AIM Funded Programs 2010-11

The Center for Teaching of America’s Western Foundations 1

The Center for Innovation and Entrepreneurship 11
Evidence of Sustainability and Feasibility

1. The most important accomplishment of the Study and its value to the University.

The Center has accomplished a number of noteworthy projects this year. Our most important accomplishment is the receipt of a $167,000 grant from the Walmart Foundation to hold Summer Seminars in Great Books for Georgia high school teachers. Two of these two-week seminars, titled “Citizenship and the Culture of Freedom,” will be held on Mercer’s Macon campus in June. The program is designed to expose participating teachers to Mercer’s innovative Great Books program in the hopes that they can integrate some of its unique content and pedagogy into their own classes.

Forty participating teachers, from nearly thirty high schools across the state, have been accepted into this program (the list includes eight private schools particularly targeted by Mercer admissions). Not only will participants receive two weeks of instruction from Mercer’s dynamic Great Books faculty, but they will each enjoy over $150 worth of books, a generous stipend, and four Professional Learning Units. They will also attend a Saturday fieldtrip to Savannah led by a Center faculty member in the History Department. These participants, some of the very best high school teachers in the state, will return to their respective campuses committed to enriching the content of their curriculum, and excited about the unique programs and intellectual life of Mercer University.

The potential benefits to Mercer are enormous. The program, like Mercer’s Great Books program as a whole, is designed to inspire students and to promote a rich intellectual life. The program’s participants have the potential to excite students with great texts and ideas for years, and even decades, to come. Every time one of their pupils is inspired by Aeschylus or Shakespeare or The Federalist Papers, they can report that Mercer is one of the few universities in the country to have an
entire program of study dedicated to the close reading of such texts. Mercer could have no better ambassadors (or recruiters) than a cadre of excellent teachers committed to promoting one of our signature programs. We hope that a continued partnership with the Walmart Foundation can build Mercer’s reputation in the high schools to the point that we will become rightly recognized as the Southeast’s *premier* institution for the serious study of Great Books.

2. **Describe progress made toward fiscal sustainability of the proposed project.**

In the past two years, the Center has submitted major grant proposals to five different entities (The Walmart Foundation, the Jack Miller Center for Teaching America’s Founding Principles and History, the Apgar Foundation, the U.S. Department of Education, and the National Endowment for the Humanities). Two of these proposals have been successful: we have received $167,000 from the Walmart Foundation and a $20,000 gift of books from the Jack Miller Center. While we are gratified that these successful proposals guarantee that we have brought in more external money than we have received from the University, we are even more excited about the future.

We detailed above the Summer Seminar program, made possible by a $167,000 grant from the Walmart Foundation ([http://walmartstores.com/CommunityGiving/203.aspx](http://walmartstores.com/CommunityGiving/203.aspx)). We plan to reapply to the Walmart Foundation next year, and hope that the success of the program this summer will improve our chances of establishing a long and productive relationship with the Foundation.

The Jack Miller Center ([www.jackmillercenter.org](http://www.jackmillercenter.org)) continues to be a strong supporter of our efforts. The Miller Center’s central mission is to “provide programs and resources that are needed to support and increase the number of colleges and college professors who teach” our founding principles and history. The kinds of programs our Center proposes (lecture series, high school teacher workshops, faculty/student reading groups, etc.) are precisely the kinds of programs the Miller Center exists to fund. Five of our Center faculty members (Drs. Jordan, Thomas, Oberrieder, Beaulier, and Hintermaier) have
attended Miller Center Summer Institutes. This shows the Miller Center’s real interest in Mercer and their commitment to our project.

This commitment was further shown by the Miller Center’s decision in 2009 to donate a $20,000 collection of books (over 600 volumes, including the entire catalogue of Liberty Fund, Inc.) to our Center. This gift will be housed in our new home in the recently renovated Ryals 204/207 complex. Dr. Jordan attended the Miller Center Summit on Higher Education in November, and we are in ongoing discussions with the Miller Center about how they can best contribute to our mission and programming in the coming years.

The Center was asked in August to submit an application to the Apgar Foundation (http://www.apgarfoundation.org/index.html), a private foundation interested in funding higher education projects “that increase knowledge of and exposure to aspects of Western and American culture that have been instrumental in creating and sustaining the United States and other liberal democracies.” After an initial screening, our Center was one of 40 projects nationwide selected to apply for twelve $25,000 grants. Although our application was not selected this spring, we have been invited to reapply in the fall, and look forward to building a relationship with this foundation.

Our fourth and fifth major funding proposals were made to the federal government. We submitted in spring 2009 a $135,000 grant application for a National Endowment for the Humanities Summer Institute for school teachers. On March 20, 2010, a $1,000,000 grant application was submitted to the U.S. Department of Education’s Teaching American History (TAH) program by the Middle Georgia Regional Educational Services Agency (RESA). Mercer University and our Center are primary partners in this application. The grant was largely written by Dr. Peter Brown and Center faculty. If successful, this grant would allow 50 Middle Georgia school teachers to attend American history workshops at
Mercer during each of the next three years (and perhaps renewable to five). These federal grant programs give an idea of the public money available to conduct our outreach to high school teachers.

3. **Describe the most compelling evidence for the feasibility of the proposed project.**

   The most compelling evidence for the Center’s feasibility can be found in our Documentation of Progress. We again proposed a very ambitious program, and in most cases delivered above and beyond our expected outcomes. The faculty team proved to be exceptionally well fitted to the task of running the Center. We have also found that Mercer has excellent facilities to house our Center (from the Alumni House to the beautiful Fickling Recital Hall and our new spaces in Ryals Hall). Perhaps most importantly, the University has, in the Great Books Program, an established academic program that beautifully complements the mission of the Center. As one of our invited consultants from last year pointed out, most Centers like ours have an ultimate goal to create something like Mercer’s Great Books program. He described our situation as “already having the cake, and now just concentrating on the icing.” This year again showed that we have all the pieces in place to apply such icing.

   This summer, we will be running first-class Great Books Seminars for 40 high school teachers, a goal that just two years ago seemed potentially beyond our grasp. The Center’s first major publication will appear within the year. This March’s Annual Conference on Great Books and Ideas was our biggest and best academic event yet. Participant Dr. Aristide Tessitore writes, “having been involved in similar programs here [at Furman Univerity], I realize how much is involved in planning and execution. You all made it look easy. My first visit to Mercer left me impressed with the school and especially with what you all have been able to accomplish in the program and with your students.” We are no longer figuring out “if” the Center can work, but how to build on our record of past success.

4. **The importance of the proposed project to the University.** The University has benefited, and will continue to benefit, from the Center in a variety of ways. First, and perhaps most immediately, the
University stands to receive tens of thousands of dollars in “indirect costs” if the current (and future) grant applications are accepted. Second, as detailed above, the high school teacher Summer Seminars will serve as valuable tools for attracting good students to Mercer and our signature programs. The proposed high school student Summer Seminars are designed to serve the same purpose. Third, the speaker series, annual conference, book gift, and successful grants all significantly affect the prestige of the University. Fourth, the edited volume, *The Good Human Life and the American Political Order: Essays on America’s Western Foundations* (Mercer University Press, 2011), will make a genuine contribution to scholarship. Fifth, the Center will, through its proposed faculty and student research fellowship program, continue to encourage serious scholarship on campus. Finally, and perhaps most importantly, the Center has made (and will continue to make through programs such as the faculty-student reading groups) a real contribution to enhancing the learning environment for our students.

For the second year in a row, the combined student attendance at all Center academic events exceeded 1000. At our Annual Conference, the first-year students in GBK 202 were treated to two days of instruction and illumination from some of the nation’s finest scholars of Plato and Aristotle. At the same Conference, our upper-level students were able to show off their impressive original research. A Mercer junior was able to have lunch with Dr. Mary Nichols, and talk about graduate school with the woman who might someday serve as her dissertation advisor. All of our visiting scholars have left deeply impressed by Mercer and the energetic and well-informed crowds of students attending their talks. Countless times we have heard, “I could never imagine a crowd like this for a lecture at my institution.” In sum, our guests have raved about the kind of place Mercer is: a place where students and teachers read and think about important books in serious ways; the kind of place that all universities should be but most are not. The Center is proud to contribute to the intellectual life of such a place.
Documented Progress

1. Mercer University faculty and staff who have been directly engaged in the project.

   Dr. Will R. Jordan (Center Co-Director and Associate Professor of Political Science); Dr. Matthew Oberrieder (Center Co-Director and Assistant Professor of Philosophy); Dr. Susan Malone (Center Co-Director and Associate Dean of Tift College of Education); Dr. Charlotte Thomas (Professor of Philosophy and future Center Co-Director); Dr. Scott Beaulier (Assistant Professor of Economics, SSBE); Dr. Sarah Gardner (Associate Professor of History); Dr. John Hintermaier (Assistant Professor of History); Dr. Tom Huber (Professor of Biology); Dr. Mark Jones (Professor, Walter of George School of Law); Dr. Achim Kopp (Associate Professor of Foreign Languages); Dr. John Thomas Scott (Professor of History); Dr. Beth Stewart (Professor of Art); Dr. Bryan Whitfield (Associate Professor of Christianity).

2. Other personnel (names and titles) who are directly contributing to the project. N/A

3. Timeline of Activities undertaken for the Study.

   July 2009: The Center received a $167,000 grant from the Walmart Foundation to conduct two two-week seminars in Great Books for 40 High School Teachers in June of 2010.

   September: Drs. Oberrieder and Jordan signed a contract with Mercer University Press to publish the volume *The Good Human Life and the American Political Order*, a collection of essays from the Center’s 2008-2009 speaker series.

   October 1: **Dr. James Otteson**, Professor of Philosophy and Economics at Yeshiva University delivered the lecture “The Scottish Enlightenment on the Promise and Peril of Commercial Society.” This event was co-sponsored with Mercer’s Center for Undergraduate Research in Public Policy and Capitalism. Approximately 250 Mercer students and faculty attended.

   October 2: **Dr. Otteson** led a faculty-student seminar on Adam Smith’s *Theory of Moral Sentiments.*

   October 26: **Dr. Patrick Deneen**, Professor of Political Science at Georgetown University delivered the lecture "The Sustainable Republic and the Alternative Tradition in America." This event dovetailed with Mercer’s Caring for Creation Conference. Approximately 100 Mercer students and faculty attended.
October 27: **Dr. Deneen** led a faculty-student seminar on Homer’s *Odyssey*.

November 5-6: Dr. Jordan attended the Jack Miller Center Summit on Higher Education in Philadelphia, PA. This summit included programming and workshops on center-building.  
[www.jackmillercenter.org/programs/summits-on-higher-education/](http://www.jackmillercenter.org/programs/summits-on-higher-education/)

November 12: **Dr. Paul Rahe**, Professor of History at Hillsdale College delivered the lecture "Machiavelli and the Anti-Political Foundations of Politics in the Modern Republic." Approximately 150 Mercer students and faculty attended.

November 13: **Dr. Rahe** led a faculty-student seminar on Machiavelli’s *The Prince*.

January: Construction began on Ryals 204/207, serving as the Center’s physical home, with a seminar classroom and library reading room.

February 15: Center produced and submitted a $25,000 Grant Application to the **Apgar Foundation** for two faculty-student reading groups in 2010-11. The Center was one of only 40 programs nationwide invited to apply.

March: The Center was a listed partner in a $1,000,000 **Teaching American History (TAH)** grant application to the U.S. Department of Education, submitted by the Middle Georgia RESA for high school teacher workshops.

March 24-6: “The Ancient Republic and the Birth of Political Philosophy,” Center’s **Third Annual Conference on Great Books and Ideas**.

March 24: **Dr. Jacob Howland**, Professor of Philosophy at the University of Tulsa delivered the lecture "Plato's *Republic* and the Politics of Convalescence." Approximately 150 Mercer students and faculty attended.

March 25: **Dr. Mary Nichols**, Professor of Political Science at Baylor University delivered the lecture “Aristotle's Critique of Plato as Support for a Republican Politics.” Approximately 150 Mercer students and faculty attended.

**Student Panel**, featuring the original research of five Mercer students. Approximately 75 Mercer students and faculty attended.

**Guest Faculty Panel I**, featuring **Aristide Tessitore** (Furman University), **Joseph Knippenberg** (Oglethorpe University), and **Sean Mattie** (Clayton State University). Approximately 75 Mercer students and faculty attended.
Guest Faculty Panel II, featuring Joshua Parens (University of Dallas), Dan Cullen (Rhodes College), and Kevin Cherry (St. Anselm College). Approximately 75 Mercer students and faculty attended.

4. Progress made towards tasks, products, and outcomes.
   a. Organize and conduct a five-speaker lecture series. **Completed In Part.** The Center successfully conducted a three-speaker series on “Republics Ancient and Modern” (partnering successfully with SSBE’s Center for Undergraduate Research in Public Policy and Capitalism for one of these lectures). Our proposed joint venture with the School of Law was shelved after unsuccessful invitations to two speakers. The final proposed speaker was rolled into our Spring Conference, enhancing it considerably.
   b. Organize and conduct an on-campus conference, “The Ancient Republic and the Birth of Political Philosophy,” including a student panel, guest faculty panel, and keynote speaker. **Completed Successfully.** Our conference exceeded our original plans, and included two faculty panels and several nationally recognized scholars in addition to our two primary lecturers. Overall, (between a & b) eleven excellent scholars were brought to campus by the Center this year.
   c. Bring to Mercer two external consultants to advise the collaborating faculty on operating the Center full-scale, long-term, and to strategize about securing future external funding. **Completed Successfully.** Three of our invited speakers (Patrick Deneen, Aristide Tessitore, and Dan Cullen) direct academic Centers with missions similar to our Center. They provided invaluable advice about funding opportunities and programming innovations. Additionally, Dr. Jordan attended the Jack Miller Center Summit in Philadelphia, networking with potential funding sources. A representative of the Apgar Foundation was invited to attend our Conference, but was ultimately unable to attend.
   d. Administer a student fellowship program. **Completed Successfully.** The Center gave out four research fellowships to Mercer students who presented papers at the Spring Conference. A fifth fellowship was granted to a Mercer student for developing model lesson plans for the teacher participants in the Summer Seminars in Great Books.
   e. Administer a faculty fellowship program. **Completed Successfully.** Two faculty fellowships were presented this year. The program will be greatly expanded next year.
f. Collect and edit the lectures from the speaker series and conference for publication. **Completed Successfully.** A contract has been signed with Mercer University Press to publish *The Good Human Life and the American Political Order: Essays on America’s Western Foundations*, collecting the work of the Center’s 2008-2009 programming. A future volume (collecting the 2009-10 essays) is planned and will be proposed soon.

g. Conduct an open-submission, multi-session, humanities conference for undergraduates. **Completed Successfully.** A successful conference on a larger scale than initially imagined was held on April 19. The Center was a major financial sponsor (though not the sole sponsor) and Center faculty served on the organizing committee.

h. Conduct two one-week Great Books Seminars in summer 2010 for high school teachers. **Work in Progress.** The Center received a $167,000 grant from the Walmart foundation to conduct two TWO-week Great Books Seminars. Forty teachers have been recruited from almost 30 Georgia high schools, and the program will begin on June 7.

i. Write and submit a grant proposal to the National Endowment for the Humanities. **Not Completed.** The Center has focused thus far on other grant opportunities. We have a solid draft proposal, however, with NEH feedback from 2009.

j. Write and submit a “Teaching American History” grant proposal to the U.S. Department of Education. **Completed Successfully.** Thought not the principle author, the Center is a chief partner with the Middle Georgia RESA in a $1,000,000 application submitted in March. If successful, the program will rely heavily on Center faculty.

k. Produce publicity and promotional materials, including a Center website. **Completed Successfully/Work in Progress.** The Center has a web presence ([http://www2.mercer.edu/TeachFoundations](http://www2.mercer.edu/TeachFoundations)) and Facebook Fanpage, and is working with a company on a professional website in conjunction with the Walmart grant.

l. Renovate Ryals 204 to serve as the Center’s physical home. **Work in Progress—Nearing Successful Completion.** The formerly unusable space has been renovated into two beautiful rooms, one serving as a seminar classroom and one as a library/reading room (housing the donated $20,000 collection of Liberty Fund books). The construction is done, and all that remains is the furniture order. The first order should be placed by the end of April. The rooms are to be used in June for the Summer Seminars in Great Books for high school teachers.
5. Unexpected opportunities for the Study and our response.

Two unexpected opportunities are especially worth mentioning.

First, the Center was asked in August to submit an application to the Apgar Foundation, a private foundation interested in funding higher education projects advancing the study of Western civilization and the American founding. Mercer’s Center was one of 40 projects nationwide selected to apply in February for twelve $25,000 grants. We put together a proposal for two faculty-student reading groups (one in fall 2010 on Xenophon and one in spring 2011 on Alexis de Tocqueville’s Democracy in America). These groups (made up of 5 Mercer faculty members and 8 Mercer undergraduates) will each meet six times, spaced every two weeks. The final meeting will correspond with a visit from one of the Center’s invited speakers, and this speaker will be a nationally recognized scholar of the book under discussion. Having the opportunity to sit down for 90 minutes with one of the world’s best scholars of the book we’ve spent a semester reading and discussing will create exactly the kind of deep and transformative intellectual experience we desire. We feel this model will have a much more focused and powerful impact than a stand-alone public lecture. Unfortunately, we were not selected as one of Apgar’s twelve recipients, but they urged us to reapply in the fall. We like this model so much, however, that we have decided to go ahead, using some of the AIM money originally set aside for high school teacher workshops. This money is available because of the second unexpected opportunity.

In July, the Center found out that we had been awarded a $167,000 grant from the Walmart Foundation to carry out a pair of two-week Summer Seminars in Great Books for high school teachers. Since July, we have been busy designing brochures, recruiting teachers from across the state, selecting our 40 participants, designing a curriculum, ordering materials, registering with the Georgia Department of Education as an official dispenser of Professional Learning Units, and arranging all of the logistics on campus. We have learned a great deal, and are looking forward to putting on a first class program. The first two-week Great Books Seminar, titled “Citizenship and the Culture of Freedom” will begin on June 7th.

Our original AIM budget proposed using AIM money to run such a program. Because the Walmart Foundation has picked up the bill, we plan to redirect our efforts to two new programs. The first is a one-week Summer Great Books Seminar for high school students, to be held in June 2011. The second is the faculty-student reading groups discussed above. These new programs will be detailed in our revised annual budget.
Mercer University
Academic Initiatives Monetary Fund (AIM Fund) Application

Cover Sheet

Deadline for submission of application and signed cover sheet: February 22, 2010, 5:00 PM

X Pilot Project

Project Title: Center for Innovation and Entrepreneurship

Lead Faculty: Ramachandran Radharamanan
Professor of Industrial Engineering
E-mail: radharaman_r@mercer.edu
Phone: (478) 301-2215; Fax: (478) 301-2331
School of Engineering, Mercer University
1400 Coleman Avenue, Macon, GA 31207-0001

Other participating Faculty and Staff:
Ha Van Vo, Assistant Professor of Biomedical Engineering
Jeng-Nan Juang, Associate Professor of Electrical and Computer Engineering
Hendry Edward Young, Professor of Anatomy
David G. Oedel, Professor of Law
Kimberly A. Freeman, Assistant Professor of Management

Category of Funding, Amount, and Project Duration

___ Feasibility Study
Amount requested: $____________ (maximum $35,000; 1 year limit)

X Pilot Project
Amount requested year 1: $100,000
Amount requested year 2: $100,000
Signatures

Faculty Participants:

Ramachandran Radharamanan, Professor
Industrial Engineering

Ha Van Vo, Assistant Professor
Biomedical Engineering

Jong-Nan Juang, Associate Professor
Electrical and Computer Engineering

Hendry Edward Young, Professor
School of Medicine

David G. Oedel, Professor
School of Law

Kimberly A. Freeman, Assistant Professor
School of Business & Economics

Deans:

Wade H. Shaw
School of Engineering

William F. Bina III
School of Medicine

Daisy Hurst Floyd
School of Law

David Shields
School of Business & Economics

Table of Contents
Abstract
The overall objective of this proposal is to establish a self-sustaining Center for Innovation and Entrepreneurship (CIE) at the Mercer Campus. This center will serve to promote and enhance cross-disciplinary educational programs (teaching, collaboration, and learning) as well as research and scholarly activities among Mercer faculty and students on innovation, creativity, and entrepreneurship. The School of Engineering, School of Medicine, School of Law, and School of Business and Economics will be involved in this program. The center will focus on fostering innovation and creativity among faculty and students thereby providing experience in the knowledge, skills, and attitude of the entrepreneurial mindset. Once established, this center will support the following: educational interdisciplinary curricula and co-curricular activities directly benefiting undergraduate, graduate, and professional students in all engineering specializations and programs in business, medical, and law schools; and individual and cross-disciplinary research initiatives designed to attract extramural funding from multiple government and private funding sources. The CIE will involve the expansion of the Mercer Entrepreneurship Engineering Education Program (MEEEP). MEEEP was established in 2007 through Kern Family Foundation Grants and Grants from National Collegiate Inventors and Innovators Alliance (NCIIA). The CIE will enhance the activities of MEEEP and provide multi- and cross-disciplinary teaching, learning, and research opportunities on innovation and entrepreneurship to Mercer faculty and students. The CIE will make it possible for the different elements within the "House of Knowledge" of the university to unite in a common purpose to develop a viable entrepreneurial program. The center will: (1) develop and offer courses on innovation and entrepreneurship to undergraduate, professional, and graduate students; (2) provide training to faculty on innovation and entrepreneurship; (3) promote entrepreneurial concepts and fund multi-disciplinary freshman designs projects, honors projects, class projects, and senior design projects at different levels and applications; (4) organize KEEN (Kern Engineering Entrepreneurship Network) regional conferences at the Mercer Campus; (5) facilitate faculty and student participation in KEEN, NCIIA, and other related national and international conferences and workshops; (6) publish research papers in journals and conference proceedings; (7) encourage student participation in regional and national competitions sponsored by professional organizations; (8) seek extramural funding through multi-disciplinary projects from government and private funding agencies; (9) involve Mercer alumni in all CIE activities; (10) network with KEEN Schools and other colleges and universities; and (11) engage faculty and students in businesses. The CIE will be open to all other Mercer schools to participate and collaborate in all center activities. Initially, the center will focus on the development of the following products and processes: low-cost prostheses for amputees, low-cost medical implants/devices, and cost-effective alternate energy technologies for commercial and residential use. These projects will be selected because they have the greatest potential to benefit the people living in poverty globally as well as in industrialized countries. A business model consisting of teaching, learning, research, prototyping, patenting, and marketing components will be identified, developed, and implemented for long-term sustainability of the activities of the center during the pilot project development period.

Proposal Description and Rationale
Work Plan

1. **Nature and Purpose of the Initiative**

   This proposal seeks funding for a self-sustainable Center for Innovation and Entrepreneurship (CIE) focusing on cross-disciplinary educational programs (teaching, collaboration, and learning) as well as research and scholarly activities among Mercer faculty and students. This award will enhance the current activities of MEEEP, which was established in 2007 through grants from the Kern Family Foundation and the NCIIA. This unique center will initially involve the School of Engineering, School of Medicine, School of Law, and School of Business and Economics. Possible future participation is envisioned from other colleges and schools such as College of Nursing, College of Pharmacy and Health Sciences, School of Theology, and School of Music. The CIE will provide an interdisciplinary collaboration that is necessary for submitting competitive extramural funding proposals. It will serve as a platform for diverse scholarly activities, curricular and co-curricular enhancements. The CIE will concentrate on educational as well as scholarly activities. The educational opportunities will be focused on developing and offering a minor in entrepreneurship across the Mercer campus covering all aspects of innovation, creativity, and entrepreneurship. These activities will foster the development of an entrepreneurial mindset in its participants (Appendix A). The courses will focus on project/case-based teaching, innovation, and learning. The scholarly activities will initially focus on the development of affordable low-cost prostheses for needy above and below knee amputees in Vietnam and other countries, low-cost medical implants and devices, and cost-effective alternate energy technologies. As the center develops there will be opportunities for innovative interdisciplinary initiatives by the faculty and students from all participating schools and colleges. Findings from the research conducted at the center will be presented at national and international conferences and published in journals and conference proceedings.

   Funding from this proposal provides (1) limited salaries and benefits for participating faculty; (2) stipend for engaging undergraduate and graduate students in interdisciplinary research; (3) training of faculty and students in the development of an entrepreneurial mindset through workshops and seminars; (4) participation in KEEN and NCIIA conferences; (5) the development and implementation of a successful business model for CIE following visit to centers that are nationally/internationally known to foster innovation and entrepreneurship; (6) purchasing supplies, and equipment for research in manufacturing, biomedical, and energy systems; and (7) support for technicians, web designer, and staff. AIM funding will permit organizing teaching, learning, entrepreneurial, and scholarly activities in order to successfully compete in aggressively seeking extramural
funding. These organizational activities will increase the success of obtaining extramural funding, thus ensuring the continued viability of CIE. The commitment of the participating faculty to the proposed curricular and research goals and objectives can be seen from their past track records as indicated in their CVs (Appendix D).

2. **Tasks and Responsibilities (with timeline)**

Dr. Radharamanan will be responsible for directing and coordinating the activities of the CIE. He and the participating faculty will develop the curriculum for the entrepreneurship minor and graduate level innovation and entrepreneurship courses that are essential for education in entrepreneurship at the Mercer campus. KEEN schools/other universities having entrepreneurship programs will be consulted during the development of this curriculum. Interdisciplinary research proposals will be submitted to government and private funding agencies.

The tasks and responsibilities with timeline during the pilot project period are given in the following table.

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<thead>
<tr>
<th>Year</th>
<th>Activities</th>
<th>Persons Responsible</th>
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<tbody>
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<td>2010-2011</td>
<td>• Develop Curriculum: Entrepreneurship Minor</td>
<td>2010/2011: ALL</td>
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<td>• Cross-Disciplinary Teaching and Research</td>
<td>ALL</td>
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<td>• Faculty Workshop on the Entrepreneurial Mindset at the Mercer Campus</td>
<td>Fall 2010: RRR</td>
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<td>• Organize a KEEN Regional Conference at Mercer Campus</td>
<td>Fall 2010: RRR &amp; HVV</td>
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<td>• Promote Mercer Entrepreneurship Student Club Activities</td>
<td>2010/2011: HVV &amp; RRR</td>
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<td>• Network with Mercer Alumni/Local Entrepreneurs &amp; Fund Raising</td>
<td>2010/2011: JNJ &amp; RRR</td>
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<td>• Write Research Proposals to Funding Agencies</td>
<td>2010: HVV &amp; RRR</td>
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<td></td>
<td>• Coordinate Faculty/Student participation in NCIIA Annual Conferences</td>
<td>2010: RRR &amp; HVV</td>
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<td></td>
<td>• Coordinate Faculty/Administrators Participation in KEEN Conferences</td>
<td>2010/2011: RRR &amp; HVV</td>
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<td>• Develop Entrepreneurial Network in Asia</td>
<td>RRR, HVV, &amp; JNJ</td>
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<td>• Work on Design/Research Projects</td>
<td>HEY, HVV, &amp; RRR</td>
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<td>- Medical/Biomedical</td>
<td>RRR, HVV, &amp; JNJ</td>
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<td>- Manufacturing, Robotics, Automation</td>
<td>JNJ &amp; RRR</td>
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<td>- Energy, Fiber Optics, Lasers</td>
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<td>- Cross Disciplinary Projects</td>
<td>KAF, RRR &amp; HVV</td>
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<td>- Business Plan Development, Marketing Strategies</td>
<td>DGO, KAF</td>
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<td>- Patenting, IP Policies, Legal Issues, Startups</td>
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<td>2011-2012</td>
<td>• Cross Disciplinary Teaching and Research</td>
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<td>• Mercor on Mission to Vietnam Engineering</td>
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<td>- Energy, Fiber Optics, Lasers</td>
<td>JNJ &amp; RRR</td>
</tr>
<tr>
<td></td>
<td>- Cross Disciplinary Projects</td>
<td>ALL</td>
</tr>
<tr>
<td></td>
<td>- Business Plan Development, Marketing Strategies</td>
<td>KAF, RRR &amp; HVV</td>
</tr>
<tr>
<td></td>
<td>- Patenting, IP Policies, Legal Issues, Startups</td>
<td>DGO, KAF</td>
</tr>
</tbody>
</table>

RRR: Ramachandran RadhaRamanan; HVV: Ha Van Vo; JNJ: Jeng-Nan Juang; HEY: Henry Edward Young; DGO: David G. Oedel; KAF: Kimberly A. Freeman; ALL: All faculty participants.
3. **Products and Outcomes**

The products that will be produced as part the CIE initiative include but are not limited to the following: (1) **Primary Products:** Development of low-cost prostheses for amputees, medical cellular and/or implant devices, equipment/devices for alternate energy sources, presentation of research results in regional/national/international conferences, publications in journals and conference proceedings, and students taking entrepreneurship minor/elective courses; (2) **Secondary Products:** curricula, instructional materials, tools and techniques, patents, protocols, resource manuals, project reports, training sessions/workshops, and conferences; and (3) **Tertiary Products:** Increases in undergraduate/graduate student enrollment, increases in recruitment of international students, and development of national and international collaborative studies/projects through networking. Measurable outcomes from this initiative are the products mentioned above and their positive impacts on student learning, and faculty development in teaching and scholarship. The products and the measurable outcomes will certainly enhance the reputation of Mercer University. Relevant metrics for teaching, learning, scholarship, faculty development, and institutional reputation will be developed and applied to the products mentioned above. The participating faculty members’ expertise and accomplishments clearly demonstrate that they have an established record of these outcomes (Appendix D). This record augurs well for continuing these activities through CIE into the future.

**Rationale**

1. **Contribution to Teaching and Scholarship**
   a. **Impact:**

   The CIE’s contributions to teaching and scholarship include: developing cross-disciplinary and co-curricular innovation and entrepreneurship courses that can be taught to student across the campus; and promoting cross-disciplinary research activities through design projects, industry projects, research initiatives, and startup businesses for faculty and undergraduate/graduate/professional students in the participating schools. The CIE faculty will collaborate in teaching and research related to design, product/process development, prototyping, manufacturing, patenting, problem solving, medical devices, alternate energy systems, and business practices using innovative ideas. Students will gain a broad range of knowledge and an entrepreneurial mindset through hands-on experiences that will transfer the assigned engineering, medical, and business problems into real world applications. In addition, there will be opportunities for collaboration from other colleges and schools such as the College of Nursing, College of Pharmacy and Health Sciences, School of Theology, and School of Music.
The establishment of CIE will enhance the learning environment to the students through lab experience, and cross-disciplinary learning and research. The Mercer Entrepreneurship Club (already in place through MEEEP) activities will also play a significant role in enhancing the learning environment through invited speakers, and participation by the students in seminars/conferences and national competitions organized through professional organizations. The participating faculty members are nationally/internationally known for their contributions in teaching and research across discipline boundaries.

For example, School of Engineering faculty (Drs. Radharamanan, Vo, and Juang) are engaged in teaching EGR 482 (Engineering Innovation and Creativity) and EGR 483 (Entrepreneurship in Engineering Design) both of them are part of MEEEP; these two courses provide students the ability to focus on integrating elements of entrepreneurship in engineering: fostering entrepreneurial mindset, creation of new products and processes (design for manufacture and assembly, hazard analysis, verification and validation, life testing, and reliability), new venture creation, business plan development for design projects, and participation in the business plan/entrepreneurial senior design project competition. Within the Stetson School of Business and Economics, Dr. Freeman teaches both MGT 427 (Entrepreneurship) and MGT 363 (Principles of Management). Both of these courses are included as part of the MEEEP certification option. MGT 363 provides students with a framework for planning, organizing, leading, and controlling an organization, and emphasizes the importance of ethics, social responsibility, corporate culture, and globalization. The course also addresses interpersonal communication, cross-functional work teams, conflict resolution, and decision-making. In MGT 427, each student develops a business plan for an entrepreneurial venture of their choice. Students also explore the opportunities, rewards, characteristics, and competencies vital for entrepreneurs to help assess their interest in actually creating and implementing their own business. Generation of ideas to foster creativity and innovation is encouraged. Assessment of the feasibility of those ideas is accomplished through defining and researching target markets, product and pricing strategies, promotion, and the possibilities of location and distribution. Students use accounting and financial tools to create pro-forma financial statements that would be used to obtain external financing if needed. Finally, students communicate their business to the class through an oral presentation which is open to questions, comments, and input from other students and their professor. In addition, there are opportunities to do research on the development of an entrepreneurial mind-set and what motivates entrepreneurs to pursue important social values of free enterprise, independence, and social responsibility.
b. **Appropriateness:**

The CIE meets numerous strategic priorities, listed in section 5b, indicating the appropriateness of this initiative. The center will provide real-world hands-on learning experiences in emerging science and technologies to students and guide them in planning their careers. The MEEEP curriculum (Appendix B) and activities has had a strong positive influence in motivating the interest of Mercer’s students to pursue an education in entrepreneurship. These activities include engineering innovation and creativity course offerings, entrepreneurial senior design projects, yearly business plan/entrepreneurial senior design competitions, and participation of students in national competitions and conferences. The increasing enrollment in engineering and business courses related to entrepreneurship has demonstrated the worth of these activities. Faculty leadership, laboratory facilities (manufacturing, biomechanics, fiber optics, and energy systems), methods, expertise, and experience for the initiatives are already present and available. Further, there is a growing need for enhancing entrepreneurial education in the universities and colleges across the nation due to globalization and the changing markets conditions in the developing nations. The center will enhance the learning environment, address the need for innovation and entrepreneurship, and promote research and scholarly activities in emerging technologies through innovative cross-disciplinary projects. Feasibility and sustainability of CIE activities have already been demonstrated, the MEEEP activities were developed and sustained through extramural funding since 2007 (Appendix C), and hence this proposal is entirely appropriate for Mercer to undertake.

c. **Distinctiveness:**

There are similar initiatives at other institutions, but this center, CIE is unique in its formation through collaboration from School of Engineering, School of Medicine, School of Law, and School of Business and Economics. Further, the primary products of this center – developing low-cost prostheses, medical devices, and devices for alternate energy sources to meet the underserved markets in the developing nations with high volume and low profit margin are distinct and unique compared to similar initiatives at other institutions. This center will also provide research and curricular opportunities with direct access to researchers and scientists for undergraduate students. Such access is not commonly available in other institutions.

2. **Cross-Disciplinary Involvement**

a. **Interdisciplinary:**

The awakening and empowerment of the entrepreneurial spirit is too often viewed as a highly personal, idiosyncratic event, explained by the nearly-mythic personal qualities of some extraordinary individual
entrepreneur. This proposed CIE initiative at Mercer, by contrast, is an acknowledgement that successful entrepreneurship usually stems from a supportive community coalescing around the entrepreneur, who sometimes can lead, but who often also must rely on others for support and guidance. The book "Outliers" by Malcolm Gladwell helps highlight why successful people can often thank the accumulated advantages that their supportive communities have given them. The role of the community in supporting entrepreneurial activities indicates the need for the cross-disciplinary involvement in designing, prototyping, patenting, and marketing the products that is proposed in this initiative.

The engineering and medical faculty (Drs. Radharamanan, Vo, Juang, and Young) will be involved in the design and development of the proposed products (low-cost prostheses for amputees, medical cellular and/or implant devices, equipment/devices for alternate energy sources).

Dr. Oedel’s expected role would be to help organize one part of the community that typically supports the entrepreneur -- the legal community. The might of that community might be marshaled in several ways. On a general level, Dr. Oedel would help recruit law faculty and law students to design and teach programs exploring the general principles of law as they may typically apply to fledgling businesses. On a more personal and customized level, he would help organize the provision of specialized counseling and services to individual entrepreneurs. His personal goal would be to help lawyers-in-training and experienced legal counselor-professors to interact with students and professors in other disciplines who are experimenting with innovation permitted by the available economic opportunities. As a longstanding faculty member at the law school and a Georgia lawyer with knowledge of business-related subjects, he is well-positioned to help tap the resources of the law school community for this purpose.

Dr. Freeman encourages students and faculty from all disciplines across the university to develop an entrepreneurial mind-set in order to turn their creativity and innovative ideas into feasible commercial enterprises and provide a business perspective for potential entrepreneurs to help them bring their ideas into fruition.

Co-curricular and cross-disciplinary projects, research, and collaboration among students and faculty across the university could provide synergies that provide multiple perspectives that might not otherwise be realized. It would be useful to have a forum for students to present their business plans to faculty and students from a variety of perspectives beyond that of business.
b. **Collaboration:**

The CIE will actively involve faculty from various Mercer schools and colleges in offering experiential, hands-on, project/case-based electives in their schools to be carried out through the center. The faculty and students can present and execute their own research ideas at the center. The principal lead faculty, Dr. Radharamanan, will participate in teaching, research, and cross-disciplinary project development and provide general oversight and direction. Innovation and entrepreneurship is part of every participating school and hence active involvement of faculty and students from various departments, schools, and colleges will eventually take place. In addition, funds from this initiative will be used to support cross-disciplinary entrepreneurial projects emerging from faculty and students in the participating schools and colleges.

3. **Enhanced Learning Environment:**

The AIM fund will enhance inter- and cross-disciplinary projects (freshman design, honors, senior design, and industry-sponsored projects) among participating schools and colleges. The engineering and medical lab facilities and hands-on experience through entrepreneurial research projects will provide an enhanced learning environment to undergraduate and graduate students. The engineering innovation and creativity course will provide technical fundamentals including design for manufacturability and assembly, functional performance specification, hazard analysis, product and process verification and validation, efficacy, effectiveness, life testing, and reliability. Dr. Freeman will provide guidance from a business perspective to budding entrepreneurs on how to develop practical business plans that combine the management, marketing, operations, and financial projections in order to provide rationale for support and direction for internal and external constituents.

4. **Faculty Leadership:**

- **Ramachandran Radharamanan:** The principal lead faculty, Professor of Industrial Engineering, has 36 years of teaching, consulting, and research experiences in a wide variety of engineering and business disciplines related to the center activities such as: Innovation, Entrepreneurship, Design and Manufacturing (CAD, CAM/CIM, FMS), Virtual/Lean/Agile Manufacturing, Robotics and Automation, Prototyping (Virtual/Rapid), Design for Manufacturability and Assembly, Concurrent Engineering, Process Improvement and Product Quality, and Reliability Engineering. He has two teaching awards and a number of research and service awards. He is internationally known in the field of manufacturing and automation. He has served in various leadership roles in the past and present: Research Director of CAM and Robotics Center (1986-89), San Diego State University; Acting Director of Industrial Engineering (1989-90) as well as Director of Advanced Manufacturing Center (1991-95), Marquette University; Director of Mercer Entrepreneurship Engineering Education Program – MEEEP (2007-Present), Mercer University. He has working experience (teaching, consulting, and research) in Asia, Europe, and South and North Americas. He has organized and chaired/co-chaired International Conferences on: Robotics and Factories of the Future, San Diego (1987); CAD/CAM, Robotics and Factories of the Future, [New Jersey (1993); India (1998); Brazil (1999)]; Agile Manufacturing, Louisiana (1997); and Manufacturing and Engineering Systems, Taiwan (2009). He has directed/participated in more than 75 funded research projects (> 3 million dollars) during 1977-2010. He has published extensively (350+ publications) in journals and conference proceedings, and served as editor/co-editor of conference proceedings and journals.
- **Ha Van Vo**: Biomedical Engineer and Physician, has been active in research in the areas of Injury Mechanics, Innovation, Entrepreneurship, Orthopedic & Prosthetic Biomechanics, Biomaterials, and Rehabilitation Engineering that are essential for CIE. He has received grants from Kern Family Foundation and NCIIA. He is the inventor of 8 current and Pending Patents. He has been responsible for organizing the Mercer on Mission to Vietnam Program in 2009.

- **Juang-Nan Juang**: Associate Professor of Electrical and Computer Engineering has served as primary consultant for Wright Patterson Air Force Base, Dayton, Oh. He has received grants from Air Force Base and Hughes Aircraft Company. His current research interests are centered in developing low-cost alternate energy technologies, laser technology, and fiber optics communication. He has organized and chaired an international conference on Manufacturing and Engineering Systems (ICMES 2009) and a workshop on Future Aerospace Maintenance and Technology (1998) in Taiwan.

- **Henry Edward Young**: holds Professorships in Anatomy, Anesthesiology, Pediatrics, and Obstetrics & Gynecology. He has 35 years of teaching, consulting, and research experiences in a wide variety of medical, biomedical engineering and business disciplines related to the activities of the center. These include teaching Embryology, Histology, and Gross Anatomy to first and second-year medical students. He has received four teaching awards: two Hooing Awards – 1993, 1994; American Medical Women's Medical Association Gender Equity Award – 1997; and Humanism in Medicine Award – 2005. He also teaches Cell Biology, Histology, Embryology, and Gross Anatomy to Certified Registered Nurse Anesthetists. He is internationally known as a Consultant in the fields of Growth Factors and Cytokines, Stem Cell Biology, Biomedical Engineering, and Tissue Transplantation. He is an Internationally Recognized Pioneer in the field of non-hematopoietic Adult Stem Cell Biology. His awards include: International Certificate of Merit for work in Adult Limb Regeneration – 1993; International Albert Einstein Iconic Achiever Award for work in Adult Stem Cell Biology – 2009. He discovered Scar Inhibitory Factor, Skeletal Muscle Morphogenetic Protein, Smooth-Muscle Morphogenetic Protein, Scar Morphogenetic Protein, Fibroblast Morphogenetic Protein, Anti-Differentiation Factor, Autocrine-Paracrine Factor, Adult Germ Layer Lineage Mesodermal Stem Cells, Adult Transitional Pluripotent Epiblast-Like Stem Cells, Adult Epiblast-Like Stem Cells, Adult Transitional Blastomere-Like Stem Cells, and Adult Totipotent Blastomere-Like Stem Cells. He is the inventor of 12 current and Pending Patents. He is the Scientific Founder of three biotechnology companies: MorphoGen Pharmaceuticals Inc., Cybios LLC, and Moraga Biotechnology Corporation. He has published 51 manuscripts (with 120 medical student or resident co-authors); 119 Abstracts; and 199 Invited National and International Platform Presentations; He has participated in Scientific Journal Reviews and in NIH Study Sections concerning Stem Cell Biology. His research interests include the healing, repair, regeneration, and/or replacement of biological tissues in the areas of neurological diseases, cardiovascular ischemia, musculoskeletal diseases and disorders, endocrine diseases or disorders, reproductive diseases and disorders, autoimmune diseases, genetic disorders, and whole organ replacement and repair.

- **David G. Oedel**: holds Professorship in Law. He studies and teaches a range of subjects including constitutional law, intellectual property, contracts, financial services, transportation law, counseling, and business law. He also serves as a lawyer, advisor and counselor on a variety of public policy matters to a number of governmental officers and business leaders at the local, state and national levels. Among other projects, he leads a research team exploring ways to minimize excessive partisanship in American political life through independent redistricting. At Mercer University, he serves on the University Planning Council as the representative of the faculties of Mercer's professional schools; as the chair of Mercer University's Faculty Research Committee; and as chair of the law school's Faculty Development Committee. In his home of Macon, Georgia, he serves on the steering committee of the Think Community Initiative, an organization of community leaders committed to finding common ground in a historically divided community. He would help to coordinate the law school's participation on business contracts, securing of intellectual property rights in such areas as patent, trademark, copyright and trade secrets, and anticipation of business failures and bankruptcy.

- **Kimberly A. Freeman**: Assistant Professor of Management looked back at the entrepreneurial ventures she had previously undertaken. As a result of this review, she developed an appreciation of what she didn't know then and how her activities might have become more successful with more guidance and a solid business plan. She has learned from her experiences that there are approaches and techniques that a budding entrepreneur should comprehend and practice. She knows how to teach and implement such practices. She knows how having an understanding from a business perspective can enhance the probability that a great idea or innovation will become a viable commercial product or service. Over the years that she has been teaching entrepreneurship courses, a number of her students have gone on to start their own businesses. Some students came into the course with an idea and developed a business plan that they had already begun. Others developed an idea which excited them, causing them to realize that it could lead to the development of a real business either immediately or in the following years. Some recent students are currently in the process of enhancing and implementing their business plans. Her current teaching and research interests include: Entrepreneurship, Business Plan Development, Small Business Management, Financial Management, Business Communication, and Personal Finance, and Social Entrepreneurship.

- **ASA C. Black, Jr.**: Professor of Anatomy, Texas Tech Health Science Center – El Paso, TX volunteered and will serve as unpaid consultant in reviewing this proposal as well as collaborating in cross-disciplinary research.
Their experience, background, and accomplishments clearly indicate that the participating faculty members are prepared to successfully develop, implement, and sustain this initiative.

5. **Sustainability**
   
a. **Revenues:**

AIM funding would provide significant momentum to the already existing entrepreneurship programs at School of Engineering and School of Business and Economics, allowing us to provide faculty and students with increased opportunities to increase submission of grant applications, leading to sustainable activities and revenues by the end of the pilot project period (2012). Interdisciplinary collaboration on innovation and entrepreneurship projects are essential for the competitive funding proposals. The CIE activities on Mercer campus will certainly help to recruit and retain more students, thereby generating additional tuition revenue for Mercer. Previous funding/activities through MEEEP clearly indicate sources of revenue that will be available at the conclusion of AIM funding. Drs. Radharamanan and Vo have already received two grants from Kern Family Foundation [Phase I: $55,000 (2007-2009); Phase II: $75,000 (2009-2011)] for establishing and sustaining the MEEEP activities at Mercer Campus. They also have received funding from NCIIA [Course and Evaluation Grant: $6,500 (2009-2010); and Sustainable Vision Grant: $37,250 (2010-2011)]. The Mercer on Mission to Vietnam Program proposed and implemented by them has received national attention from Clinton Global Initiative University (CGIU) in February 2009 and a commitment of $250,000 from CGIU to continue the program for a period of three years (2009-2012). There is a possibility of receiving a major Phase III grant from the Kern Family Foundation for a period of 5 years (2011-2016) to sustain the CIE activities. This grant would not be feasible without AIM Funding support due to the requirement of institutional commitment for submitting such a Phase III grant proposal. Dr. Juang’s cost-effective alternative energy technologies have potential for attracting funding from the Department of Energy (DOE), Small Business Innovative Research (SBIR), and Small Business Technology Transfer (STTR) initiative. Drs. Juang and Radharamanan are currently engaged in networking with MUSE alumni, local entrepreneurs, and businesses to raise funds for the center activities and there are positive indications for gifts/donations to expand MEEEP/CIE activities. Dr. Young’s works on stem cells and medical sciences have received funding from different agencies and corporations. They have the potential to attract funding from the Michael J. Fox Parkinson’s Foundation, American Diabetes Association, Juvenile Diabetes Association, Muscular Dystrophy Association, National Institute of Health (NIH), SBIR, STTR, DOD, and DARPA. Dr. Oedel’s ability to facilitate contributions from the law school will be greatly enhanced with judicious use of modest stipends from this initiative to encourage students to devote themselves vigorously to entrepreneurial
projects. To the extent faculty members become involved beyond integrating these programs with their existing courses, more significant sums would likely prove necessary to compensate them for taking teaching overloads. Eventually, outside funding for these projects would need to be secured, whether through foundation grants, SBA and other government grants, and/or the creation of a special endowment for these special purposes. Dr. Freeman’s experience in small business startups will enhance the possibility for seeking extramural funding for interdisciplinary entrepreneurial projects from the Coleman Foundation, SBIR, and STTR.

Overall, the CIE activities will be sustained through: already established extramural funding from Kern Family Foundation and NCIIA (which will continue to provide future funding for CIE activities); other funding sources such as Coleman Foundation, Kauffman Foundation, Michael J. Fox Parkinson’s Foundation, American Diabetes Association, Juvenile Diabetes Association, Muscular Dystrophy Association, SME Foundation, SBIR/STTR, DOD, DARPA NSF, NIH, and NASA; alumni support; and support from local entrepreneurs, industries, hospitals, clinics, and businesses. The extramural funding sources will be the main financial supports besides the AIM fund to initiate and sustain the activities of the CIE. In addition, the Mercer faculty/student business ventures will be additional financial sources of support to sustain the center activities.

b. **Priorities:**

The CIE will support the following goals of Mercer University: (1) Attracting, recruiting, and retaining high quality students by providing opportunities through multi-disciplinary projects, thereby positioning Mercer as a leader in promoting innovation and entrepreneurship in the southeast region; (2) Establishing Mercer’s reputation in the area of graduating engineers and professionals with an entrepreneurial mindset and experience. This is critically important for the United States due to current trend in globalization; (3) Attracting high quality faculty members and engaging current faculty in interdisciplinary research; (4) Providing new avenues for engaging undergraduate and graduate students in challenging and learning through research projects with faculty, participation in competitions, presentations, and publications; (5) Developing and sustaining a center of excellence through interdisciplinary participation and extramural funding; (6) Networking with KEEN Schools, Mercer alumni, local entrepreneurs, hospitals, industries, and businesses to enhance student learning and research; and (7) Upholding Baptist principles by helping the poor and needy through low-cost prostheses, medical devices, and devices for alternate energy sources.
Entrepreneurial Mindset

Entrepreneurial mindset includes but not limited to:

- Technical fundamentals:
  - Analytical methods
  - Innovation, creativity, and synthesis
  - Design for manufacturing and commercialization
    - design for manufacturability and assembly
    - functional performance specification
    - hazard analysis
    - product verification, characterization, qualification, validation, and efficacy
    - process verification, qualification, and validation
    - product life testing, reliability, and effectiveness
    - sustainability

- Customer Needs:
  - Understanding internal and external customer needs
  - Practicing active learning skills
  - Properly assessing opportunities
  - Emphasizing on benefits and not on features

- Business Acumen:
  - Financial analysis
  - Economics
  - Organizational management
    - cross-functional team effectiveness
    - conflict resolution
    - business practices
  - Business contracts
  - Securing intellectual property rights
    - patents
    - trademarks
    - copyright and trade secrets
    - anticipation of business failures and bankruptcy

- Societal Values:
  - Freedom/free enterprise
  - Personal character
    - integrity
    - honesty
    - ethics
    - tenacity
    - citizenship
    - courageousness

Appendix B
MERCER ENTREPRENEURSHIP ENGINEERING EDUCATION PROGRAM (MEEEP)

MEEEP Certificate option:

Students who complete the MUSE Entrepreneurship Engineering Education Program (MEEEP) course requirements will receive a Certificate of Achievement in Engineering Entrepreneurship. The Engineering Entrepreneurship option requires completion of the following courses:

- MKT 361: Principles of Marketing (3 hours)
- MGT 363: Principles of Management (3 hours)
- MGT 427: Entrepreneurship (3 hours)
- EGR 487/488: Engineering Design Exhibit I & II (4 hours)*
- EGR 482: Engineering Innovation and Creativity (3 hours)*
- EGR 483: Entrepreneurship in Engineering Design (0 hours)*

* (EGR 482 must be taken with EGR 487, EGR 483 must be taken with EGR 488)

ECN 150. Principles of Microeconomics (3 hours) (optional)
Prerequisite: mathematics competency or completion of a college mathematics course. A study of the basic tools of economic analysis and the principles necessary to appreciate economic relationships, business behavior, and consumer behavior. Special emphasis will be given to the areas of supply and demand, marginal analysis, and the theory of the firm.

MKT 361: Principles of Marketing, MGT 363: Principles of Management, and MGT 427:
Entrepreneurship may be contained within the general education component of the current MUSE curriculum. EGR 482 may count as an out-of-department technical elective.

MGT 363. Principles of Management (3 hours)
Prerequisite: ECN 150 or consent of the instructor. Coordinating or organizational activities through planning, organizing, staffing, executing, and controlling functions. Behavior theory, delegation, communication, decision-making; lecture, discussion and cases.

MGT 427. Entrepreneurship (3 hours)
Prerequisites: MGT 363; MKT 361. The entrepreneur is someone who undertakes a venture, organizes it, raises capital to finance it, and assumes all or a major portion of the risk. This course typically covers profiles of entrepreneurs, means of going into business, venture opportunities, and the financial aspects of becoming an entrepreneur. Extensive case studies and projects are required. Each student also develops a business plan.

EGR 482: Engineering Innovation and Creativity (3 hours) (3-0-3)
Pre-requisite: Senior Standing or permission of MEEEP Director This is an engineering technical elective open to those students who have selected and been accepted into the MEEEP. The course will focus on integrating elements of entrepreneurship with engineering. New venture creations and creation of new product lines within existing businesses are analyzed through case studies and semester projects. Students will develop a business plan associated with their senior design projects.

EGR 483: Entrepreneurship in Engineering Design (0 hours)
Pre-requisites: EGR 482, EGR 487
Student seminars and advising for assessment of business plans related to entrepreneurship and innovation in an engineering design project.

Note: EGR 482 and 483 will be coordinated by the MEEEP Director.

Table 1: Courses taken by semester

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<td>(ECN 150)</td>
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Appendix C
Mercer Entrepreneurship Engineering Education Program (MEEEP)
Accomplishments – 2007 to Present
The engineering and business faculty and students are already participating in the innovation and entrepreneurial activities through MEEEP and they have already demonstrated their superior skills in teaching, collaboration, learning, and research related to innovation, creativity, and entrepreneurship through design projects, honors projects, industry projects, participation in design competitions, extramural funding, developing and coordinating Mercer on Mission to Vietnam Program, organizing and chairing International Conference on Manufacturing and Engineering Systems, publishing the results in journals and conference proceedings, and networking with more than twenty universities and colleges across the nation through Kern Engineering Entrepreneurship Network (KEEN). Major accomplishments through MEEEP since 2007 include but not limited to:

- Received two major grants from Kern Family Foundation: 2007-2011 ($130,000) and three grants from NCIIA: 2008-2011 ($50,750).
- Developed Curriculum for "Certificate of Achievement in Engineering Entrepreneurship": program was approved by Southern Association of Colleges and Schools (SACS) effective August 15, 2008.
- Developed and taught four courses [EGR 482 (Fall 2008 & 2009); EGR 483 (Spring 2009 & 2010); EGR 491 (Summer 2009); and EGR 492 (Summer 2009)] related to Innovation, Creativity, and Entrepreneurship.
- Established Mercer Entrepreneurship Club for Student Activities: Invited Speakers, Business Plan Competition, Networking, Participation in Professional Conferences, and Fund Raising.
- Developed and Coordinated Mercer on Mission to Vietnam Program: Two Faculty and 14 Students Participated (June 2009); This Program Received National Recognition from Clinton Global Initiative University (CGIU) and Three-Year Commitment of $ 250,000 from CGIU– February 2009.
- Organized and Chaired International Conference on Manufacturing and Engineering System (ICMES2009), Taiwan, December 17-19, 2009 (216 participants, 7 plenary sessions, 24 technical sessions, 120 technical papers, participants from 13 countries, and student paper competitions and awards).
- A total of 16 faculty and administrators participated in KEEN Fall (2007, 2008, and 2009) and Winter (2008, and 2009) Conferences. Faculty (2), student (1), and administrator (1) also participated in NCIIA Workshop/Annual Conferences (2009-2010)
- Funded 15 Entrepreneurial Senior Design Projects (2007-2010); Organized Entrepreneurial Senior Design Project/Business Plan Competitions and Awards (April 2009; and December 2009); Best Student Projects Received Cash Awards.
- During 2007-2010, a number of faculty and students participated and presented technical papers in National and International Conferences (ASEE, IEMS, ICECE, SOSE, ICMES, and BME) and published their papers in Conference Proceedings; published papers in the Journal of Management and Engineering Integration and International Journal of Innovative Computing, Information & Control.
- MEEEP is currently networking with the following KEEN Schools and other Universities and Colleges: Baylor, Boston, Bradley, Case Western Reserve, Gonzaga, Kettering, Lawrence Tech, Norwich, Ohio Northern, Saint Louis, Santa Clara, and Villanova Universities; Calvin College, Illinois Institute of Technology, Milwaukee School of Engineering, University of Dayton, University of Detroit Mercy, University of Evansville, Worcester Polytechnic Institute, Thunderbird School of Global Management, Penn State University, and Babson College of Business.

Appendix D: Curriculum Vitae of Participating Faculty

R. RADHARAMANAN, Ph. D.
Professor ● School of Engineering ● Mercer University ● Macon, Georgia 31207
Phone (478) 301.2215 ● Fax (478) 301-2331 ● E-mail: radharaman_r@mercer.edu
EDUCATION:
- Ph.D., Industrial Engineering, Catholic University of Leuven, Belgium, 1977
- M.Sc., Industrial Engineering, Madras University, Tamil Nadu, India, 1973
- B.E., Mechanical Engineering, Madras University, Tamil Nadu, India, 1970

PROFESSIONAL/CONSULTING EXPERIENCES:
- Professor, Industrial and Systems Engineering, (1999-present)
  Director of Entrepreneurship Engineering Education Program – MEEEP (2007-present)
- Visiting Associate Professor in Mechanical & Industrial Engineering, (1998-99)
- MUSE Entrepreneurship Engineering Education Program (MEEEP) Director (2007–Present)
- Prof. & Researcher, Indus. Eng., Federal Univ. of Santa Maria, Brazil (1995-98)
- Director of Advanced Manufacturing Center, Marquette University (1991-95)
- Associate Professor, Marquette University (1989-91)
- Acting Director of Industrial Engineering, Marquette University (1989-90)
- Associate Professor, Mech. Engineering, San Diego State University (1986-89)
- Associate Prof. (visiting), Mech. and Indus. Eng., University of Utah (1984-86)
- Professor, Mech./Indus. Eng., Federal Univ. of Santa Maria, Brazil (1977-84)
- Ph. D., Research Scholar, Catholic University of Leuven, Belgium (1974-77);
- Associate Lecturer, Madras University (1973-74)
- Graduate Research Scholar (1971-73)
- Entrepreneur Trainee (1970-71)
- Production Engineer (1970)
- Advised/Supervised over 15 Ph. D., 40 M.S., 10 MEA, and 60 Senior Design Students (1977-2008)
- Consultant to more than 20 different organizations/industries (1977-2008):
  o W. H. Brady; Trimax Corporation; CM Technologies; Sigma Tech; Consolidated Papers;
  o Children’s Hospital, San Diego; EG & G, Idaho; Wright-Patterson AFB, Dayton, OH
  o PRAD Inc., MN; Federal University of Santa Maria, Brazil; More than 10 companies in Brazil

PRINCIPAL PUBLICATIONS: (Selected from 350+ publications):
Journal/Proceedings Edited:

Publications:
HONORS AND AWARDS:


PROFESSIONAL SOCIETIES:

- American Society for Engineering Education (ASEE)
- Institute of Industrial Engineers (IIE)
- Society of Manufacturing Engineers (SME)
- American Society for Quality (ASQ)
- American Society of Mechanical Engineers (ASME)
- International Society for Productivity Enhancement (ISPE)

HONORS AND AWARDS:

- Fern Fellow (2007-Present)
- Fellow, International Society for Productivity Enhancement (ISPE)
- Ten-Year Service Award: Mercer University (1998-08), 2009
- Service Award: Mercer University Judicial System for Serving as Chair and Faculty Representative for Eight Years (1999-07), 2007
- Honor Award, Kongu Engineering College/Bharathiar University, Tamil Nadu, India, 2006
- Five-Year Service Award: Mercer University (1998-03), 2004
- Recognized for academic accomplishments during 1999-00, NEAB faculty appreciation reception, 2000
- Graduate Fellow, Mercer University School of Engineering, 1999-present
- Researcher – 1A, Brazilian Research Council, 1995-98
- Distinguished Service Award, Int. Society of Agile Manufacturing, ICAM’97
- Five Year Service Award: Marquette University (1989-94), 1995
- Summer Faculty Research Fellowship Award, RDL, AFOSR Program, 1994
- Fellow, International Society for Productivity Enhancement (ISPE), 1993
- SME North Central Region 9 Outstanding Student Chapter Award, 1993-94
- SME Outstanding Faculty Advisor Award, 1992-93
- SME Outstanding Student Chapter Award, 1992-93
- SME President’s Outstanding Service Award, 1991-92
- Honor Award, ITB, Indonesia, 1992
- Summer Faculty Fellowship Award, Marquette University, 1991
- Honorable Mention Award, NSF Faculty Enhancement Program, Dearborn, 1991
- Outstanding Teacher Award, Dept. of Mech. and Indus. Engineering, Marquette University, 1991
- Outstanding Contribution Award, Int. Society for Productivity Enhancement (ISPE), 1987
- Honor Award, ASME, San Diego, 1986
- Honor Award in Teaching and Research, UFSM, Brazil, 1984
- Researcher (1A) Award, Brazilian Research Council, 1982-84
- Ph. D. Research Fellowship Award, Catholic University Leuven, Belgium (1974-77)
- Madras University “First Rank” Award in the Master of Engineering Degree, 1973
Government of India Graduate Fellowship Award, 1971-73
Government of India Practical Trainee Fellowship Award, 1970-71
Government of India Merit Scholarship Award, 1968-70
Madras State Government Merit Scholarship Award, 1964-69
Chinnaswami Pillai Prize Award, 1965
School First Rank, Silver Medal Award, 1964

FUNDED PROJECTS:
- NCIIA Sustainable Vision Grant (Co-PI): $37,250 (2010-11)
- Kern Family Foundation Grant Phase II (PI): $75,000+Matching Fund: $75,000 - Total: $150,000 (2009-11)
- Mercer on Mission to Vietnam (Faculty Participant), Committed and awarded from Clinton Global Initiative University Funds: $ 250, 000 (2009-12)
- NCIIA Grant for Entrepreneurship Program (Co-PI): $ 6,500.00 (2009-10)
- Mercer University Seed Grant (PI): $ 3,500 (2009-10)
- Mercer University Seed Grant (Co-PI): $ 3,500 (2009-10)
- Kern Family Foundation Entrepreneurship Education Grant (PI): $ 55,000 (2007-09)
- Center for Advanced Biomedical Prototyping (AIM Funding): (Core Faculty Participants) - $ 35,000 (2008-09)
- Mercer University Seed Grant (PI): $ 6,000 (2007-08)
- Mercer University Seed Grant (PI): $ 6,000 (2008-09)
- NCIIA Grant for Entrepreneurship Program (Co-PI): $ 7,000.00 (2008-09)
- Worked on more than 65 different research projects funded by NSF, SME Education Foundation, State Agencies, Brazilian Research Council, FAPERGS (Brazil), Keck Foundation, and Industry Sponsored Research (Brazil and the USA): Over 2.5 million in grants and contracts (1977-2006)

INSTITUTIONAL AND PROFESSIONAL SERVICE (Selected):
- General Chair, International Conference on Manufacturing and Engineering Systems (ICMES-2009), Taiwan; Invited Speaker and Session Organizer (2009)
- Member, Int. Organizing Committee: Manufacturing and Management (2004)
- International Program Committee, 16th Int. Conf. on CARS & FO 2000, Port of Spain, Trinidad
- Chairman, Plenary Session/Industrial Session/Technical Session CARS & FOF ’99
- Organizing Committee/Chair of Technical Session, 12th Int. Conf. on MCM & SC, Chicago, 1999
- Chairman, Technical Session, International Conference on Systems Engineering, Las Vegas, 1999
- Keynote Speaker: 14th Int. Conf. on CARS & FOF (1998)
- Keynote Speaker: 14th Int. Conf. on CARS & FOF (1997)
- Plenary Session Speaker: Brazilian Conference on Production Engineering (1993)

Chaired technical sessions in the following conferences:
- VI Int. Conf. on Engineering and Computer Education – ICECE (2009)
- Int. Conf. on Resource Utilisation and Intelligent Systems (2006)
- Annual IIE Conference and Exhibition (2004)
- Int. Conf. on Engineering and Technology Education – WCETE (2004)
- IASTED Int. Conf. on Modelling and Simulation (2004)
- Int. Conf. on Computer and Engineering Education – ICECE (2003)

Reviewed technical papers for the following conferences:

Dr. HA VAN VO
Assistant Professor ● Biomedical Engineering ● Mercer University ● Macon, Georgia 31207
R&D Scientist Consultant ● Accidental Injury Mechanics, Orthopedic Prostheses, Catheters, & Surgical Tools
Phone: (478) 301-2454 ● Fax: (478)301-2331 ● E-mail: vo_hv@mercer.edu

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EDUCATION:
- PhD in Mechanical Engineering, Florida Atlantic University, Boca Raton Florida, 08/2003
- DPM Barry University, School of Podiatric Medicine & Surgery, Miami, FL 05/2002
- MD HCM School of Medicine (University of Florida, JMH/University of Miami, Cedar Medical/Barry University 07/2002)
- MS in Mechanical Engineering (Manufacturing Engineering) Florida Atlantic University, Boca Raton Florida, 12/2000
- MS in Biomedical Engineering, University of Florida, Gainesville Florida, started on 01/1997-08/1997.
- BS in Biomedical Engineering, University of Florida, Gainesville Florida, 12/1996
- AA in Science and Engineering, Broward Community College, Florida, 12/1993

AWARDS:
- Dissertation of the year, Florida Atlantic University, 2001-2002
- Graduate scholarship grant, Florida Atlantic University, 2001
- Engineering Scholarship in three years, University of Florida, 1994-1996

CLINICAL EDUCATION EXPERIENCE:
- Florida Atlantic University-Boca Raton Florida
  Research & Design ankle joint implant and 1st metatarsal phalangeal joint implants: 01/1999-present, using FEM, CAD, and CNC machine
- Barry University-Miami Florida
  Research assistant in the Computer Aided Design (CAD) lower extremity orthopedic implants/ Biomechanics laboratory: 8/2000-12/2000
  Orthopedic laboratory research and design

WORK EXPERIENCE:
- Mercer University (02/2005-present)
  Assistant Professor, Department of Biomedical Engineering, and Mercer University
- Biomedical Engineer Consultant (2007-present)
  Accidental Injury Biomechanics, R&D in Orthopedic Implants, & Prostheses for Amputees, Catheters, & Surgical Tools
- Post-Doctorate Training, Florida Atlantic University, 2003-2004
- Primary Care Physician Group (PCPG) Miami Heart Institute/Mount Sinai: 07/2003-02/01/2005
  Wound care/foot ankle surgery, Phlebology & Noninvasive Aesthetics
- Ankle and Foot Care Centers of Miami, The Vein Clinic, Miami Florida:
  R&D Scientist in designing lower extremities prostheses, Ankle & Foot Care Center of Miami, 2002-02/01/2005 (week end job)
- Cedar Medical Center, Jackson Memorial Hospital, Miami VA- Miami Florida
  Two years rotation in general medicine and orthopedic rehab & surgery
- Holly Cross Medical Group/Hospital-Ft Lauderdale, Florida: 05/2000-08/2002
  Internal Medicine/Cardiology/ Vascular/Lymph edema clinics
- Kennedy Space Center, Florida: 08/1996-12/1996
  Optical Sensor Design/Programming

SELECTIVE RESEARCH AND PUBLICATIONS:
- Ha Vo, and Barry Tuvel, A Novel Approach in Process of Total Ankle Replacement, accepted for the Journal of Foot & Ankle Surgery.


INVENTIONS:

• Vo-Short Ankle Joint Implant, patent US# 6863691 (2001)
• The Combination Robotic Wheelchair Bed, patent pending # US 13439 (2006)
• The Magnetic Ankle Prosthetic Device, patent pending # US 61/135,725 (2008)
• The Drop Foot treatment Device, provision patent US # 60/928,562 (2007)
• Universal Socket Prosthesis, provision patent US # 61/183095 (03/2009) and US # 61/183095 (06/2009)
• Conformable Bone plate, patent pending #US 13440 (2009)

RESEARCH AWARDS:

• Internal Seed Grant: $6,000, PI, Mercer University, July 2007
• Internal Seed Grant: $6,000, Co-PI, Mercer University, July 2007
• Award Amount: $3,000, Central Georgia Heart Institute LLC, Warner Robins, GA, 09/2007
• Award Amount: $5,000, Co-PI Kern Family Foundation, June 2007
• Award Amount: $50,000, Co-PI Kern Family Foundation, August 2007
• Internal Seed Grant: $6,000, PI, Mercer University, July 2008
• Internal Seed Grant: $6,000, Co-PI, Mercer University, July 2008
• Award Amount: $7,000, Co-PI, NCIIA, August 2008
• Award Amount: $35,000, Co PI, MU Academic Initiatives Monetary (AIM) Fund (June 2008)
• Mercer on Mission to Vietnam Entrepreneurial Program (Faculty Participant), Committed from Clinton Global Initiative University Funds: $ 250, 000 (2009-12).
• NCIIA Course & Program Grant for Entrepreneurship Program (PI): $ 6,500 (2009)
• Award Amount: $75,000, Co-PI Kern Family Foundation, Phase II, $75,000 matching fund from Mercer University Provost Office, September 2009
• Internal Seed Grant: $3,500, PI, Mercer University, July 2009
• NCIIA Sustainable Vision Grant: $37,275, PI, February 2010

Membership in Professional Societies

• American Medical and Podiatric Medical Association (2002-present)
• Sigma Xi, The Scientific Research Society (2006-present)
• American Society for Engineering Education (2008-present)

Honors and Awards

• Dissertation of the Year, Florida Atlantic University, 2001-2002
• Graduate scholarship, Florida Atlantic University, 2001-2002
• Engineering Scholarship, University of Florida, 1994-1996
• Teacher of the year, Mercer University, 2008-2009

Dr. Jeng-Nan Juang, Ph. D.
Associate Professor ● School of Engineering ● Mercer University ● Macon, Georgia 31207
Phone (478) 301.2574 ● Fax (478) 301-2732 ● E-mail: juang_jn@mercer.edu

Education

Ph.D. Electrical Engineering, Tennessee Technological University, Cookeville, Tennessee (1986)
M.S. Electrical Engineering, Tennessee Technological University, Cookeville, Tennessee (1978)

B.S. Electrical Engineering, National Taiwan Ocean University (1975)

Employment:

- Associate Professor, Electrical and Computer Engineering Department (1987 to present) Mercer University, Macon, GA
- Professor, Electronic Engineering Department, China Institute (Summer 2006)
- Professor, Electrical Engineering Department, Taiwan national Yunlin University (Sabbatical Leave: 1997-1998)
- Chairman, China Institute Affairs Development (1997-1998)
- Department Head, Director, and Associate Professor, Engineering Technology Department Roane State Community College, Harriman, Tennessee (1980-1987)
- Instructor, Electrical Engineering Department (1978-1980) Tennessee Technological University Cookeville, Tennessee
- Graduate Assistant, Electrical Engineering Department (1976-1978) Tenn. Technological University Cookeville, Tennessee

Consulting & Research

- Research Project Advisor, Graduate Program, National Formosa University, Taiwan (2007-present)
- Research Project Advisor, Graduate Program MERC & Warner Robins Air Force Base, "RAPCeval (2001-present)
- Prime Consultant, Yunlin County Government, Taiwan: Applying Optical Taster, (2006-2007)
- Antenna and Microwave Research Branch, NASA Langley Research Center.
- Physics Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee. Performed research on "The RF-Excited CW HCN Waveguide Gas Laser" (1984-1986)
- Research Assistant to Dr. Ventrice (1978-1983), Electrical Engineering Department, Tennessee Technological University, Cookeville, Tennessee. Design and Development of "The C02-N2-H2 Laser"

Projects Funded

- Jeng-Nan Juang (PI): Mercer Seed Grand: Development of an Automatic Power Switch to Change from Regular Power to Wind Power or Solar Power as Needed (a grant of $ 3,500 from Mercer University), (2009-2010) (with R. Radharamanan)
- Jeng-Nan Juang (Faculty Participant: Networking/Fund Raising): Kern Family Foundation Grant – Phase II (2009-2011): Total Amount: $ 150,000.Developing a course module on creativity and innovation (EGR245/246L); Client for Entrepreneurial Senior Design Projects; Arranged invited speakers for EGR 482/ETM 591; Served as Judge for “Business Plan Competition”; (PI: R. Radharamanan)
- Jeng-Nan Juang (PI): International Workshop on Future Aerospace Maintenance & Technology at Taipei in Taiwan. (a grant of $ 50,000 from Taiwanese Government & Airline Companies), Served as a Chairman of International Workshop Committee (1997-1998)
- FORG Development Program (A Grant of $3,600,000 from Wright-Patterson Air Force Base) Served as a prime consultant and adviser for Mercer Engineering Research Center (MERC), Addressed all optical components and designs relevant to FORG development. (1991-1994)

Publication:

- Hot Cathode Fluorescent Lamps: A Case Study” The Journal of Management and Engineering Integration. ISSN 1939-7984, Volume 2, Number1, Page 77-82, Summer 2009.
Information and Control, ISSN 1349-4198, Vol.6, No.5, May 2010.

- “Service Quality in a Collective Transportation System” Presented and Published in IEEE International Symposium on Service-Oriented System Engineering, pp 227-232, December 18-19, 2008, National Central University, Taiwan.
- “A Computer-Based Soil Moisture Monitoring and Hydrating System” Presented and Published in the Proc. Southeastern Symposium on System Theory, Sponsored by IEEE, pp 142-144, March 4-6, 2007

Professional Societies Membership:

- The Institute of Electrical and Electronics Engineers, Inc. (IEEE)
- American Society for Engineering Education (ASEE)
- American Institute of Aeronautics and Astronautics, Inc. (AIAA)
- North America Taiwanese Professor's Association (NATPA)
- National Society of Professional Engineers (NSPE)
- Chinese-American Academic and Professional Association in Southeastern United States (CAPASUS)
- America Association of University Professor (AAUP)

Service to Mercer Students/Graduates:

Invited Dr. Rahil Kazi (MD) and Dr. Anilkumar Pillai (MD) from Houston Heart Institute and Cardiac Cath Lab, Warner Robins to speak to students enrolled in EGR482/ETM591: Engineering Innovation and Creativity (MEEE course) at Mercer School of Engineering, November 4, 2009.

Invited Dr. Venkat Sanjeev and Mr. George McGinty from Goldstone Group to speak to students enrolled in EGR482/ETM591: Engineering Innovation and Creativity (MEEE course) at Mercer School of Engineering, October 7, 2009.

Served as Judge for MEEE “Business Plan and Entrepreneurial Senior Design Competition” – 5 Student Teams, April 2009.

Invited one of the alumni, Mr. Isaac J. Culver (graduate of 1992) to speak to students enrolled in EGR482/ETM692: Engineering Innovation and Creativity (MEEE course) at Mercer School of Engineering, November, 2008.

Invited one of the alumni, Mr. Clifford Carlson (graduate of 2005) to speak to students enrolled in EGR482/ETM692: Engineering Innovation and Creativity (MEEE course) at Mercer School of Engineering, September 24, 2008.

Invited students to present the paper on “A Computer-Based Soil Moisture Monitoring and Hydrating System” at Southeastern Symposium on System Theory, Sponsored by IEEE, and held at Mercer University School of Engineering during March 4-6, 2007.

Reorganized the Emaq Lab for undergraduate and graduate students to do their senior design projects/graduate projects and theses for ECE 341, ECE 441/541, ECE 491, ECE 641, and ECE 643 (2008).

Provided service to Mercer graduate, Mr. Steve Colman, who requested the information on “Fiber Optics” when he has taken a one year contract job in Iraq. (August 2008)

Organizational Experience:

- General Chair, International Conference on Manufacturing and Engineering Systems, National Formosa University, Taiwan, 2009.
- Local Arrangements Chair, Conference Committee Member (2006-2007) IEEE 2007, Thirty-Ninth Southeastern Symposium on System Theory March 4-6, 2007, Macon, Georgia.
  Chairman of the International Workshop Committee for organizing and conducting the “International Workshop on Future Aerospace Maintenance & Technology” held in Taipei Taiwan in April 1998.

Leadership in International Teams, Workshop and Conference Organization:

- General chair, MES 2009 International Conference on Manufacturing and Engineering System, National Formosa University, Taiwan.
- Chairman, International Workshop on Future Aerospace Maintenance & Technology, China Institute, Taiwan.
- Chairman, College Affairs Development at China Institute, Taiwan.
- Local Arrangement Chair, IEEE 2007, Thirty-Ninth SSST.
- Board of Director, Georgia Partnership for Excellence in Education.

NAME: Henry Edward Young, Ph.D.
TITLE: Professor of Anatomy, Mercer University School of Medicine.
Adjunct Professor, Department of Anesthesiology  
Adjunct Professor, Department of Pediatrics  
Adjunct Professor, Department of Obstetrics & Gynecology

ADDRESS:  
Mercer University School of Medicine  
Division of Basic Medical Sciences  
1550 College Street, Macon, GA 31207

TELEPHONE:  
(478) 301-3034 (Work)  
(478) 301-5489 (FAX)  
(478) 301-4080 (Sec)  
(478) 319-1983 (Cell)

EMAIL ADDRESS:  
young_he@mercer.edu  
young.he@yahoo.com

HIGHER EDUCATION:  
Ohio State University, Columbus, OH - B.S., Biology, 1974

University of Arkansas, Fayetteville, AR - M.S., Zoology, 1977

Master's Thesis:  
Limb Regeneration in the Adult Salamander, Ambystoma annulatum  
Cope 1889 (Amphibia:Ambystomatidae).  (Dr. Claudia F. Bailey)

Texas Tech University, Lubbock, TX - Ph.D., Anatomy, 1983

Ph.D. Thesis:  
A Temporal Examination of Glycoconjugates During the Initiation Phase of Limb Regeneration in Adult Ambystoma.  (Dr. Roger R. Markwald)

Case Western Reserve University, Cleveland, OH - Postdoctoral Fellow, Carbohydrate Biochemistry (Dr. Arnold I. Caplan), 1983-1987

Discovered  
Scar Inhibitory Factor, Skeletal Morphogenetic Protein, Adult germ layer lineage mesodermal stem cells (GL-MesoSCs), Adult transitional pluripotent epiblast-like stem cells (Tr-ELSCs), Adult pluripotent epiblast-like stem cells (ELSCs), Adult transitional pluripotent blastomere-like (Tr-BLSC), Adult totipotent blastomere-like stem cells (BLSCs)

ACCOMPLISHMENTS  

Publications (partial listing of 51):


J.D., 1987  
Boston University School of Law, magna cum laude; 
Editor-in-Chief, Annual Review of Banking Law; 
G. Joseph Tauro Scholar; Paul J. Liacos Scholar; Edward F. Hennessey Distinguished Scholar.

B.A., 1979  
Haverford College, Anthropology and Sociology; 
Chairman, Haverford College Committee on Investments and Social Responsibility, 1978-79; 
Student Representative on Faculty Committee on Student Standings & Programs, 1976-79; 
Captain, Varsity Sailing; NCAA East Coast All-Star; lacrosse team member; Outing Club president.

Employment

1990-present  

1987-1990  
Associate, Gaston & Snow (large old firm, now defunct), Boston, Massachusetts, complex constitutional, intellectual property, and business litigation in cases at all levels, including the U.S. Supreme Court, U.S. Circuit Courts of Appeal, and state and federal trial courts.

1985  
Clerk-intern to the Honorable Joseph L. Tauro, United States District Court, Massachusetts

1980-1984  
Personnel Manager, Spir-it, Inc., Wakefield, Massachusetts (plastics manufacturer)

1979  
Field Researcher, National Science Foundation (mapped remote region of British Columbia)

Professional Service Positions (2006-2010)

2010  
Senior Advisor to Robert Brown, Minority Leader of the Georgia State Senate

2009-10  
Steering Committee, Think Community Initiative, Macon, Georgia

2009  
Host and Producer, “Legal Focus,” Georgia Public Broadcasting radio show

2008  
Senior Advisor to Sam Hart, chair of the County Commission of Bibb County, Georgia

2008  
Senior Advisor to the Honorable Jim Marshall, Congressman-D, State of Georgia, in his pending reelection bid that has again been targeted as one of the most contested races in the nation by the Republican National Committee

2008  
Cumulus Broadcasting Radio Commentator on recent Supreme Court opinion, Boumediene v. Bush (Guantanamo detainee habeas case)

2008  
Liaison between the teams of lawyers representing the detainees in Boumediene v. Bush and the U.S. House Armed Services Committee on a possible legislative fix to the Military Commissions Act of 2006 regarding stripping of habeas rights from Guantanamo detainees

2007  
Representative of all professional school faculties at Mercer University on the University Planning Council charged by Mercer’s new president with articulating a new vision and strategic plan for Mercer University

2007  
Lead Counsel to Providence Homeowners Association in its successful challenge to developer’s attempt to change the essential character of the first modern mixed-use planned development in Macon, Georgia

2006  
Senior Advisor to the Honorable Jim Marshall, Congressman-D, State of Georgia, in his successful reelection bid that had once again been targeted as one of the most contested races in the nation by the Republican National Committee
2006 Panel Chair, Client Counseling Program, Transition to Law Practice Program of the State Bar of Georgia, with the charge of providing every new Georgia lawyer with specialized instruction in client counseling during the first year of practice

Authorship (2005-2009)


2008 “Review of Pending and Recent Supreme Court Cases,” Georgia CLE program materials, February 2008

2005 “Talking Things Over: A Lawyer’s Companion to the First Minutes with the Client” (short book in progress; drafts used Introduction to Counseling program for all second-year students at Mercer University Law School and for all new lawyers in Georgia)

Bar Memberships

United States Supreme Court
First Circuit Court of the United States
United States District Court for the District of Massachusetts
Commonwealth of Massachusetts
State of Georgia

KIMBERLY A. FREEMAN, Ph. D.
Stetson School of Business and Economics
Freeman_ka@Mercer.edu

EDUCATION

Ph.D. Indiana University (Organizational Behavior) 1990
M.B.A. Indiana University 1985

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FULL-TIME ACADEMIC EXPERIENCE

Mercer University, Macon, GA  2008-present
Assistant Professor of Management, Stetson School of Business and Economics
- Teach Management courses in Entrepreneurship, International Management and Marketing, Production/Operations Management, and Principles of Management
- Engaged in research and writing of scholarly articles for publication.
- Engaged in service and community activities for the school.

Winston-Salem State University, Winston-Salem, NC  2004-2008
Adjunct Professor of Management; previously Visiting Professor of Quantitative Management (July 2004 to June 2006), and part-time Adjunct during Spring 2004.
- Engaged in research and writing of scholarly articles for publication.
- Engaged in service activities for the school.

Wake Forest University, Babcock Graduate School of Management, Winston-Salem, NC  1990-1996
Assistant Professor of Management
- Developed and taught M.B.A. courses related to Organizational Behavior and Human Resource Management, including Strategic Human Resource Management capstone.
- Engaged in research and writing of scholarly articles for publication.
- Served on numerous committees and projects.
- Served as a consultant and public speaker for various private and public organizations.

Teaching Award:

EDUCATOR OF THE YEAR (Awarded Spring 1995, Evening M.B.A. Program, Babcock Graduate School of Management, Wake Forest University.)

RECENT RESEARCH AND PUBLICATIONS

Peer-reviewed journal publications:


Proceedings


Research in progress:
1. Intentional attunement and empathy: Neuroscientists have recently confirmed that humans have mirror neurons, which are the biological basis of empathy. This research explores implications of the findings to business and management, particularly as they relate to social identity, emotional intelligence, leadership, human resource management.

2. Integrating immigrants: Lessons from the world of corporate mergers and acquisitions. This research develops a framework for examining Latino immigrant social-cultural issues that is based on findings from studies of mergers and acquisitions.


4. I also anticipate I will begin working of research related to the development of an entrepreneurial mind-set and what motivates entrepreneurs to pursue important social values of free enterprise, independence, and social responsibility.

ENTREPRENEURIAL EXPERIENCE

Dr. Kim Freeman began entrepreneurial pursuits as a part-time consultant while working on her dissertation during the late 1980’s. She has periodically worked part-time or full-time as a consultant and small business owner since that time in various capacities:

- Developed, conducted, and statistically analyzed attitude surveys and performance assessment instruments for various organizations;

- Was involved in the development of software products relating to performance appraisal and performance management (start-up business with spouse called Performance Sciences International, in Amherst, MA, from 1986-1990);

- Held a business license from 1996 to 2004 for InfoSearch, a Winston-Salem, NC sole proprietorship which invested in a small business start-up venture (ACC Hoops) and compiled/organized statistics for a software package designed to provide and maintain Atlantic Coast Conference basketball statistics from ACC inception to 2004;

- Invested in an authorized dealership and acted as a commission-based salesperson for Colonial Structures, Inc., a Winston-Salem, NC based cedar log home kit manufacturer. Assisted clients with floor plan design, finding builders, land, and financing as needed;

- Independent contractor as a commission-based insurance agent with Cornerstone Marketing from 2002-2003 selling benefit packages and health/life insurance designed for self-employed individuals and small businesses through Mid-West National Life Insurance Company of Tennessee.