

MINUTES
MEDICAL UNIVERSITY OF SOUTH CAROLINA
BOARD OF TRUSTEES MEETING
February 14, 2014

The Board of Trustees of the Medical University of South Carolina convened Friday, February 14, 2014, with the following members present: Thomas L. Stephenson, Esquire, Chairman; Dr. James E. Wiseman, Jr., Vice Chairman; Dr. Stanley C. Baker, Jr.; The Honorable James A. Battle; Mr. William H. Bingham, Sr.; Mr. William B. Hewitt; Dr. Harold W. Jablon; Dr. Donald R. Johnson II; Dr. E. Conyers O'Bryan, Jr.; Dr. Thomas C. Rowland, Jr.; Mr. Charles W. Schulze; The Honorable Robin M. Tallon; Dr. G. Murrell Smith, Sr.; Mr. Michael E. Stavrinakis. Absent: Ms. Barbara Johnson-Williams; Dr. Ragin C. Monteith; Dr. Charles B. Thomas, Jr. (excused).

The following administrative officials were present: Dr. Mark Sothmann, Interim President and Vice President for Academic Affairs and Provost; Dr. Etta Pisano, Vice President for Medical Affairs, and Dean, College of Medicine; Ms. Lisa Montgomery, Executive Vice President for Finance and Operations; Dr. Pat Cawley, Vice President for Clinical Operations and Executive Director, MUHA; Dr. Frank Clark, Vice President for Information Technology and CIO; Mr. Jim Fisher, Vice President for Development.

Item 1. Call to Order.

There being a quorum present, Chairman Stephenson called the meeting to order.

Item 2. Secretary to Report Date of Next Meeting.

The date of the next regularly scheduled meeting is Friday, April 11, 2014.

Item 3. Approval of Minutes of the Regular Meeting of the Medical University of South Carolina Board of Trustees of December 13, 2013.

Board Action: It was moved that the Minutes be approved. The motion was seconded, voted on and unanimously carried.

RECOMMENDATIONS AND INFORMATIONAL REPORTS OF THE PRESIDENT.

OLD BUSINESS: None.

NEW BUSINESS:

Item 4. General Informational Report of the President.

Dr. Sothmann said the University been spending a lot of time over the past months talking about strategic discussions with regard to the presidential search and collaboration. He wanted to highlight that the University has been making incredible progress in a number of other areas such as the passage of the Industrial Relations Policy which has been two years in the making; a team has been recruited in bio-medical informatics which will be critical for the submission for the renewal of MUSC's CTSA; Hollings Cancer Center had a very successful review for the renewal of its NCI designation; MUSC has a newly formed Department of Public Health and a chair has been recruited. One of the initiatives that has been on-going for the past three years is the University's Strategic Plan. Dr. Betsy Pilcher from the CODM has

been leading the way on the development of the plan and will provide an update on the progress of the plan.

Dr. Pilcher said the real work has been done by the implementation team. The plan was approved by MUSC's Board in August 2010. She reviewed the accomplishments and challenges of the four goals of the plan.

At the conclusion of her presentation, Dr. Sothmann thanked Dr. Pilcher for her leadership of the Strategic Plan as well as all the deans and faculty senate for supporting and implementing the plan.

Item 5. Other Business. None.

RESEARCH AND INSTITUTIONAL ADVANCEMENT COMMITTEE. CHAIRMAN: DR. CHARLES B. THOMAS, JR. (Detailed Committee Minutes Are Attached To These Minutes)

OLD BUSINESS: None.

NEW BUSINESS:

Item 6. General Report of the Associate Provost for Research.

Statement: Report provided to committee

Recommendation of Administration: That this report be received as information.

Recommendation of Committee: That this report be received as information.

Board Action: Received as information.

Item 7. General Report of the Vice President for Development.

Statement: Report provided to committee.

Recommendation of Administration: That this report be received as information.

Recommendation of Committee: That this report be received as information.

Board Action: Received as information.

Item 8. General Report of the CEO of the MUSC Foundation.

Statement: Report provided to committee.

Recommendation of Administration: That this report be received as information.

Recommendation of Committee: That this report be received as information.

Board Action: Received as information.

Item 9. General Report of the CEO of the MUSC Foundation for Research Development.

Statement: Report provided to committee.

Recommendation of Administration: That this report be received as information.

Recommendation of Committee: That this report be received as information.

Board Action: Received as information.

Item 10. Other Business. None

EDUCATION, FACULTY AND STUDENT AFFAIRS COMMITTEE. CHAIRMAN: DR. E. CONYERS O'BRYAN, JR. (Detailed Committee Minutes Are Attached To These Minutes)

OLD BUSINESS: None.

NEW BUSINESS:

Item 11. General Report of the Vice President for Academic Affairs and Provost.

Statement: Dr. O'Bryan provided the following information from the committee meeting:

Student Government Association

Stephen Thompson, SGA Vice President for Student Programs, updated the committee on upcoming student activities and events.

College Updates

Dean Gail Stuart informed the Committee that the MUSC College of Nursing ranked 17th in NIH funding among U.S. colleges of nursing. According to U.S. News & World Report, our online graduate nursing program ranked second in the country. There was further discussion regarding the DNP enrollment success. The College also has plans to reinstate the RN to BSN in upcoming months.

Dean Etta Pisano gave a brief presentation on the College of Medicine's medical student debt; success in fulfilling the 2010 Research Strategic Plan goals; and updates on the Dermatology and Regenerative Medicine Chair searches.

Recommendation of Administration: That the reports be received as information.

Recommendation of Committee: That the reports be received as information.

Board Action: Report received as information.

Item 12. Other Committee Business.

Faculty Appointments

Statement: At the request of the Deans of the College of Dental Medicine and Medicine, administration presented for approval, the following faculty appointments:

College of Medicine

Donald L. Courtney, M.D., as Clinical Associate Professor, in the Department of Medicine, Division of General Internal Medicine, retroactive to December 1, 2012

Alan B. Glassberg, M.D., as Adjunct Professor, in the Department of Medicine, Division of Hematology/Oncology, effective January 1, 2014

Daniel A. Handel, M.D., M.P.H., M.A.S., (dual appointment) as Associate Professor on the Clinical Educator track, in the Department of Medicine, Division of Emergency Medicine, with a dual appointment as Associate Professor in the Department of Pediatrics, Division of Pediatric Emergency Medicine, effective March 1, 2014

Dr. Handel also will serve as the Executive Medical Director and Chief Medical Officer of the Medical University Hospital Authority (MUHA)

College of Dental Medicine

Amy Brock Martin, D.Ph., MSPH, as Adjunct Associate Professor in the Department of Oral Health Sciences, effective February 1, 2014

Recommendation of Administration: That the faculty appointments be approved.

Recommendation of Committee: That the faculty appointments be approved.

Board Action: A motion was made, seconded and unanimously voted to approve the faculty appointments

Changes in Faculty Status

Statement: At the request of the Dean of the College of Dental Medicine, administration presented for approval, the following change in faculty status:

J. Robert Holmes, D.D.S., M.S., M.Ed., from Professor to Professor Emeritus in the Department of Oral Rehabilitation, effective February 1, 2014

Recommendation of Administration: That the changes in faculty status be approved.

Recommendation of Committee: That the changes in faculty status be approved.

Board Action: A motion was made, seconded and unanimously voted to approve the changes in faculty status.

Item 13. MUSC/MUHA Industry Relations Policy (Consent Item).

Statement: Administration present for approval the MUSC/MUHA Industry Relations Policy, effective February 14, 2014.

Recommendation of Administration: That the MUSC/MUHA Industry Relations Policy be approved.

Recommendation of Committee: That the MUSC/MUHA Industry Relations Policy be approved.

Board Action: A motion was made, seconded and unanimously voted to approve the MUSC/MUHA Industry Relations Policy.

Item 14. Degree Programs (Consent Item).

Statement: At the request of the Deans of the colleges of Graduate Studies and Medicine, administration presented for approval the following degree programs, effective February 14, 2014:

Master of Science in Medical Sciences Program Planning Summary
Ph.D. in Biomedical Imaging Full Proposal

Recommendation of Administration: That these degree programs be approved.

Recommendation of Committee: That these degree programs be approved.

Board Action: A motion was made, seconded and unanimously voted to approve the degree programs as presented.

Item 15. Faculty Appointments (Consent Item).

Statement: At the request of the Deans of the colleges of Dental Medicine, Medicine and Nursing the following faculty appointments:

College of Medicine

Steven L. Carroll, M.D., Ph.D., as Professor with tenure, on the Academic Clinician track, in the Department of Pathology and Laboratory Medicine, effective February 15, 2014

Dr. Carroll also will serve as Chair of the Department of Pathology and Laboratory Medicine.

Gerard T. Hardiman, Ph.D., as Professor, on the Academic Investigator track, in the Department of Medicine, Division of Nephrology, effective February 1, 2014

Dr. Hardiman also will serve as Director of the Informatics Core in the College of Medicine Center for Genomic Medicine.

Johann Herberth, M.D., Ph.D., M.P.H., as Clinical Associate Professor, in the Department of Medicine, Division of Nephrology, effective December 1, 2013

College of Nursing

Ronald E. Acierno, Ph.D., as Professor with tenure, in the Department of Nursing, effective January 2, 2014

Dr. Acierno also will hold the position of Associate Dean for Research in the College of Nursing. His secondary appointment will be housed in the Department of Psychiatry and Behavioral Sciences in the College of Medicine.

Recommendation of Administration: That these faculty appointments be approved.

Recommendation of Committee: That these faculty appointments be approved.

Board Action: A motion was made, seconded and unanimously voted to approve the faculty appointments.

Item 16. Change in Faculty Status (Consent Item).

Statement: At the request of the Deans of the colleges of Health Professions and Medicine, administration presented the following requests for changes in faculty status:

College of Health Professions

David R. Graber, Ph.D., from Associate Professor to Adjunct Associate Professor, in the Department of Healthcare Leadership and Management, effective January 1, 2014

College of Medicine

Maria G. Buse, M.D., from Distinguished University Professor to Distinguished University Professor Emerita, in the Department of Medicine, Division of Endocrinology, effective February 1, 2014

Robert Mallin, M.D., from Professor to Clinical Professor, in the Department of Family Medicine, effective January 1, 2014

Recommendation of Administration: That these changes in faculty status be approved.

Recommendation of Committee: That these changes in faculty status be approved.

Board Action: A motion was made, seconded and unanimously voted to approve the changes in faculty status.

Item 17. Distinguished University Professor (Consent Item).

Statement: At the request of the Dean of the College of Medicine, administration presented for approval, the following recommendation for designation as Distinguished University Professor, effective February 14, 2014:

David W. Ploth, M.D., Department of Medicine, Division of Nephrology

Recommendation of Administration: That Dr. David W. Ploth be designated as Distinguished University Professor.

Recommendation of Committee: That Dr. David W. Plot be designated as Distinguished University Professor

Board Action: A motion was made, seconded and unanimously voted to approve the designation of Dr. David Ploth as Distinguished University Professor.

Item 18. Institutional Conflict of Interest Report (Consent Agenda).

Statement: Administration presented, as information, the Institutional Conflict of Interest Report Summary:

Recommendation of Administration: That the Institutional Conflict of Interest Report Summary be received as information.

Recommendation of Committee: That the Institutional Conflict of Interest Report Summary be received as information.

Board Action: Received as information.

**FINANCE AND ADMINISTRATION COMMITTEE. CHAIRMAN: MR. CHARLES W. SCHULZE.
(Detailed Committee Minutes Are Attached To These Minutes)**

OLD BUSINESS: None.

NEW BUSINESS:

Item 19. General Report of the Executive Vice President for Finance and Operations.

Statement: Report deferred to April meeting.

Recommendation of Administration: That the report be received as information.

Recommendation of Committee: That the report be received as information.

Board Action: Received as information.

Item 20. Financial Status Report of the Medical University of South Carolina.

Statement: Mr. Schulze stated the financial report had been presented in committee.

Recommendation of Administration: That the report be received as information.

Recommendation of Committee: That the report be received as information.

Board Action: Received as information.

Item 21. Financial Status Report of MUSC Physicians.

Statement: Mr. Schulze stated the financial report had been presented to the committee.

Recommendation of Administration: That the report be received as information.

Recommendation of Committee: That the report be received as information.

Board Action: Received as information.

Item 22. Other Committee Business. None

Item 23. Financial Status Report of the MUSC Foundation for Research Development (Consent Item).

Statement Mr. Schulze noted that the MUSC FRD financials were included in the agenda for information.

Recommendation of Administration: That the report be received as information.

Recommendation of Committee: That the report be received as information.

Board Action: Received as information.

UNIVERSITY PHYSICAL FACILITIES COMMITTEE. CHAIRMAN: MR. WILLIAM H. BINGHAM, SR. (Detailed Committee Minutes Are Attached To These Minutes)

OLD BUSINESS: None.

NEW BUSINESS:

Item 24. Facilities Procurements/Contracts Proposed.

Statement: Mr. Bingham presented the following items for approval:

- Project Scope Change: BSB East Side Exhaust and Emergency Power Improvements. Funds to be redirected: \$900,000.
- New Project: BSB 5th floor Dental Medicine Office and Lab Renovations. Total estimated budget: \$800,000.
- Budget Adjustments: (1) Thurmond/Gazes Research Building Tower Pump & Piping Reconfiguration (2) Waring Library HVAC System Replacement. Funds re-directed: \$350,000.
- Project Scope Changes: College of Health Professions Research Building Install of VAV System with Hot Water Reheat. Funds Re-directed: \$350,000.

Recommendation of Administration: That these procurements/contracts be approved.

Recommendation of Committee: That these procurements/contracts be approved.

Board Action: A motion was made, seconded and unanimously voted to approve the procurements/contracts as presented.

Item 25. Update on Projects.

Statement: None.

Recommendation of Administration: That this be received as information.

Recommendation of Committee: That this be received as information.

Board Action: The report was received as information.

Item 26. Other Committee Business.

Mr. Bingham stated there will be a selection by the April meeting for the architects for the Children's and Women's hospital. If anyone would like to serve on that selection committee, let him know.

Item 27. Facilities Contracts Awarded (Consent Item).

Statement: The facilities contracts awarded since the last meeting were presented for information.

Recommendation of Administration: That the report be received as information.

Recommendation of Committee: That the report be received as information.

Board Action: Received as information.

OLD BUSINESS: None

NEW BUSINESS:

Item 28. Legal Update.

Statement: No report given.

Recommendation of Administration: That this be received as information.

Recommendation of Committee: That this be received as information.

Board Action: Received as information.

Item 29. Compliance Updates.

Statement: Mr. Hewitt stated a report had been received from Ms. Reece Smith on the compliance update. There was a very interesting discussion about the RAC Audits and the fact that MUSC has about \$8 million in pending appeals and there is a national backlog of about 460,000 of these cases to be heard by an administrative law judge.

Recommendation of Administration: That this report be received as information.

Recommendation of Committee: That this be received as information.

Board Action: Received as information.

Item 30. Report of the Office of Internal Audit.

Statement: Mr. Hewitt stated a report had been received from the Internal Auditor and since there were no questions or suggestions the report would be received as information.

Recommendation of Administration: That this report be received as information.

Recommendation of Committee: That this be received as information.

Board Action: Received as information.

Item 31. Audit Committee Self-Assessment.

Statement: Mr. Hewitt stated he had presented information on the Audit Committee's Annual Self-Assessment to committee and noted there were three areas that needed some work.

Recommendation of Administration: That this report be received as information.

Recommendation of Committee: That this be received as information.

Board Action: Received as information.

Item 32. External Auditor Evaluation.

Statement: Mr. Hewitt stated he has presented information on the survey results of KPMG's performance of the FY13 audit and the responses had been favorable.

Recommendation of Administration: That this report be received as information.

Recommendation of Committee: That this be received as information.

Board Action: Received as information.

Item 33. Other Committee Business. None

OTHER BUSINESS FOR THE BOARD OF TRUSTEES:

Item 34. Approval of Consent Agenda.

Statement: Approval of the University Consent Agenda was requested.

Recommendation of Administration: That the consent agenda be approved.

Board Action: It was moved, seconded and unanimously voted that the consent agenda be approved.

Item 35. New Business for the Board of Trustees.

Statement: Mr. Stephenson asked the Board to reaffirm the approval of the following resolution:

RESOLUTION OF THE MUSC BOARD OF TRUSTEES
REGARDING MERGER WITH THE COLLEGE
OF CHARLESTON

WHEREAS, the MUSC Board of Trustees (the "Board") has studied the possibility of merger with the College of Charleston; and

WHEREAS, the MUSC Board of Trustees believes such a merger is inadvisable;

IT IS RESOLVED AS FOLLOWS:

1. The Board concurs with the findings of the "White Paper" developed under the auspices the Charleston Metro Chamber of Commerce on the question of merging MUSC and the College of Charleston. The White Paper was developed by a committee, which included six representatives from the College of Charleston and six representatives of MUSC. It concluded that collaboration between MUSC and the College of Charleston will have a positive effect on the Charleston economy. (page 2) The Board agrees with collaboration but believes a formal merger is not advisable.
2. As stated in the White Paper, "a formal relationship between the two institutions should be synergistic, cost effective, and supportive of economic development in the region." (page 2) The White Paper points out that a merger would involve no synergy because there are no areas of overlapping academic programs or competition for students. (page 6) It further finds that there is no potential for cost savings such as personnel reductions. (page 10) Additionally, the White Paper concludes that a formal merger would result in the creation of more joint degree programs, resulting in additional faculty and staff with the consequent need for significant additional funding. (page 10).
3. The total financial impact of such a merger upon MUSC, the College of Charleston, and the state is unknown, but would be significant. The Board suggests that the financial implications to both institutions and to the state should be the starting point of any further deliberations regarding a proposed merger. Equally important to MUSC are issues, which could cause unknown financial impact to its clinical operations and hospital, which are critical to its mission as the State's only true academic health center. Questions concerning degree offerings and accompanying accreditations at both institutions must also be thoroughly evaluated.
4. MUSC is in the process of selecting a new President and CEO. MUSC is also in the early stages of attempting to build a new children's and women's hospital. This is a critical juncture for the future of the institution. A drastic change at this time in MUSC's status as a result of a merger would adversely affect efforts to identify a new strong and effective leader and finance a new hospital.
5. The Board of Trustees and staff of MUSC support the goal of expanding undergraduate and graduate degree offerings to enhance economic development in the Charleston region. MUSC concurs with the White Paper statement that the "many benefits of a stronger collaboration between the two institutions are obvious," (page 7) and reiterates its commitment to participating in such a collaborative effort.

Dated this 14th day of February 2014.

Board Action: It was moved, seconded and voted, with one abstention by Mr. Stavrinakis, that the resolution be approved.

Item 36. Report from the Chairman.

Dr. Wiseman asked Dean Sanders to give update on his recent trip to Saudi Arabia. The Saudi government has asked the CODM to consider training some Saudi dental students at MUSC. Dean Sanders said MUSC has agreed to bring a select number of people here for fellowships. They are willing to pay about \$100,000 per year per person for this training. Their resources seem to be unlimited.

Dr. Conyers O'Bryan asked that it be put in the minutes that the board appreciates Chairman Stephenson's outstanding leadership in the current deliberations on collaboration. The board concurred.

Chairman Stephenson provided an update on the presidential search. All of the candidates are to apply by March 5. Their names and information will be put on a website and the search committee will review that information and shortlist to about 10-12 names. Those people will be interviewed at the Charlotte airport. From those names, the plan is to find three candidates to bring back to the board for interview and consideration. Hopefully the successful candidate will be identified by May.

Only those board members on the search committee will have access to the search committee website. It is critical that the information remains confidential.

Chairman Stephenson noted that he had received word that Dr. Thomas' house had been broken into last night; therefore, his absence from the meeting was excused.

Dr. Sothmann said the Dr. John Seffrin, CEO of the American Cancer Society, would be the Commencement speaker in May. MUSC receives about \$4 million a year from the Society.

There being no further business, the meeting of the University Board of Trustees was adjourned.

Respectfully submitted,



Hugh B. Faulkner III
Secretary

EDUCATION, FACULTY AND STUDENT AFFAIRS COMMITTEE. CHAIRMAN: DR. CONYERS O'BRYAN
February 14, 2014

REGULAR AGENDA

Item 11. General Report of the Vice President for Academic Affairs

Statement: A general report was given by Dr. Darlene Shaw.

Student Government Association

Stephen Thompson, SGA Vice President for Student Programs, updated the committee on upcoming student activities and events.

College Updates

Dean Gail Stuart informed the Committee that the MUSC College of Nursing ranked 17th in NIH funding among U.S. colleges of nursing. According to U.S. News & World Report, our online graduate nursing program ranked second in the country. There was further discussion regarding the DNP enrollment success. The College also has plans to reinstate the RN to BSN in upcoming months.

Dean Etta Pisano gave a brief presentation on the College of Medicine's medical student debt; success in fulfilling the 2010 Research Strategic Plan goals; and updates on the Dermatology and Regenerative Medicine Chair searches.

Regular and Consent Agendas

All items on the regular, addendum, and consent agendas were recommended for approval.

Recommendation of Administration: That this report be received as information.

Recommendation of Committee: that this report be received as information

Board Action:

Item 12. Other Committee Business

A. Item 15. Faculty Appointments

Statement: At the request of the Deans of the College of Dental Medicine and Medicine, administration presented for approval, the following faculty appointments:

College of Medicine

Donald L. Courtney, M.D., as Clinical Associate Professor, in the Department of Medicine, Division of General Internal Medicine, retroactive to December 1, 2012

Alan B. Glassberg, M.D., as Adjunct Professor, in the Department of Medicine, Division of Hematology/Oncology, effective January 1, 2014

Daniel A. Handel, M.D., M.P.H., M.A.S., (dual appointment) as Associate Professor on the Clinical Educator track, in the Department of Medicine, Division of Emergency Medicine, with a dual appointment as Associate Professor in the Department of Pediatrics, Division of Pediatric Emergency Medicine, effective March 1, 2014

Dr. Handel also will serve as the Executive Medical Director and Chief Medical Officer of the Medical University Hospital Authority (MUHA)

College of Dental Medicine

Amy Brock Martin, DrPH, MSPH, as Adjunct Associate Professor in the Department of Oral Health Sciences, effective February 1, 2014

B. Item 16. Changes in Faculty Status

Statement: At the request of the Dean of the College of Dental Medicine, administration presented for approval, the following change in faculty status:

J. Robert Holmes, D.D.S., M.S., M.Ed., from Professor to Professor Emeritus in the Department of Oral Rehabilitation, effective February 1, 2014

EDUCATION, FACULTY AND STUDENT AFFAIRS COMMITTEE. CHAIRMAN: DR. CONYERS O'BRYAN
February 14, 2014

CONSENT AGENDA

Item 13. MUSC/MUHA Industry Relations Policy

Statement: Administration present for approval the MUSC/MUHA Industry Relations Policy, effective February 14, 2014

Recommendation of Administration: That the MUSC/MUHA Industry Relations Policy be approved.

Recommendation of Committee: That the MUSC/MUHA Industry Relations Policy be approved.

Board Action:

Item 14. Degree Programs

Statement: At the request of the Deans of the colleges of Graduate Studies and Medicine, administration presented for approval the following degree programs, effective February 14, 2014:

Master of Science in Medical Sciences Program Planning Summary
Ph.D. in Biomedical Imaging Full Proposal

Recommendation of Administration: That these degree programs be approved.

Recommendation of Committee: That these degree programs be approved.

Board Action:

Item 15. Faculty Appointments

Statement: At the request of the Deans of the colleges of Dental Medicine, Medicine and Nursing the following faculty appointments:

College of Medicine

Steven L. Carroll, M.D., Ph.D., as Professor with tenure, on the Academic Clinician track, in the Department of Pathology and Laboratory Medicine, effective February 15, 2014

Dr. Carroll also will serve as Chair of the Department of Pathology and Laboratory Medicine.

Gerard T. Hardiman, Ph.D., as Professor, on the Academic Investigator track, in the Department of Medicine, Division of Nephrology, effective February 1, 2014

Dr. Hardiman also will serve as Director of the Informatics Core in the College of Medicine Center for Genomic Medicine.

Johann Herberth, M.D., Ph.D., M.P.H., as Clinical Associate Professor, in the Department of Medicine, Division of Nephrology, effective December 1, 2013

College of Nursing

Ronald E. Acierno, Ph.D., as Professor with tenure, in the Department of Nursing, effective January 2, 2014

Dr. Acierno also will hold the position of Associate Dean for Research in the College of Nursing. His secondary appointment will be housed in the Department of Psychiatry and Behavioral Sciences in the College of Medicine.

Recommendation of Administration: That these faculty appointments be approved.

Recommendation of Committee: That these faculty appointments be approved.

Board Action:

Item 16. Changes in Faculty Status

Statement: At the request of the Deans of the colleges of Health Professions and Medicine, administration presented the following requests for changes in faculty status:

College of Health Professions

David R. Graber, Ph.D., from Associate Professor to Adjunct Associate Professor, in the Department of Healthcare Leadership and Management, effective January 1, 2014

College of Medicine

Maria G. Buse, M.D., from Distinguished University Professor to Distinguished University Professor Emerita, in the Department of Medicine, Division of Endocrinology, effective February 1, 2014

Robert Mallin, M.D., from Professor to Clinical Professor, in the Department of Family Medicine, effective January 1, 2014

Recommendation of Administration: That these changes in faculty status be approved.

Recommendation of Committee: That these changes in faculty status be approved

Board Action:

Item 17. Distinguished University Professor

Statement: At the request of the Dean of the College of Medicine, administration presented for approval, the following recommendation for designation as Distinguished University Professor, effective February 14, 2014:

David W. Ploth, M.D., Department of Medicine, Division of Nephrology

Recommendation of Administration: That Dr. David W. Ploth be designated as Distinguished University Professor.

Recommendation of Committee: That Dr. David W. Plot be designated as Distinguished University Professor

Board Action:

INFORMATIONAL ITEM

Item 18. Institutional Conflict of Interest Report

Statement: Administration presented, as information, the Institutional Conflict of Interest Report Summary:

Recommendation of Administration: That the Institutional Conflict of Interest Report Summary be received as information.

Recommendation of Committee: That the Institutional Conflict of Interest Report Summary be received as information.

Board Action:

Medical University of South Carolina

RESEARCH AND INSTITUTIONAL ADVANCEMENT COMMITTEE

MINUTES

February 13, 2014

Committee Members Present: Dr. Charles B. Thomas, Jr. (Chair), Dr. Harold W. Jablon, Dr. Thomas C. Rowland, Jr., The Honorable Robin Tallon, Dr. James E. Wiseman, Jr.

Other Trustees Present: Dr. Stanley C. Baker, Mr. James A. Battle, Mr. William H. Bingham, Sr., Dr. Coty Fishburne (Emeritus), Mr. William B. Hewitt, Dr. Donald R. Johnson, Dr. Conyers O'Bryan, Jr., Mr. Charles W. Schulze, Dr. G. Murrell Smith, Sr., Thomas L. Stephenson, Esq., Mr. Michael E. Stravrinakis

University Officers and Committee Staff Present: Mr. Tom Anderson, Dr. Pat Cawley, Mr. Jim Fisher, Dr. Stephen Lanier, Ms. Lisa Montgomery, Dr. Etta Pisano, Mr. Michael Rusnak, Dr. Darlene Shaw, Dr. Mark Sothmann, Dr. Joann Sullivan

Meeting Time: 10:45-11:00 am

Regular Agenda

Item 6. General Report of the Associate Provost for Research

Dr. Stephen Lanier reported on the MUSC/MUHA Industry Relations Policy, which is contained in the Agenda material. The purpose of this policy is to establish guidelines for University-Industry relationships to ensure that individuals who work for MUSC interact with industry knowing the rules of the University and State that govern such interactions. Dr. Lanier introduced Dr. Bruce Elliott from the Department of Surgery who chaired the University Conflict of Interest Committee, and Ms. Mary Evelyn Armstrong, MUSC's Conflict of Interest Officer. Dr. Elliott described the process and tasks of the committee to formulate the final policy, which has been reviewed and approved by the Deans Council and Faculty Senate. The final approval of the MUSC/MUHA Industry Relations Policy is a consent agenda item under the Education, Faculty and Student Affairs Committee for Board of Trustees approval on February 14, 2014.

Recommendation of Administration: That the report be received as information.

Recommendation of Committee: That the report be received as information.

Board Action:

Item 7. General Report of the Vice President for Development

Mr. Jim Fisher reported on new gifts and pledges received through February 11th amounting to \$40.9 million, which tracks very well with results from last fiscal year. He also reported about \$21 million in outstanding verbal commitments, which his development team is working to close over the next few months.

Mr. Fisher summarized a few of the key accomplishments. A couple from California pledged \$500,000 to establish an endowment fund in support of the Department of Otolaryngology's Clinical Research Program. A gift of \$100,000 was received from a Class of 1949 alumnus to establish a new scholarship in the College of Medicine; the alumnus indicated that he will provide additional major support through his estate plans. The Estate of Harry Tetrick, who was a maintenance supervisor at MUSC from 1960 through 1979, will provide an endowment of at least \$200,000 for the benefit of dental students. Mr. Tetrick is remembered by many as being extraordinarily dedicated to the success of the dental students during his tenure here. A practicing ophthalmologist and his wife from Simpsonville pledged \$100,000 to the College of Dental Medicine's Clinical Education Center Building Fund to name both pediatric recovery rooms in the Pediatric Dentistry Clinic. The couple is appreciative to dental school alumni,

Dr. Gordon Bray and Dr. April Czarsty, for serving as guest speakers lecturing about careers in healthcare while both of their sons were at Clemson University. The College of Nursing received a scholarship gift of \$100,000 from the Robert Wood Johnson Foundation.

Mr. Fisher also reported that the MUSC Hollings Cancer Center received a pledge of \$1.2 million from a grateful patient in support an endowed chair. The Abney Foundation, based in Anderson, SC, made a \$250,000 gift in support of the Abney Foundation Emerging Scholars Program. The Donaldson Charitable Trust based in New York made a gift of \$115,000 to support our cancer research efforts. The Children's Hospital Fund received an anonymous gift of \$550,000 for the expansion of The Center for Children's Wellness. The Litwin Foundation of New York made a \$195,000 gift designated for Alzheimer's Disease research.

Mr. Fisher noted that both the College of Medicine and the James B. Edwards College of Dental Medicine have upcoming reunions. He also provided an update on the recruitment of an Executive Director of Alumni Affairs, noting that two candidates have been invited to campus and it is hoped that the position will be filled within the next 3 months.

Mr. Fisher noted that the next meeting of the MUSC Board of Visitors has been scheduled for May 2, 2014, which is two weeks prior to the May meeting of the Board of Trustees.

Recommendation of Administration: That the report be received as information.

Recommendation of Committee: That the report be received as information.

Board Action:

Item 8. General Report of the CEO of the MUSC Foundation

Mr. Tom Anderson reported on the investment returns as of 12/31/13. He noted the impressive five-year annualized return of 11.5%, which exceeds our allocation benchmark, and that total assets increased by \$55.5 million or 12.8% for the trailing 12 months to a record \$488.6 million.

Mr. Anderson welcomed the appointment of two Board of Trustees members to the Foundation Board. The Honorable James A. Battle, Jr. from Nichols, SC and the Honorable Robin M. Tallon from Florence, SC join Mr. William H. Bingham as the three Board of Trustees members on the Foundation Board.

Recommendation of Administration: That this report be received as information.

Recommendation of Committee: That this report be received as information.

Board Action:

Item 9. General Report of the Executive Director of the MUSC Foundation for Research Development

Mr. Michael Rusnak, Executive Director of the MUSC Foundation for Research Development, reported on recent FRD activities including the FRD Strategic Plan. He noted that the number of inventions has tripled in recent years, and that they are now reviewing special resources or assets that MUSC offers. An example is the Cell Growth & Therapy Unit where four MBA students from the Citadel are writing a business plan for maximizing the use of this cGMP-approved facility.

COMMITTEE ON FINANCE AND ADMINISTRATION
February 13, 2014
Minutes

Board Members Attending:

Mr. Charles W. Schulze, Chair
Dr. Stanley C. Baker, Jr.
Mr. James A. Battle
Mr. William H. Bingham, Sr.
Mr. William B. Hewitt
Dr. Harold Jablon
Dr. Donald R. Johnson II
Dr. E. Conyers O'Bryan, Jr.
Dr. Thomas C. Rowland, Jr.
Dr. G. Murrell Smith, Sr.
Mr. Michael E. Stavrinakis
Thomas L. Stephenson, Esquire
The Honorable Robin M. Tallon
Dr. Charles B. Thomas, Jr.
Dr. James E. Wiseman, Jr.

Mr. Schulze called the meeting to order.

REGULAR Items

Item 19 General Report of the Executive Vice President for Finance and Operations.

Ms. Lisa Montgomery stated, in the interest of time, she would defer her until the April meeting.

Recommendation of Committee: Received as information.

Item 20 Financial Status Report of the Medical University of South Carolina.

Mr. Patrick Wamsley presented a Financial Dashboard which represented important points from the December 31, 2013 Interim University Financials. He reported that at December 31 the University had 96 Days of Operating Cash and a Change in Net Position of \$10.9 million. He also reported a Current Funds margin of 3.89%. Mr. Wamsley explained that while Federal ARRA grant funding was winding down, non-ARRA grant funding had been stable and even slightly increasing.

Recommendation of Committee: That the report be received as information.

Item 21 Financial Status Report of MUSC Physicians.

Ms. Gina Ramsey reported MUSC Physicians has experienced strong operating results for the first six months of Fiscal Year 2014. Gross charges are \$42.6 million over the prior year to date. Collections are \$9.5 million over the prior year to date.

Recommendation of Committee: That this report be received as information.

Item 22 Other Committee Business. None.

CONSENT AGENDA

Item 23 Financial Status Report of the MUSC Foundation for Research Development

Mr. Schulze stated the MUSC Foundation for Research Development financials had been included in the agenda for information.

Recommendation of Committee: That this report be received as information

There being no further business, the meeting was adjourned.

Respectfully submitted,

Celeste Jordan

**Medical University of South Carolina
Physical Facilities Committee
February 13, 2014
Minutes**

Board Members Attending:

Mr. William H. Bingham, Sr., Chair
Dr. Stanley C. Baker, Jr.
Mr. James A. Battle
Mr. William B. Hewitt
Dr. Harold Jablon
Dr. Donald R. Johnson II
Dr. E. Conyers O'Bryan, Jr.
Dr. Thomas C. Rowland, Jr.
Mr. Charles W. Schulze
Dr. G. Murrell Smith, Sr.
Mr. Michael E. Stavrinakis
Thomas L. Stephenson, Esquire
The Honorable Robin M. Tallon
Dr. Charles B. Thomas, Jr.
Dr. James E. Wiseman, Jr.

Mr. Bingham called the meeting to order.

REGULAR Items

Item 24 Facilities Procurements/Contracts Proposed.

Mr. Bingham asked for approval of the following:

- Project Scope Change: BSB Ease Side Exhaust and Emergency Power Improvements. Funds to be redirected: \$900,000.
- New Project: BSB 5th floor Dental Medicine Office and Lab Renovations. Total estimated budget: \$800,000.
- Budget Adjustments: (1) Thurmond/Gazes Research Building Tower Pump & Piping Reconfiguration (2) Waring Library HVAC System Replacement. Funds re-directed: \$350,000.
- Project Scope Changes: College of Health Professions Research Building Install of VAV System with Hot Water Reheat. Funds Re-directed: \$350,000.

Recommendation of Committee: The procurements/contacts be approved as presented.

Item 25 Update on Projects.

None.

Recommendation of Committee: The procurements/contacts be approved as presented.

Item 26 Other Committee Business .

Mr. Greg Weigle stated that the University had recently had a selection process for firms to provide civil and structural engineering services under an indefinite delivery contract. Drs. Wiseman and Rowland served on the selection committee and selected the following two firms:

- Forsberg Engineering and Survey, Inc., Charleston, SC
- Thomas & Hutton Engineering Company, Mt. Pleasant, SC

Recommendation of Committee: Received as information.

CONSENT Items for Information:

Item 27 Facilities Contracts Awarded.

The facilities contracts since the last board meeting were presented for information.

Recommendation of Committee: That this report be received as information.

With no further business, the meeting was adjourned.

Respectfully submitted,

Celeste Jordan

**Medical University of South Carolina
Audit Committee
February 13, 2014
Minutes**

Board Members Attending:

Mr. William B. Hewitt, Chair
Dr. Stanley C. Baker, Jr.
Mr. James A. Battle
Mr. William H. Bingham, Sr.
Dr. Harold Jablon
Dr. Donald R. Johnson II
Dr. E. Conyers O'Bryan, Jr.
Dr. Thomas C. Rowland, Jr.
Dr. G. Murrell Smith, Sr.
Mr. Michael E. Stavrinakis
Mr. Charles W. Schulze
Thomas L. Stephenson, Esquire
The Honorable Robin M. Tallon
Dr. Charles B. Thomas, Jr.
Dr. James E. Wiseman, Jr.

Mr. Hewitt called the meeting to order.

REGULAR Items

Item 28 Legal Update.

No report.

Recommendation of Committee: That the report be received as information.

Item 29 Compliance Updates.

None

Recommendation of Committee: That the report be received as information.

Item 30 Report of the Internal Auditor.

Mr. Hewitt stated Ms. Susan Barnhart, Director of Internal Audit had distributed a written report and if there were no questions, the report would be received as information.

Recommendation of Committee: That the report be received as information.

Item 31 Audit Committee Self Assessment.

Mr. Hewitt presented information on the audit committee's annual self-assessment. He noted there were three areas that needed some work.

Recommendation of Committee: That the report be received as information.

Item 32 **External Auditor Evaluation.**

Mr. Hewitt presented information on the survey results of KPMG's performance of the FY13 financial statement audit. He stated he had received 9 responses and almost every response had been very favorable.

Recommendation of Committee: That the report be received as information.

Item 33 **Other Committee Business.**

None.

Respectfully Submitted,

Celeste Jordan

Program Planning Summary
Medical University of South Carolina, College of Graduate Studies
Master of Science in Medical Sciences
February 15, 2014

Mark S. Sothmann, Interim President and Provost
Medical University of South Carolina

Contact Information – Program Co-Directors

Laura Kasman, PhD
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**Program Planning Summary
Master of Science in Medical Sciences
Medical University of South Carolina**

Program Classification

Program Name:	Master of Science in Medical Sciences
Program Type:	New program
Academic Unit:	College of Graduate Studies
Program Concentration:	Health sciences with medical and dental school tracks
Program Level and Duration:	Master's Degree, One year (three semesters)
Date of Implementation:	Spring 2015
Scholarship Information:	Graduate level - does not qualify for supplemental Palmetto Fellows Scholarship or LIFE Scholarship awards
Delivery Mode:	Face-to-face on MUSC campus with the exception of 1-2 online courses
Number of Credit Hours:	minimum of 33

Justification

The Master of Science in Medical Sciences is proposed to give students seeking acceptance into professional schools (MD, DMD, e.g.) a structured, intensive program to increase their competitiveness. Each year professional schools must turn away many highly qualified students for a limited number of seats. Many of these students seek to reapply and are interested in pursuing opportunities to become better qualified, either through coursework or preparation for standardized tests. The Master of Science in Medical Sciences is a new program, but was piloted by the successful Certificate Program in Biomedical Sciences offered through the College of Graduate Studies. In its first two years the certificate program had 8 students matriculate per year and all students successfully completed the program the first year it was offered. Seven of the students in the first matriculating class were accepted into medical school and all are currently first year medical students at MUSC. At this point we seek to offer a master's program that will accomplish many of the same goals, but will lessen the financial burden on the students by allowing them to be considered for financial aid. In addition, we propose adding additional coursework that will further prepare the students for the rigors of the academic programs they will be entering. Students successfully completing this program should be well prepared to perform in any health sciences professional program and also will be academically prepared to enter industrial or academic technical positions requiring a biomedical sciences background. In addition, added coursework in clinical trials coordination will offer these students the opportunity to be employed as research/clinical coordinators in doctor's offices and hospital settings.

Curriculum

The proposed curriculum for the Master of Science in Medical Sciences will require a minimum of 33 credit hours over three consecutive semesters. The curriculum is outlined in the following table:

Summer Semester (10 weeks)	Fall Semester (15 weeks)	Spring Semester (15 weeks)
BSC 700 Online Histology 4 credits (Ogilvie/Sawyer)	BSC 712 Biochemistry 3 credits (Palanisamy)	BSC 714 Oral Immunobiology (Westwater) 4 credits

BSC 704 standardized test preparation 3 credits (Wright/ Kasman/ student SIs)	BSC 702 Anatomy (Bacro) 4 credits	BSC 716 Medical Microbiology (Schmidt/Kasman) 4 credits
BSC 706 Professional Development (Wright/Kasman) 1 credit	CGS 700 Biostatistics (Martin) 4 credits	MSCR 724 Introduction to Clinical Trials (King) 3 credits
BSC 708 Grand Rounds (Halushka) 1 credit		
CCRT Core Clinical Research Training (online or classroom, offered several times per year) 2 credits	Electives	Electives
Total of 11 credits	Total of 11-15 credits	Total of 11-15 credits

With the exception of histology, all courses are taught face-to-face on the MUSC campus. The CCRT is a course offered several times per year through our South Carolina Clinical and Translational Research Institute (SCTR) and offers training in clinical trials ethics, research misconduct, and informed consent procedures. BSC courses 704, 706, 708 and 702 were developed specifically for this program and contain only the students in this program, giving them intensive time with the course instructors. BSC 712, 716 and 714 are sections of courses offered to MUSC's dental students and the Master of Science in Medical Sciences students will take the courses alongside the dental students. This offers them the unique opportunity to interact with other health professions students and to experience the coursework similarly to how it will be offered once they enter a professional school program. Additionally, elective courses are available. Suitable electives include PCOL 625 (Physiology), HAP 635 (The Language of Medicine), HAP 704 (Health Policy), PROS 901 (Introduction to Dentistry – for students entering dental programs), IP 704 (Smiles for Life), and IP 732 (History of Health Sciences), CGS 710 (Essentials of Scientific Practice), CGS 711 (Diversity in Science), and a clinical experience called A Month in the Research Nexus where students would get hands-on experience in running and developing clinical research projects.

Overlap with current MUSC programs

The College of Graduate Studies offers research-intensive, departmentally based master's programs that have been one resource for students seeking additional preparation. A number of applicants each year enter the master's programs with the goal of pursuing professional school upon graduation. However, the master's programs as currently structured are not the ideal solution for these students. Most of the programs entail significant research time and a limited amount of coursework and take 2-3 years to finish. Thus, they do not offer the structured, intensive preparation these students are seeking. The current Certificate in Biomedical Sciences program, which was established to address this issue, will no longer be offered once the Master of Science in Medical Sciences program is inaugurated.

Overlap with other programs in the state

A variety of other schools in South Carolina offer MS degrees in biological/biomedical sciences, however most of these are two year degrees requiring a thesis. Clemson University does offer a one-year MS degree in Biological Sciences and Microbiology. However, this program is offered

online only and is focused on improving the skills of K-12 teachers. The College of Charleston offers MS degrees focused on environmental studies, teaching and education, and the arts and so our proposed program does not duplicate these efforts. USC Columbia offers MS degrees in Biological Sciences and Biomedical Sciences, but again, these are multi-year, research degrees. Claflin University offers a MS in Biotechnology, which is focused in forensics, plant biotechnology and biostatistics and so is not similar at all to our proposed program. The Citadel offers MS programs in computer science and sports science so our program is again very distinct from this. Winthrop University offers MS degrees in Biology, Psychology and Nutrition, which do not have the health sciences focus of our program. Finally, Coastal Carolina offers a MS degree, but it is focused in marine and environmental studies.

Anticipated Enrollment and Productivity

We have now had two years of enrollment experience with our Certificate in Biomedical Sciences program, which we anticipate has much the same applicant pool as the proposed Master of Science in Medical Sciences. Without officially advertising the program we had 16 applicants the first year and 21 applicants the second year. We have now developed a web site and begun to advertise through mailings and a presence on other websites (AAMC for example). We have had many inquiries into the program in the past few months and anticipate that our applications will continue to increase each year. Considering instructor load and class size, we can accommodate 15-20 students per year in the program. All students who matriculated in our first year successfully completed the program and 7/8 are current first year students in medical school. Therefore, at capacity we anticipate that the program will graduate 15-20 students annually.

Employment Opportunities for Graduates

The program will provide graduates a foundational experience and stronger credentials for applying for and being accepted into graduate medical programs (MD, DMD, etc.). It would also provide foundational coursework for students applying to PhD programs in biomedical sciences in the context of a student who also had research experience. The curriculum additions in clinical trials coordination will offer these students the opportunity to be employed as research/clinical assistants in doctor's offices and hospital settings in lieu of attending a medical program. The Bureau of Labor Statistics does not benchmark clinical research associate jobs, however they predict that clinical laboratory technician jobs (which are considered similar) are expected to rise 14% between 2008 and 2018. Clinical research associate jobs were ranked as a top 100 job by CNN Money with a projected 10-year growth of 12%:

(<http://money.cnn.com/magazines/moneymag/bestjobs/2010/snapshots/57.html>). At MUSC an appropriate job position would be as a Program Coordinator I, which requires a BS degree and one year of experience/additional education.

Estimate of Costs

The proposed program costs will be similar to the current costs for the Certificate of Biomedical Sciences program. Therefore, most of the necessary faculty and staff are in place. However, the program will incur additional costs to offer the Biostatistics course at approximately \$7,000, and will need additional administrative staff to accommodate the increased student load at an estimated cost of \$9,500 for 25% effort for a Program Coordinator. This person will be responsible for advertising the program, collating applications, correspondence with applicants, orientation, registration, general paperwork, and program evaluation. Therefore, total additional expenses are estimated at \$16,500.

Medical University of South Carolina
College of Graduate Studies &
Center for Biomedical Imaging



Proposed New Program

Ph.D. in Biomedical Imaging

Submitted January 15th, 2014

Mark Sothmann, Ph.D.
Interim President
Medical University of South Carolina

Date

Contact Information:

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New Program Proposal: Ph.D. in Biomedical Imaging

Program title:	Ph.D. in Biomedical Imaging
Concentrations, options, and tracks:	Post-Baccalaureate
Academic Unit:	College of Graduate Studies
Designation, type, and level of degree:	Entry-level doctoral degree
Proposed date of implementation:	Fall 2015
CIP code:	26.1103
Site:	Medical University of South Carolina (MUSC)
Qualifies for Palmetto Fellows or Life Scholarship awards:	No
Delivery mode:	Traditional

INSTITUTIONAL APPROVAL

This proposal has been reviewed and approved by the following internal review bodies at MUSC:

College of Graduate Studies (CGS) Graduate Council – August 30th, 2013

MUSC Dean's Council –September 16th, 2013

MUSC Board of Trustees –will be presented to the BOT at its meeting in Feb. ,2014

PURPOSE

Mission

The **MUSC Biomedical Imaging Ph.D. Program** proposes to provide a comprehensive and integrated graduate training program with a curriculum covering imaging science and biomedical applications leading to a Ph.D. in Biomedical Imaging. Our faculty has identified a basic core of knowledge and skills which will prepare our graduates to become leaders in basic and/or clinical research in biomedical imaging and its applications. This core consists of a strong foundation in the fundamentals of image acquisition technologies and data analysis methods. The students will also receive training in research practice, experimental design, and the application of specific imaging modalities through a series of individual electives in their chosen area of interest.

Although many biomedical imaging-related doctoral programs train students to be experts in specific techniques, there is a growing need for expertise in the application of these imaging technologies to solve important biomedical problems. The Bureau of Labor Statistics estimates that nationally, "Employment of biomedical engineers is projected to grow by 62% from 2010 to 2020, much faster than the average for all occupations" (<http://www.bls.gov/ooh/architecture-and-engineering/biomedical-engineers.htm>). Further, the South Carolina Department of Employment and

Workforces estimates that by 2020 employment of biomedical engineers will grow in South Carolina by 75%. (<http://lmi.dew.sc.gov/lmi%20site/Documents/CommunityProfiles/01000000.pdf>) These employment opportunities will create demand for a wide variety of engineering skills including digital imaging, an increasing component of all aspects of modern technology. Thus, as healthcare, biomedical research, and biotechnology industries become increasingly invested in using imaging technologies, the demand for individuals with expertise in the appropriate applications of these tools and skills to develop their novel use will necessarily grow.

No university in South Carolina offers a graduate degree in Biomedical Imaging at either the M.S. or Ph.D. level. Although both M.S. and Ph.D. programs are ultimately needed, we propose to initially establish a new program for a Ph.D. in Biomedical imaging and will independently address the need for an M.S. degree in Biomedical Imaging in the future. While both degrees would enable a graduate to work in industry and academia at advanced levels, the Ph.D. is specifically designed to establish its graduates as independent, creative scientists able to drive innovation in the field. Establishing this program falls within the mission of MUSC to “educate students to become creative biomedical scientists” and addresses its strategic initiative area of innovation.

The objectives of the program are to:

1. Provide a broad-based educational program for our students with both didactic and practical research experience with sufficient instruction in advanced technology, and analysis methods to enable them to become independent research scientists, application innovators, and bioimaging experts.
2. Prepare students with the skills and expertise to meet the increasing need for individuals in biomedical imaging that have a broad background in both theory and application.
3. Prepare our graduates for productive and successful careers in the imaging related aspects of biomedical research and development by developing their independent research skills.
4. Provide appropriate employment opportunities for our graduates by developing industrial and academic connections to organizations using imaging in their products and research. We expect that our graduates will have the education and skills to assume leadership roles in their future employment.

JUSTIFICATION

Program Description

The **MUSC Biomedical Imaging Ph.D. Program** will provide a comprehensive and integrated graduate training program combining biomedical sciences through the College of Medicine's core curriculum, with a strong emphasis on imaging science and its biomedical applications leading to a Ph.D. in Biomedical Sciences with a concentration in Biomedical Imaging. This degree will provide students with the education and training needed to pursue careers applying cutting edge developments in biomedical imaging to solving scientific and healthcare problems within academia or industry. It is intended for students with Bachelor's degrees or advanced pre-doctoral students who wish to master biomedical imaging and research methods to enhance or broaden their application-oriented investigations.

The core curriculum is designed to provide a strong foundation in the fundamentals of imaging acquisition technologies, data analysis methods, and research design, all within the context of applying these techniques in clinical and basic research projects in academic and industrial medical and research settings. Through this program, students will be able to gain hands-on experience with advanced imaging systems dedicated to both preclinical (bioluminescence, fluorescence, Micro-CT/PET, 7T MRI) and human (3T MRI) research. The students will have opportunities to rotate as research assistants in laboratories of professors who actively conduct research within many departments throughout the university, such as Neurosciences, Psychiatry, Radiology, Rehabilitation, Cardiology, Pediatrics, Surgery, and Oncology. The students will be required to demonstrate scientific proficiency in the area of biomedical sciences, with an emphasis on biomedical imaging through the completion of a qualifying examination and an individual doctoral dissertation.

Upon the completion of this degree, graduates will have the foundation on which they can build careers as independent investigators or key collaborators who possess a unique combination of skills: a fund of technical knowledge of imaging sciences and its most critical innovations as well as a distinct perspective that is focused on applying these advances in biomedical imaging to a breadth of preclinical and human research areas, from basic physiological processes to phenotypically complex diseases.

Need for the Proposed Program

Biomedical imaging is an inherently multidisciplinary field requiring the expertise of clinicians, medical physicists, computer scientists, biomedical engineers, chemists, pharmacologists, and biologists. This interdisciplinary group has and will continue to

revolutionize healthcare by develop new technological tools and techniques to use in the detection, diagnosis, and treatment of human disease (1).

The utilization of imaging across multiple biomedical disciplines will drive the development of a well-educated and highly trained work force using new biomedical imaging tools and techniques. This growing work force will apply these tools and techniques in different applications from the organ level to the cellular level in manufacturing, laboratory, and clinical domains. MUSC recognized the need to strengthen the biomedical imaging research community at MUSC and in 2011 the Board of Trustees established the Center for Biomedical Imaging (CBI). The mission of the CBI is to provide state-of-the art imaging resources, train and mentor young investigators, and provide opportunities for basic and clinical scientists to collaborate on new biomedical imaging discoveries (3).

The primary rationale for the development of a Ph.D. program in Biomedical Imaging at MUSC is to develop a structured group of faculty, graduate students, post-docs and research staff who will focus on the application of biomedical imaging tools in laboratory and/or clinical settings in Neuroscience, Radiology, Pathology, and Psychology. MUSC has active clinical and basic science research programs in these departments so advanced image acquisition and image analysis skills will provide a strong complementary component to the MUSC research and educational mission. . With graduate students, medical students, faculty and staff trained in biomedical imaging tools and techniques and exposed to industrial and other academic research institutional partners, the biomedical imaging-based laboratories at MUSC will have a pool of talented individuals that will lead in the development of novel biomedical imaging tools and techniques. A formal Ph.D. program will strengthen the research competitiveness of MUSC across these disciplines and lead to more technological innovation in the State ultimately contributing to the creation of more knowledge-based companies and employment opportunities in South Carolina.

The multidisciplinary nature of biomedical imaging results in a variety of career path options for holders of these degrees. While many will seek employment as medical scientists, biomedical engineers, biophysicists, medical physicists, or biochemists in academia, government, or industry, there are also many biomedical imaging Ph.D.s who will work in industry or manufacturing in product development, venture capital, and marketing; as well as in legal fields such as regulatory, technology transfer, and patent law. According to the Bureau of Labor Statistics 2012-2013 Occupational Outlook Handbook these are professions that can expect better than average increases in employment through 2020 across the nation (2).

Centrality of the Program to the Institutional Mission

The proposed **MUSC Biomedical Imaging Ph.D. Program** supports the mission of MUSC in several ways: 1) fostering an inter-professional educational experience; 2) advancing economic development through the introduction of new biomedical imaging technology; and 3) building collaborations with industry and other academic institutions (4).

The **Biomedical Imaging Ph.D. Program** will be offered through the MUSC College of Graduate Studies and will include the core coursework of the Biomedical Sciences Program. The core classes will expose these students to the scientific skills necessary to function in laboratory settings. The mathematical and statistical classes contained in the program's curriculum will expose students to the fundamentals of image formation, acquisition, and analysis techniques and a multiplicity of clinical and laboratory based applications. Together these skill sets will create well-rounded graduate students uniquely prepared to apply state-of-the-art, cutting-edge imaging and analysis techniques to important biomedical questions.

Relationship of the Proposed Program to Other Related Programs with the Institution

The proposed **MUSC Biomedical Imaging Ph.D. Program** will unite faculty in the Departments of Radiology, Neuroscience, Psychiatry, Pediatrics, Surgery, and Pathology and Laboratory Science, many of whom are faculty in the Center of Biomedical Imaging. The Departments of Radiology and Psychiatry currently have only residency training programs for MDs, but no graduate student programs. The Departments of Neuroscience and Pathology have residency training programs for MDs and well-established M.S. and Ph.D. programs for graduate students through the MUSC College of Graduate Studies. Students graduating through this program receive their doctorates in Biomedical Sciences with Departmental specializations. All doctorate programs in the Biomedical Sciences require a common first year curriculum focused on providing a foundation across all Biomedical Sciences areas on campus including, fundamental coverage of Neuroscience, Cell and Molecular Pharmacology, Pathology and Laboratory Medicine, Microbiology and Immunology, Department of Public Health Sciences, Drug Discovery, Molecular and Cellular Biology, Pathobiology, and Bioengineering. In addition to a common first year curriculum, these students are required to participate in laboratory rotations in order to broaden students' scientific training and to assist the students in identifying an appropriate Ph.D. track and Ph.D. mentor. Students pursuing a Ph.D. in Biomedical Imaging would take the first semester core curriculum from the College of Graduate Studies to provide appropriate biomedical background. Further specific didactic course work, laboratory experience with Biomedical Imaging faculty, and an approved dissertation would complete their program of study.

Comparisons and Relationships with other Programs in the State, Region, and Nation

There are currently no Biomedical Imaging Ph.D. programs in South Carolina. Nationally, there are 25 biomedical imaging tracks associated with Biomedical Engineering Ph.D. programs but no programs solely offering a Biomedical Imaging Ph.D. (5).

The University of South Carolina (USC) offers a Biomedical Engineering Ph.D. but does not have a specialization in biomedical imaging. Likewise, Clemson University offers a Ph.D. in Bioengineering, but also has a strong focus in the area of biomaterials and not imaging. Currently, Clemson and MUSC have a Cooperative Agreement which permits MUSC dental and medical students to pursue joint degree programs, DMD or MD respectively, with a Ph.D. in Bioengineering from Clemson. The courses in this program will be open to students in the joint program. If there is sufficient interest from Clemson students we will also arrange for remote classes at Clemson for the courses.

There are no other regional Biomedical Imaging Ph.D. programs with the training emphasis described in this proposal. There are specialized biomedical imaging training specializations imbedded within various Biomedical Engineering programs within adjacent states. In North Carolina, there are two Ph.D. programs in Biomedical Engineering with a biomedical imaging track at 1) Duke University and 2) a joint program between the University of North Carolina at Chapel Hill and North Carolina State. In Georgia, there is a joint Biomedical Engineering program between the Georgia Institute of Technology and Emory University.

References

1. Sun Z, Ng KH, Ramli N. Biomedical imaging research: A fast-emerging area for interdisciplinary collaboration. *Biomed Imaging Interv J*. 2011 Jul-Sep;7(3):e21.
2. Occupational outlook handbook - healthcare occupations [Internet].; 2012. Available from: <http://www.bls.gov/ooh/healthcare/home.htm>.
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4. MUSC strategic plan 2010-2015 [Internet].; 2010. Available from: <http://etl2.library.musc.edu/strategicplan/>.
5. Biomedical imaging graduation programs imaging curricula and imaging courses [Internet]. Available from: <http://www.bmesphotos.org/WhitakerArchives/academic/ferrara.pdf>.

ADMISSION CRITERIA

Individual applicants will be evaluated on undergraduate/graduate records, GRE scores and letters of recommendation. In addition, the department will consider current project, lab, and research area availability when evaluating applicants. Previous research experience or employment in areas relevant to bioengineering will carry significant weight.

Generally, applicants will require:

- an undergraduate GPA of 3.3/4.0 or higher
- GRE verbal score: 70th percentile or higher
- GRE quantitative score: 70th percentile or higher
- GRE analytical writing score: 70th percentile or higher
- Either TOEFL score: 100 or higher OR IELTS of 7.0 or higher (international students only)

Specific Biomedical Imaging Entrance Requirements

The basic requirement for admission to the **MUSC Biomedical Imaging Ph.D. Program** is a Bachelor's degree from an accredited undergraduate science program. Students will most commonly be trained in engineering, physics, or life sciences. However, due to the interdisciplinary nature of biomedical imaging, it is to be expected that some students may need to take additional courses to supplement their first year of graduate work. It is expected that all Biomedical Imaging Ph.D. students will have adequate prerequisites for acquiring additional knowledge in biochemistry, physiology and statistics.

Students can enter the program prior to meeting all the prerequisites if approved by the admissions committee. These students must plan to complete the prerequisites during their enrollment in addition to the requirements stipulated for the Ph.D. Credits from prerequisites are not applied toward a graduate degree, and students can be restricted to a minimum assistantship until undergraduate prerequisites are completed. Under special circumstances, a petition to the Biomedical Imaging Ph.D. program director may allow certain of these prerequisites to be waived.

ENROLLMENT

The **MUSC Biomedical Imaging Ph.D. Program** is proposed to start in the Fall semester of 2015. The program will recruit U.S. and international students who have STEM undergraduate degrees. However, due to proximity, the program will primarily

recruit students from 4-year institutions in South Carolina. Students will be a part of the incoming graduate class and have a minimum of a Bachelor's degree and meet the requirements for admission described in the previous section. It is expected that some students may transfer from existing programs at MUSC. New students will start in the Fall semester each year.

It is estimated that 3-4 students will enroll in the first year. The number of new students is expected to increase during the first few years of the program. It is assumed that all students will take a full academic load of five 3-credit courses or 15 credits per semester and that all Ph.D. students will conduct full-time research during the summer. The typical student will complete the Ph.D. program in approximately 5 years. After 5 years, the anticipated average total enrollment will be 20 students although the long term steady state will be 25 students (5/yr x 5 years). (see Table A).

Table A – Projected Total Enrollment

Year	Fall		Spring		Summer	
	Headcount	Credit Hours	Headcount	Credit Hours	Headcount	Credit Hours
2014-2015	3	45	3	45	3	45
2015-2016	6	90	6	90	6	90
2016-2017	10	150	10	150	10	150
2017-2018	15	225	15	225	15	225
2018-2019	20	240	20	240	20	240

Assumptions:

1. Students will take a full academic load (5 courses/15 credits per semester).
2. Students will complete the Ph.D. program in an average of 5 years.
3. All students will take summer courses (i.e. research credit).
4. New students will enter in the fall semester.

CURRICULUM

The course requirements and program structure are designed to provide the needed foundational knowledge, primarily during the first two years of didactic courses. These are listed below. This course work is followed by a qualifying exam in the early summer semester of the second year and the completion of 6 more credit hours of electives and a doctoral dissertation.

The 8 new required courses to be taken during the student's first two years of study are listed below together with their scheduling. A total of 15 credit hours per semester is

required so that the student will have taken 60 hours of didactic study before taking their qualifying exam and formally starting their dissertation which must be approved by a 5 member dissertation review committee chaired by a member of the Biomedical Imaging faculty other than their advisor.

New Required Courses

Year One

First Semester

None – Standard first year first semester Graduate School requirements

Second Semester

- Quantitative Physiology with imaging specific examples
- Mathematical Methods
- Introduction to Biomedical Imaging Modalities
- Laboratory Rotations

Year Two

First Semester

- Probability and Statistics
- Methods in Molecular Imaging
- Research

Second Semester

- Methods in MRI
- Signal processing/Image analysis
- Research

Summer Semester

Qualifying exam for Ph.D. candidates

Year Three plus (Two electives must be taken before graduation)

First Semester

- Elective
- Research

Second Semester

- Elective
- Research

A typical Course of Study

	Year 1	Year 2	Year 3 +
Fall Semester	<ul style="list-style-type: none"> • Foundations of Biomedical Sciences (10) • Essential Scientific Practices (1) • Diversity in Science (1) 	<ul style="list-style-type: none"> • Methods of Molecular Imaging (3) • Probability and 	<ul style="list-style-type: none"> • Research (10) • Elective as needed (3) • Seminar (1)

	<ul style="list-style-type: none"> • Important Unanswered Questions(1) • Laboratory Rotation (2) 	<ul style="list-style-type: none"> • Statistics (3) • Seminar (1) • Journal Club (1) • Research (7) 	<ul style="list-style-type: none"> • Journal Club (1)
Spring Semester	<ul style="list-style-type: none"> • Quantitative Physiology using Imaging (3) • Mathematical Methods (3) • Intro to Biomedical Imaging methods (3) • Elective (3) • Laboratory Rotations (2) • Important Unanswered Questions (1) 	<ul style="list-style-type: none"> • Methods of MRI (3) • Signal & Image Processing (3) • Seminar (1) • Journal Club (1) • Research (7) 	<ul style="list-style-type: none"> • Research (10) • Elective as needed (3) • Seminar (1) • Journal Club (1)
Summer Semester	<ul style="list-style-type: none"> • Research (13) • Essential Scientific Practices III (2) 	<ul style="list-style-type: none"> • Qualifying Exam (5) • Research (10) 	<ul style="list-style-type: none"> • Research (15)

In addition to the core course requirements described above several new imaging related electives are being designed to emphasize the practical applications of imaging to biomedical research and will be fully developed during the first years of the program

Functional neuroimaging

Techniques for observing regional neural activity, e.g. functional MRI, PET

Cancer imaging

Techniques for imaging tumors, particularly with molecular probes

Cardiovascular imaging

Specific techniques for cardiovascular imaging using CT, MRI, PET

Two-photon imaging

Non-linear optical methods to probe neural activity at the cellular level

Chemical shift imaging of the brain

Metabolic studies of *in vivo* brain metabolism using spectroscopy

Brain stimulation

Methods of direct neural stimulation, e.g. transcranial magnetic or electric stimulation

Computational neuroscience

Mathematical models of neural systems at multiple scales

Medical imaging device development and bioscience entrepreneurship

Case studies of new instrumentation development and commercialization

Advanced clinical imaging

How new technical developments move into clinical practice

ASSESSMENT

The **MUSC Biomedical Imaging Ph.D. Program** will prepare students for careers in academic research and in the healthcare industry. The students will develop the skills needed to become leaders in both basic and clinical biomedical imaging research. Core concepts to be taught include biomedical imaging technology, applications of biomedical imaging, data analysis and research design. Concepts presented in the course curriculum are reinforced and applied in students' original dissertation research projects. The program will assess both program outcomes and student learning outcomes.

Program Outcomes

Assessment of program outcomes will consist of both metrics to measure student perceptions of program quality and objective measures of success of our graduates. The following metrics will be monitored:

1. Percent of students who graduate on time.
2. Percent of graduating students who agreed that they made the right choice in selecting MUSC for their education.
3. Percent of graduating students who agreed that they would recommend the program to other prospective students.
4. Percent of graduating students who rated the quality of their education as satisfactory to excellent.
5. Percent of employers who indicated graduates have demonstrated competency.
6. Percent of students who obtain full-time employment in a biomedical imaging field within one year of graduating.
7. Percent of students who obtain tenure-track faculty positions within 7 years of graduating.
8. Number of publications while students are attending MUSC.
9. Percent of graduates who successfully obtain a grant within 7 years of graduating.

Data for these measures will be collected through surveys conducted by the University at time of program completion.

Student Competencies

Specific measures of the competencies related to the program objectives will be developed by the program faculty. Achievement of these competencies will be assessed using a combination of the following metrics:

1. Student self-assessments performed at the beginning of the program and at the end of the program. This will demonstrate the students' perception of their progress through the program.
2. Faculty evaluation of satisfactory demonstration of competencies for each individual core curriculum course.
3. Evaluation by faculty of the key competencies demonstrated by students during their written and oral qualifying exams.
4. Annual evaluation by faculty mentors of the student mentees' performance during their dissertation research.
5. Reports from thesis committees of the quality of final dissertations.

Program faculty will establish target values for all measures of program outcomes and student competencies. All program outcomes and summaries of student competency achievement will be presented to the program faculty annually. The faculty will review the measures and make recommendations to program administration for adjustments in program content and delivery where indicated.

FACULTY

The program faculty are predominantly members of the Center for Biomedical Imaging, a new MUSC-wide Center established by the Board of Trustees in 2011. The remainder of the faculty are recruited from the Departments of Radiology, Neuroscience, Psychiatry, Pediatrics, Surgery, Medicine and the College of Health Professions with projects in the application of imaging techniques to their research activities (see Table B). New faculty hires are not anticipated as the teaching requirements of the new program will be fulfilled by existing faculty.

Table B– Faculty List

Rank	Highest Degree Earned	Field of Study	Teaching in Field (Yes/No)
Professor #1	Ph.D.	Physics	YES
Professor #2	Ph.D.	Physics	YES
Professor #3	Ph.D.	Physics	YES

Associate Professor #1	Ph.D.	Biomedical Engineering	YES
Associate Professor #2	Ph.D.	Psychology	YES
Associate Professor #3	Ph.D.	Psychology	YES
Assistant Professor #1	Ph.D.	Electrical Engineering	YES
Assistant Professor #2	Ph.D.	Psychology	YES
Assistant Professor #3	Ph.D.	Physics	YES
Assistant Professor #4	Ph.D.	Biomedical Engineering	YES

One FTE represents a full-time faculty member who has been appointed to the MUSC faculty by the Vice President for Academic Affairs and Provost and who receives 100% of compensation through MUSC or through MUSC authorized activities. The faculty member engages in clinical practice, instruction, research, and/or administrative activities on the MUSC Campus or any of its affiliated locations. All junior faculty have a career development plan monitored by senior faculty. The faculty position may be tenured, tenure eligible, or non-tenured.

Table C – Unit Administration, Faculty & Staff Support

UNIT ADMINISTRATION, FACULTY, AND STAFF SUPPORT						
YEAR	NEW		EXISTING		TOTAL	
	Headcount	FTE	Headcount	FTE	Headcount	FTE
Administration						
2017 – 18			1	0.05	1	0.05
Faculty						
2014 – 2018			9	1.8	9	1.8
Staff						
2014 – 2018			1	0.1	1	0.1

PHYSICAL PLANT

Given that anticipated annual enrollment in this program is small relative to the total annual enrollment in the College of Graduate Studies at MUSC, the current physical plant will be adequate to meet the educational needs of the students. The core classes taught to students in this program will be conducted in existing classrooms in the basic science building, bioengineering building, and drug discovery building as needed. These classrooms are all equipped with SmartBoard technology, high definition cameras, high-fidelity projection systems, and all necessary audiovisual equipment.

EQUIPMENT

It is not anticipated that additional equipment will be necessary. The current audiovisual equipment and imaging equipment will be updated and replaced using the normal acquisition process.

LIBRARY RESOURCES

The proposed program modification will require library resources pertinent to both the **biomedical** and **imaging** sciences.

In the **biomedical sciences**, current library resources are adequate to support the proposed program. The MUSC Library serves as a database and knowledge center, academic computing support unit, electronic education center, and leader in information planning. Pertinent online resources include the full catalog as well as major biomedical databases (e.g., MEDLINE, CINAHL, PsycINFO, SciFinder, and PubMed). A wealth of worldwide information is provided, including online catalogs of other libraries, drug information (MicroMedex, Mosby's Drug Consult), consumer health (Hands on Health, MEDLINEPLUS, Health Reference Center), clinical decision support systems (eMedicine, UpToDate, InfoPOEMS), Clinical Practice Guidelines and alerts, reviews of clinical trials, evidence-based practice (Cochrane database, INFOPOEMS), government resources (Toxnet, Federal Register, Code of Federal Regulations), electronic books (MD Consult, Harrison's Online, Access Medicine) and e-journal packages with literature search capabilities (ScienceDirect, ejournals@MUSC, Journals@Ovid, American Chemical Society), and statewide shared academic databases (Collegiate DISCUS, DISCUS)

In the **imaging sciences**, consultation with Dr. Thomas Basler, Director of Libraries and Learning Resource Centers, has shown that any additional resources needed (the engineering, physics and mathematics references and electronic journals) are available through Inter-library loan and the existing MUSC Clemson Joint Bioengineering program.

ACCREDITATION, APPROVAL, LICENSURE, or CERTIFICATION

Not applicable for this program.

ARTICULATION

The proposed Ph.D. program is a terminal degree and, as stated elsewhere, it is the only program of its kind in South Carolina. MUSC does not generally participate in the South Carolina Transfer and Articulation (SC TRAC) program and is not a receiving school for transfer students (see: <http://www.sctrac.org/MedicalUniversityofSouthCarolina-/Transfer-Profile/tabid/476/Default.aspx>), as MUSC does not offer general undergraduate education coursework. However, with permission, individuals from other in and out of state institutions will be allowed to register for courses on a non-degree basis.

In 2003 MUSC and Clemson University established an active collaborative relationship in bioengineering. The CU-MUSC Bioengineering Program is on the MUSC campus in Charleston. Faculty from Clemson University and their staff have laboratories and office space on the MUSC campus. Students from Clemson, with the approval of their institution, will be allowed and encouraged to take courses offered in MUSC's Biomedical Imaging program. In the future, we will work closely with other area universities and colleges to provide similar access to courses offered through the Biomedical Imaging Ph.D. program.

ESTIMATED COSTS AND SOURCES OF FINANCING

The implementation of this program will not incur any unique costs or special state appropriations. Tuition and research grants to the faculty will be the primary source of funding along with the anticipated typical funding the College of Graduate Studies receives from state appropriations provided to MUSC. It is anticipated that this proposal will result in a total of \$50,000 of expenses for course instruction and staff support.

The percentage of in-state students who matriculated into the MUSC College of Graduate Studies varied from 50% to 60% over the last three years. It is expected that the cohort of students matriculated into the Ph.D. program will follow a similar profile. However, if the number of national programs offering a similar degree is still limited at the time of implementation of this proposed program, the percent of out-state applicants may be higher.

This program will be a new addition to the College of Graduate Studies' existing doctoral programs in biomedical sciences so the program will be administered through the same general process. The total costs of the program will depend on the number of students accepted and are expected to be approximately the same per student as in other

programs. Much of the necessary infrastructure is pre-existing, so there will be few new costs directly associated with the program administration (see Table D). Faculty for the program (primarily from MUSC's Center for Biomedical Imaging, see <http://academicdepartments.musc.edu/cbi/>), are supported by research grants that will also support projects that the Biomedical Imaging Ph.D. students will engage in as part of their independent research and experiential learning.

Table D – Estimated Costs and Sources of Financing by Year

ESTIMATED COSTS BY YEAR						
CATEGORY	1st	2nd	3rd	4th	5th	TOTALS
Program Administration	0	0	0	2000	2000	4000
Faculty Salaries	0	0	0	0	0	0
Graduate Assistants	0	0	0	0	0	0
Clerical/Support Personnel	1000	1000	1000	2000	3000	8000
Supplies and Materials	1000	1000	1000	1000	1000	5000
Library Resources	0	0	0	0	0	0
Equipment	0	0	0	0	0	0
Facilities	0	0	0	0	0	0
Other (Identify)	0	0	0	0	0	0
TOTALS	2000	2000	2000	5000	6000	17000
SOURCES OF FINANCING BY YEAR						
Tuition Funding	0	0	0	0	0	0
Program-Specific Fees	0	0	0	0	0	0
State Funding	0	0	0	0	0	0
Reallocation of Existing Funds	2000	2000	2000	5000	6000	17000
Federal Funding	0	0	0	0	0	0

Other Funding (Specify)	0	0	0	0	0	0
TOTALS	2000	2000	2000	5000	6000	17000

**PROGRAMS FOR TEACHERS AND OTHER SCHOOL PROFESSIONALS
(ONLY)**

Not applicable to this program

Policy Name: MUSC/MUHA- Industry Relations Policy			
Approved- Board of Trustees			Date: February 14, 2014
Effective Date:	Page 1 of 13	Section: General (Miscellaneous)	Policy Number: N/A
Replaces Policy: MUSC Medical Center Professional Relationship Policy A-114			

POLICY INDEX

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1. Purpose and Scope

MUSC recognizes the value of its relationships with the healthcare industry (“Industry”). The University also believes that such relationships must be entered into on the basis of a partnership that advances the benefits of biomedical research, education and clinical care in pursuit of improving human health. Importantly, these activities must avoid either the existence or impression of professional impropriety by University or MUSC individuals who are entrusted with the integrity of the institution’s educational, clinical or research programs.

The purpose of this policy is to establish straightforward, effective and principled guidelines for University-Industry relationships to ensure that individuals who work for MUSC interact with Industry knowing the rules of the University and State that govern such interactions. This is critical to protect the interests of the individual, the University and our patients as we undertake these activities to achieve our ultimate goals of promoting scientific research, evidence based clinical care, and educating trainees. The University recognizes the importance of mutually beneficial relationships with Industry as long as those relationships do not compromise the integrity of our missions. Rather, one of the overarching aims of the policy is for full disclosure of consulting and educational activities by MUSC personnel to help ensure that these activities meet the guidelines set forth in this policy.

2. Covered Persons

This policy applies to all Trustees, Officers, Faculty, Administrators, Staff, Students and Trainees including all full-time, part-time, temporary and contract employees of the Medical University of South Carolina. The Medical University Hospital Authority and affiliates of the University (including but not limited to University Medical Associates of the Medical University of South Carolina, the MUSC Foundation and the Foundation for Research Development), which derive their not for profit status from MUSC, shall develop and implement policies and procedures substantially similar to and consistent with this policy.

3. Definitions

For purposes of this policy:

Industry refers to any corporation, partnership, sole proprietorship, firm, franchise, association, organization, holding company, joint stock company, receivership, trust, enterprise, or other legal entity, including for profit and not for profit entities that are engaged in 1) the manufacture, distribution or sale of diagnostic or therapeutic drugs, medical/dental devices or equipment, supplies, or information technology, 2) medical testing, or 3) providing services for clinical care, research, or education. Industry also refers to entities that provide services to MUSC in the areas of physical plant, university and hospital administration, human resources, project management, clinical services and regulatory services. The term industry does not include professional associations and societies, not for profit foundations, law offices, not for profit volunteer health organizations, academic institutions or not for profit hospitals that provide medical research/education-related products and services.

Conflict of Interest is defined as the circumstance that arises when an individual has an opportunity to influence patient care, research and education of trainees regarding the purchase or use of products or services of an industry with which he/she has a secondary interest (financial relationship, or research support, or personal benefit).

Consulting (Consulting Services, Consultant, etc.) is defined as all activities where the external entity furnishes a Personal Financial Benefit or Economic Benefit and/or other Personal Benefit such as reimbursement/compensation for the exchange of clinical, educational, professional and/or scientific information or activities by Covered Persons.

Educational Programming is defined as medical, healthcare and scientific speaking engagements or educational presentations where Industry furnishes a Personal Financial Benefit or Economic Benefit and/or other Personal Benefit as reimbursement/compensation for the provision of those presentations by Covered Persons.

Personal Financial Benefit or Economic Benefit is defined as anything of monetary value - including salary, commissions, fees, honoraria, gifts, equity interests (which include any stock, stock option, or other ownership interest), interests in real or personal property, dividends, royalty, rent, capital gains, intellectual property rights, loans, and forgiveness of debt. The term “personal” also includes the Covered Person’s immediate family, including parents, spouse, siblings, children, stepchildren and grandchildren.

Other Personal Benefit is defined as a non-financial benefit to a Covered Person; for example, promise of a job promotion, future grant, research publication, clinical trial or authorship, etc. The term “personal” includes the Covered Person’s immediate family, defined as parents, spouse, siblings, children, stepchildren and grandchildren.

Personal Leave is defined as that time away from work taken as annual leave , or any part of a 24-hour period when there are no MUSC assigned responsibilities (*e.g.*, weekends or after hours when there are no MUSC assigned responsibilities).

Professional Leave includes time away from MUSC to conduct MUSC approved professional activities, while receiving compensation from MUSC. A request for this leave must be approved by the Covered Person’s supervisor.

4. Consulting and Educational Programming

a) Consulting

Purpose

Consulting interactions can facilitate the advancement of innovative ideas and discoveries, both of which ultimately benefit the general public through the transfer of scientific discovery. This section of the policy clarifies the terms of interactions with Industry where the primary goal is scientific exchange.

Policy Statement

Consulting refers to all activities where the external entity furnishes a Personal Financial Benefit or an Economic Benefit and/or other Personal Benefit as reimbursement/compensation for the exchange of clinical, educational, professional and/or scientific information or activities by Covered Persons (see also above).

The provision of bona fide Consulting Services by Covered Persons to external entities is consistent with MUSC's mission when those activities:

- (a) involve a two-way exchange of ideas in which each party benefits from the interchange;
- (b) are relevant to and enrich the consultant's research, education or other professional responsibilities;
- (c) do not interfere with the consultant's responsibilities to patients or the institution;
- (d) do not adversely affect the consultant's intellectual independence or the integrity of the institution;
- (e) are confined to the exchange of clinical, educational, professional and/or scientific information.

i. Approved consulting activities include but are not limited to the following:

- Serving on advisory boards, expert panels, leadership groups, data safety monitoring boards, and/or similar groups.
- Providing expert witness testimony. (*See MUSC Faculty Handbook.*)
- Providing scientific or medical presentations or expertise to industry scientists, research and development staff, and/or their staff.
- Providing product review, product evaluation, and product feedback for Industry.
- Demonstrating an Industry product (*i.e.*, teaching when and how to appropriately use a product) for medical or research professionals in the context of medical or scientific education.
- Providing consultation to venture capital firms, and serving as a scientific or medical advisor to Industry for purposes of MUSC intellectual property development.

ii. Prohibited consulting activities include but are not limited to the following:

- Consulting activities requiring or appearing to require MUSC staff to endorse or appear to endorse a particular product, drug, device, or service (either orally or in writing). This includes demonstrating an Industry product for promotional or sales purposes; and appearing (or being quoted) in a video, television, radio, internet-broadcast, web site, or in other publicly-broadcasted or distributed materials for promotional or sales purposes without proper authority or approval.
- Participating in ghostwriting, which is defined as Industry sponsorship for (i) making a major contribution towards the writing and/or research of scientific and medical publications without receiving authorship; or (ii) accepting authorship for a scientific or medical publication without making a major contribution towards the writing and/or the research.
- Serving as an Industry sponsored "named reference" for a product recommendation.

- Providing MUSC slides, videos, pamphlets or any other MUSC logo or copyrighted materials to Industry for marketing or promotional use. Such use must be approved in accordance with MUSC/MUHA policy or procedure.
- Providing services that conflict or appear to conflict with SEC rules and regulations for stock brokers, investment houses, equity management companies, banks, and/or financial institutions.
- Providing services to an Industry that is in a known legal dispute with MUSC.
- Speaking to investors on behalf of a company, except when the company is an MUSC sanctioned and supported faculty start-up company.

The lists of approved and prohibited consulting activities are the same whether consulting is done on personal or professional time. All Covered Persons who participate in consulting activities are subject to the approval procedures outlined in section 4g of this policy.

b) Educational Programming

Purpose

MUSC recognizes the value to the institution and Covered Persons in having such opinion leaders present educational material before professional and lay groups. As noted in the *MUSC Faculty Handbook*, activities such as presentations to professional groups such as other universities, health systems, and professional societies are considered to be within the scope of Covered Persons' work. Education provided by Covered Persons shall be in the best interest of the public, independent from commercial interest, and refrain from product promotion. Additionally, MUSC recognizes the benefits that Covered Persons obtain by attending educational programs.

Policy Statement

This policy applies to all medical, healthcare and scientific speaking engagements or educational presentations, with or without professional continuing education credit, where Industry furnishes a Personal Financial Benefit or an Economic Benefit and/or other Personal Benefit as reimbursement/compensation for the provision of those presentations by Covered Persons. The policy also applies to Covered Persons who attend such educational meetings. Educational programming should be independent from commercial interest and promote evidence-based clinical care and/or advance scientific research. MUSC recognizes that bona fide educational activities typically adhere to ACCME, ADA CERP, ACPE, ANCC or other national accreditation standards and qualify for continuing education credit. Other acceptable activities that do not provide CE credits but would serve recognized educational purposes include presentations to industry (*e.g.*, providing scientific or medical expertise) and training for medical or research professionals (*e.g.*, teaching practitioners when and how to appropriately use a medical device). Otherwise, non-accredited, industry sponsored speaking to healthcare providers is not consistent with the standards of allowable educational programming due to the risk of industry influence.

- i. ***Approved educational speaker activities include but are not limited to the following:***

Providing continuing education (CE) services, scientific or medical presentations or

expertise at academic meetings and professional societies, at other universities or research institutions, and at lay organization meetings as long as the following conditions are met:

- These activities are designed to promote evidence-based clinical care and/or advance scientific research;
- The presentation is made in accordance with professional accreditation standards such as the ACCME's *Standards for Commercial Support*,¹ the ADA CERP *Continuing Education Recognition Program*, or other national accreditation standards including those set by the ACPE and the ANCC, *i.e.*, the educational content, including handouts and visual-aids, must be determined entirely by the speaker; and
- The financial support of industry, if provided, is clearly disclosed. Payments to Covered Persons for speaking and for travel costs for these approved educational activities are permitted for approved speaker activities (see section C for rules about payments).

ii. Prohibited educational speaker activities include but are not limited to the following:

- Speaking at any educational meeting where the content of the presentation, including handouts and visual-aids, is not determined entirely by the Covered Person.
- Educational speaking should be independent from commercial interest, and refrain from product promotion. As such, speaking activities frequently referred to as speakers' bureaus are prohibited. Speakers' bureaus are typically characterized by, but are not limited to, the following attributes:
 1. promotional educational activity concerning a biomedical or pharmaceutical product;
 2. the company has the contractual right to dictate or control the content of the presentation or talk;
 3. the company creates the slides or presentation material and/or restricts or otherwise limits the Covered Person's intellectual independence over the educational content of his or her presentation; and/or
 4. Covered Persons are expected to act as a company's agent or spokesperson for the purpose of disseminating company or product information (*e.g.*, the presentation is focused on a healthcare product made by the sponsor and does not include a balanced representation of alternative products or services).If you have questions about whether a speaking activity is a speakers' bureau, you should consult with the COI Office for guidance.
- Providing industry sponsored continuing education (CE) services or scientific or medical training to an audience consisting only of MUSC attendees.

¹ Accreditation Council for Continuing Medical Education, *Standards to Ensure the Independence of CME Activities* (2007)

iii. Attendance at educational meetings sponsored by Industry

Covered Persons may attend any educational meeting sponsored by industry but may not undertake the following:

- Receive gifts, other compensation, or travel costs for attendance;
- Participate in industry sponsored food, beverages or entertainment events if the audience is restricted to MUSC personnel only (*i.e.*, MUSC personnel can only accept industry sponsored meals, beverages and entertainment events if the audience is not restricted to MUSC personnel only).

The lists of approved and prohibited educational activities are the same whether these activities are done on personal or professional time. All Covered Persons who participate as speakers in Educational Programs are subject to the approval procedures outlined in section 4g of this policy.

c) Payments for Consulting and Educational Programming

Payments for consulting and educational services should be at a level commensurate with effort. If done on professional time, the distribution of payment to either the individual or the institution will be at the discretion of each college or department. For all outside activities, Covered Persons should coordinate with the Conflict of Interest Office to determine reporting requirements for any industry relationship.

Senior institutional officials (defined here as the President, Vice Presidents, Deans and Associate Deans) who conduct outside activities that fall within the institution's missions and/or relate to their service as institutional leaders must conduct those activities under a written agreement with the institution. Remuneration for the outside activity must be paid to the institution and cover the senior official's time and effort for the work; compensation should not be in addition to the senior official's institutional salary.

d) Leave Status Requirements for Consulting and Educational Programming Activities

Consulting and Educational Programming activities may occur on either *Personal Leave (time)* or *Professional Leave*. Please refer to section 3 of this policy for specific definitions.

Consulting or Educational Programming Conducted on Personal Leave

- MUSC resources (*e.g.*, secretarial assistance, office space, etc.) are not allowed to be used while providing consulting services or educational programming activities performed on personal time.
- Covered Persons considering to undertake consulting or educational programming activities with a company with whom they are performing concurrent research should consult with the Conflict of Interest Office.
- Covered Persons who consult or conduct educational programming while on Personal Leave may retain 100 percent of the fee; this fee must be paid directly to the Covered Person from the external entity. The Covered Person is responsible for securing payment

for these consulting or educational activities, tax liability, and any financial concerns associated with such payments.

- MUSC does not provide liability insurance coverage for Covered Persons performing consulting OR educational programming activities on personal leave.
- Covered Persons may provide consulting or educational services on Personal Leave in conjunction with MUSC approved travel. Additional travel expenses incurred by the consulting or educational activities (e.g., additional hotel night/s, per diem, transportation, miscellaneous) will be the responsibility of the Covered Person.
- Covered Persons should be aware that payments received from medical device, pharmaceutical manufacturers and biomedical suppliers are subject to the **Physician Payment Sunshine Act** and **will be made publicly accessible via a Centers for Medicare and Medicaid Services website.**

Consulting or Educational Programming Conducted on Professional Leave

- MUSC resources may be utilized to conduct consulting or educational programming on professional leave.
- Covered Persons considering to undertake consulting or educational programming activities with a company with whom they are performing concurrent research should consult with the Conflict of Interest Office.
- If the consulting or educational programming is completed on MUSC time while on professional leave, payment must be made to MUSC and allocated to an account within the college, department or division. Each college, department or division will be responsible for the disbursement of funds.
- Consulting or educational programming conducted on professional leave requires a contract or agreement; please see section 6 of this policy.
- MUSC provides liability insurance coverage for Covered Persons performing consulting activities or educational programming on professional leave.

e) Consulting or Educational Programming Conducted with Concurrent Research

For consulting or educational activities that occur with concurrent research with the same company, Covered Persons should consult with the Conflict of Interest Office.

f) Consulting or Educational Programming Contracts

Professional Leave Status:

All formal consulting and educational programming relationships approved for Covered Persons that are conducted while on **Professional Leave** must be formalized in a fully executed contract. All such agreements must be channeled through the appropriate contract approval process.

- All agreements must clearly describe the services and deliverables to be furnished by the consultant or speaker, including the time required for such services or method of calculating compensation, a description of the compensation due under the agreement, a

declaration regarding disposition of intellectual property rights if applicable, and a provision to protect the use of the MUSC name if appropriate. The agreement should be consistent with MUSC policies and eliminate unauthorized transfer of MUSC intellectual property.

- An agreement must be signed and dated by all parties prior to the commencement of any of the consulting or educational programming activities. All agreements must be consistent with MUSC's policies, mission and duties to its stakeholders.
- The consultant or speaker is expected to maintain records of the consulting or educational programming activities for 6 years after the termination of the contract.

Personal Leave Status:

Covered Persons who consult or provide educational programming on **Personal Leave** are acting as independent contractors. Covered Persons may not bind or obligate MUSC in any way. Contracts entered into by Covered Persons acting as independent contractors should not contain any references to MUSC or its Affiliates; this includes an individual title (*i.e.*, Professor, Director etc.) or work addresses.

g) Approval Process for Consulting and Educational Programming

All consulting and educational programming whether occurring on Personal Leave or Professional Leave must not impact negatively on MUSC or MUSC's research, educational or clinical missions. For all outside activities, Covered Persons should coordinate with the Conflict Of Interest Office to determine reporting requirements for any industry relationship. Requests for consulting and educational programming occurring on Professional Leave must be approved by the department chair or appropriate supervisor during the university's contract approval process. It is recommended that Covered Persons notify their department chair or supervisor of any consulting or educational programming occurring on Personal Leave, as individual departments and/or colleges may have additional requirements.

5. Gifts

Covered Persons and their immediate family members may not accept gifts of value exceeding \$10 from vendors or other representatives of industry. Examples of gifts include, but are not necessarily limited to, travel and lodging expenses; membership dues; admission fees; preferential terms on a loan, goods or services; or the use of real property; for this section, "gifts" does not include food and beverages which is a subject handled in Section 6 below.

Acceptance of travel funds to participate in meetings or training directly related to ongoing sponsored research is not considered a gift and is allowable.

Covered Persons may accept travel funds from scientific or professional societies that are funded by industry, as long as the society controls the selection of the recipient. Covered Persons may not accept travel funds directly from industry but travel support from industry funds provided to MUSC is allowed.

6. Food, Beverages and General Hospitality

Except as noted below, Covered Persons should not accept food and beverages, support for social events, or other hospitality offered directly by Industry to the Covered Person. Industry support for food and beverages for college, department or division meetings or retreats is prohibited.

Covered Persons attending an educational meeting or conference may participate in food, beverages and social receptions sponsored by Industry as long as invitation to these events is open to non-MUSC attendees as well.

A Covered Person engaged in off-site consulting may accept food and beverages as a part of a reasonable compensation package for consulting services.

Covered Persons cannot participate in industry sponsored food, beverages and/or entertainment events that are provided only for a select invited individual or group of individuals if the primary purpose of the event is for marketing and promotional purposes. However, this restriction does not preclude allowable activities, such as site visits and meetings with potential vendors, which may occur when obtaining contracted goods and services; these activities are governed by state and MUSC and/or MUHA procurement guidelines. Covered Persons should recognize that attendance at an industry supported event may cause their name and institutional affiliation to be reported as required by federal regulation. This can be avoided by paying for one's own meal at such events, and removing one's name from the attendance list.

7. Industry Supported Continuing Education Programs

- Continuing Education (CE) programs supported by Industry are permitted provided the following criteria are met:
 - Industry sponsored programs offering continuing education (CE) credit must be processed through the Office of Continuing Medical Education if appropriate and adhere to the standards for commercial support established by the ACCME, the ADA CERP, the ACPE, the ANCC, or other such accrediting or licensing body if available.
 - Industry provided food and beverages are prohibited at educational programs in which the only attendees are from MUSC, both on campus and off campus.
 - Students or trainees may participate in the continuing education programs as long as the programs are structured group settings that are supervised by faculty.
 - Appropriate disclosure statements are made in any pre-meeting announcement and by the speaker prior to beginning the program.
 - Companies seeking to provide support for CE programs may do so through unrestricted educational grants.

8. Educational Materials and Equipment

Donations of educational materials and equipment may be accepted. Such donations are expected to be used by faculty, staff, students and trainees and are not expected to be used by a single Covered Person. Donations are expected to be donated directly to an appropriate college or

departmental official within the University or a University affiliate, and documentation of the donation, including the value of the equipment donated and the date of the donation, should be retained. Donations of capital equipment require approval of the Vice President for Academic Affairs and Provost, except in cases of sponsored research, in which equipment donations are managed by the Office of Research and Sponsored Programs.

9. Scholarships and other Educational Funding for Students and Residents

Industry support for student scholarships, residents and fellows should be made in cooperation with the appropriate MUSC entity or University official. This may include the MUSC Foundation or the MUSC Foundation for Research Development, the Development Office, the Office of Research and Sponsored Programs or senior leadership according to the Institution's policies and procedures. Covered Persons must obtain approval from the department chair, division director or college dean before soliciting Industry for these purposes. The appropriate MUSC entity or University Official must manage and oversee the receipt of such Industry support. The evaluation and selection of recipients of such funds and use of such funds must be at the sole discretion of the University, college, or department. All potential industry sponsors should be given the opportunity to contribute.

10. Charitable Contributions

Charitable contributions from industry for the benefit of the University or any of its affiliates must be made through the appropriate University channels. This may include the Development Office, MUSC Foundation or University leadership. The distribution of charitable contributions for their intended purposes will be the responsibility of the department, division director, college deans, and administration. Industry funding for sponsored projects (funding provided which is subject to terms and conditions) is accepted and managed on behalf of MUSC by the Office of Research and Sponsored Programs (ORSP).

11. Pharmaceutical Samples

Drug samples that are provided for distribution to patients will be handled in accordance with MUHA Policy C-26, Medication Samples.

12. Site Access

The MUSC Medical Center recognizes the value of information provided by various industry representatives but intends to limit access to its personnel and facilities to prevent interference with patient care activities. All vendors are expected to adhere to policy A-15, Account/Vendor Representatives <https://www.musc.edu/medcenter/policy/Med/A015.pdf> or any applicable contract with the vendor.

13. Use of Confidential Information

Unauthorized use of confidential, privileged or proprietary information by Covered Persons or their family members is prohibited. This includes but is not limited to, disclosure of such information to commercial entities without authorization; unauthorized use of such information to engage in a relationship with a commercial entity that leads to a Personal Financial Benefit or Economic Benefit for the Covered Person or their family member.

14. Purchasing

Covered Persons with any financial interest in any particular manufacturer of pharmaceuticals, devices or equipment or any provider of goods or services, must disclose such interests and recuse themselves from purchasing decisions relevant to the conflicting interests. Any Covered Person whose expertise is necessary to evaluate any product must disclose his/her financial ties to any manufacturer of that or any related product to those charged with the responsibility of making the purchasing decision.

15. Exceptions

The University Conflict of Interest Committee will review/consider requests for exceptions to this policy. Request for exceptions must be submitted in writing to the Conflict of Interest Office. Resolution of such requests will be documented in the minutes of the University Conflict of Interest Committee and reported back to the requestor and their supervisor. If additional recourse is desired after review and action by the University Conflict of Interest Committee, a Covered Person may submit their request in writing to the MUSC Vice President for Academic Affairs & Provost for appeal.

16. Disclosure and Notification

Covered Persons shall disclose all relationships with commercial entities as described in the MUSC/MUHA Board of Trustees Conflict of Interest Policy. This policy can be found at www.musc.edu/coi.

If there is a question about appropriate interaction with a commercial entity or the potential for a Conflict of Interest, the Covered Person should consult with individuals within their chain of command, the MUSC Conflict of Interest Office, MUSC, MUHA or UMA Office of Compliance, or the MUSC General Counsel's Office for guidance.

17. Sanctions for Violations

Violations of this Policy, including the failure to avoid a prohibited activity or disclose relationships with commercial entities will be dealt with in accordance with applicable policies and procedures that may include disciplinary action up to and including termination of employment or medical staff privileges. Sanctions may include suspension or dismissal, non-renewal of appointment, denial of eligibility to engage in research funded through MUSC, denial of merit pay, or other appropriate penalties. Such sanctions may require giving notice of relevant information to funding agencies, professional bodies or journals, or the public. Termination of

medical staff privileges or denial of medical staff privileges under this policy will not be based upon a physician's individual competence, quality of care, or professional conduct. Therefore, the revocation or denial of appointment or reappointment will not be reportable to any agency or databank.

The Vice President for Academic Affairs and Provost will determine the methods of resolving non-compliance with this policy and applying sanctions. The Provost may refer the matter to the appropriate College Dean or in the case of affiliates, to the senior administrative officer of that affiliate, take action on his or her own, or initiate MUSC procedures governing such discipline.

The Board of Trustees, as the ultimate governing body, or its designee, retains authority to make a final determination of any matter covered by this policy.

18. Office Responsible for this Policy

University Conflict of Interest Office

19. References and Resources

- Korn D. Carlat D. Conflicts of interest in medical education: Recommendations from the Pew Task Force on medical conflicts of interest. *Journal of the American Medical Association*. 310(22):2397-2398, 2013.
- Boumil MM. Cutrell ES. Lowney KE. Berman HA. Pharmaceutical speakers' bureaus, academic freedom, and the management of promotional speaking at academic medical centers. *Journal of Law, Medicine & Ethics*. 40(2):311-25, 2012.

For further information regarding conflicts of interest in medicine and academics related to Industry relationships, visit the Industry Relations webpage (www.musc.edu/coi/industryrelations/industryrelations) on the Conflict of Interest website.

FACILITIES
ACADEMIC/RESEARCH
PROJECT SCOPE CHANGE

FOR APPROVAL

February 14, 2014

PROJECT TITLE: Basic Science Building East Side Exhaust and Emergency Power Improvements

PROJECT NUMBER: H51-9812

FUNDS REDIRECTED: \$ 900,000

SOURCE(S) OF FUNDS: State Institution Bonds and Institutional Capital Project Fund

JUSTIFICATION: We would like to add to this project scope the replacement of the Basic Science Building East Side Hot Water Riser System. The existing east side system is over 40 years old and is beyond its useful service life. The pipe has significant deterioration and needs to be replaced. Project H51-9812 was approved by the Board of Trustees as part of the FY11 Capital Budget. The initial project scope involved the renovation of the exhaust and emergency power systems in the east half of the Basic Science Building to allow this area to be developed into research lab space.

Due to favorable market conditions and design efficiency, we are projecting a \$900,000 favorable variance.

We are asking the Board to approve this addition to the project scope using the favorable variance to fund it.

FACILITIES

ACADEMIC/RESEARCH

ESTABLISH PROJECT

FOR APPROVAL

February 14, 2014

PROJECT TITLE: Basic Science Building 5th Floor Dental Medicine Office
and Lab Renovations

PROJECT NUMBER: To Be Determined

TOTAL ESTIMATED BUDGET: \$ 800,000

SOURCE(S) OF FUNDS: College of Dental Medicine Reserve Funds

JUSTIFICATION: This project will renovate approximately 6,000 square feet of space on the 5th floor of the Basic Science Building to create additional office and lab space for faculty within the College of Dental Medicine. The increase in the College's class size from 55 to 75 students has necessitated the need for more faculty. This renovation will provide the additional office space for approximately twenty-one faculty and staff, improving utilization of the existing space.

We are asking the Board to approve a budget of \$800,000 for this project.

FACILITIES

ACADEMIC/RESEARCH

BUDGET ADJUSTMENTS

FOR APPROVAL

February 14, 2014

PROJECT TITLE: (1) Thurmond/Gazes Research Building Tower Pump & Piping Reconfiguration
(2) Waring Library HVAC System Replacement

PROJECT NUMBER: H51-9824

FUNDS RE-DIRECTED: \$ 350,000

SOURCE(S) OF FUNDS: Capital Reserve Fund and State Lottery Appropriations

JUSTIFICATION:

- 1) **Thurmond/Gazes Research Building Tower Pump & Piping Reconfiguration:** It was discovered during the design that an increased amount of piping needed to be replaced. Additionally, the bid results were higher than anticipated. A need of \$350,000 was noted in the FY13 Capital Budget. We are asking for a budget increase of \$200,000, for a total cost of \$550,000 to complete this project.
- 2) **Waring Library HVAC System Replacement:** A cost of \$200,000 was initially allocated for this work, however, during the design it was identified that the installation was more complicated than anticipated. Soffits would need to be modified, as well as the location of the air handler. We are asking for a budget increase of \$150,000, for a total cost of \$350,000 to complete this project.

Project H51-9824 was approved by the Board of Trustees as part of the FY13 Capital Budget and was made up of various deferred maintenance needs. Included in this were HVAC renovations for the 3rd & 4th floors of the Colbert Education Center/Library Building. The bid for these renovations came in significantly less than expected, so we would like to use some of the savings on the two deferred maintenance needs.

We are asking the Board to approve these cost adjustments for deferred maintenance needs that are part of the current approved project budget.

FACILITIES
ACADEMIC/RESEARCH
PROJECT SCOPE CHANGES
FOR APPROVAL

February 14, 2014

PROJECT TITLE: College of Health Professions Research Building Install of VAV System with Hot Water Reheat

PROJECT NUMBER: H51-9820

FUNDS RE-DIRECTED: \$ 350,000

SOURCE(S) OF FUNDS: Capital Reserve Funds

JUSTIFICATION: This deferred maintenance project in the College of Health Professions Research Building is to install a VAV System with Hot Water Reheat. The system within the building is approximately 35 years old and is the original one. It is very inefficient with electric reheat, requiring a significant amount of maintenance. A new system will be more energy efficient with less upkeep. The cost is \$350,000.

Project H51-9820 was approved by the Board of Trustees as part of the FY12 Capital Budget and was made up of various deferred maintenance needs. Included in this was the replacement of the Clinical Sciences chillers #2 and #3. The bid for this work came in significantly less than originally estimated, so we would like to use some of the savings on the installation of the VAV System.

In closing, we are asking the Board to approve this additional deferred maintenance need that is part of the current approved project budget.