIATRICS

### PEER REVIEWED JOURNAL ARTICLES/ABSTRACTS

- 1. Bauserman MS, Laughon MM, Hornik CP, Smith PB, Benjamin DK Jr, **Clark RH**, Engmann C, Cohen-Wolkowiez M. Group B Streptococcus and Escherichia coli infections in the intensive care nursery in the era of intrapartum antibiotic prophylaxis. Pediatr Infect Dis J. 2013 Mar;32(3):208-12. PubMed PMID: 23011013; PubMed Central PMCID: PMC3572304.
- 2. Bhatia EG, **Markowitz JE**. Anemia in a 17-year-old Hispanic girl. Clin Gastroenterol Hepatol. 2013 Aug;11(8):A24. PubMed PMID: 23036891.
- 3. Downey LC, Benjamin DK Jr, **Clark RH**, Watt KM, Hornik CP, Laughon MM, Cohen-Wolkowiez M, Smith PB. Urinary tract infection concordance with positive blood and cerebrospinal fluid cultures in the neonatal intensive care unit. J Perinatol. 2013 Apr;33(4):302-6. PubMed PMID: 22935772; PubMed Central PMCID: PMC3549035.
- 4. **Eison TM**, Kane O, Santos ND. Thrombosis and Nephrotic Syndrome in Children. Current Pediatric Reviews. 2013 August; 9(3):186-194.
- 5. Fairchild KD, Schelonka RL, Kaufman DA, Carlo WA, Kattwinkel J, Porcelli PJ, Navarrete CT, Bancalari E, Aschner JL, **Walker MW**, Perez JA, Palmer C, Lake DE, O'Shea TM, Moorman JR. Septicemia mortality reduction in neonates in a heart rate characteristics monitoring trial. Pediatr Res. 2013 Aug 13;PubMed PMID: 23942558.
- 6. Karacolak T, **Moreland EC**, Topsakal E. Cole-cole model for glucose-dependent dielectric properties of blood plasma for continuous glucose monitoring. Microwave and Optical Technology Letters. 2013 May; 55(5):1160-1164.
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# **GHS DEPARTMENT OF RADIOLOGY**

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# **USCSOMG: BIOMEDICAL SCIENCES FACULTY**

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