

**Departmental Mentoring and Career Development Plans for Anesthesiology
Faculty
at the Medical University of South Carolina**

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1.1 The Department of Anesthesia and Perioperative Medicine's Mentoring Goal

The goal is for all Department of Anesthesia and Perioperative Medicine faculty to achieve their individual full potential as members of the College of Medicine and Medical University of South Carolina and to be rewarded for that achievement. The specific objectives of the faculty development plan are:

1. To develop academic careers for junior and senior faculty
2. To promote lifelong learning and professional development
3. To motivate junior faculty to become leaders in academic medicine
4. To develop skill sets and professional tools for excellence in:
 - a. research
 - b. education
 - c. administration
 - d. clinical excellence
5. To provide a support system for new faculty
6. To support diversity in the department
7. Reduce stress and burnout of individual faculty

1.2 Description of Promotion Process within Department

The primary track in the Department of Anesthesia has historically been that of Clinician Educator. There are four areas of endeavor for departmental activity: clinical, education, administration and research. For promotion each faculty member must demonstrate he/she has recognized effort and expertise and *documentation* of significant achievement in at least two of these four areas.

1. Documentation of Clinical Expertise
 - Evidence of clinical subspecialization, with subspecialty board certification if appropriate
 - Publication of case reports or clinical studies in area of clinical subspecialization
 - Complimentary letters from patients and surgeons
 - Documentation of outside requests for consultation and speaking
 - Credentialing/Quality Assurance report on number of cases in specific areas
 - Joint appointment in another department
 - Book chapters and CME publications in area of clinical subspecialization
 - Extramural letters of recommendation.
2. Documentation of Education Expertise
 - Title plus list of accomplishments in that position
 - Teaching and administrative evaluations and awards
 - Book chapters, book reviews, and CME publications
 - Active participation in department, college, university or hospital education/curriculum development committees
 - Active participation in development of curriculum and educational material at a³ national level

- e. An active and complete Educational Database which includes a list of all intramural and extramural lectures, seminars, workshops with dates, location, title and approximate number of attendees
 - f. Extramural letters of recommendation
3. Documentation of Administration Expertise
 - Title plus list of accomplishments in that position
 - Active participation in department, college, university or hospital committees
 - Active participation in regional or national society committees
 - Regional and national recognition for administrative excellence
 4. Documentation of Research Expertise
 - Focused and sustained research activity areas of interest
 - Involvement in clinical research (PI or Co-PI)
 - Abstracts at national meeting followed by publication of manuscripts
 - Extramural funding
 - Extramural letters of recommendation

As the Department of Anesthesia develops a more robust research infrastructure, it is anticipated that more junior faculty will elect the Academic Investigator track. They must demonstrate *documentation* of significant achievement in at least two of the four areas above with a primary emphasis on research. The documentation of research expertise should include:

- a. Completion of educational requirements necessary for career in academic research
- b. First authored original publications (with impact factor information if possible)
- c. Senior authored original publications (indicate whether the first author was someone you mentored)
- d. Co-authored original publications
- e. Other publications, e.g., review papers, book chapters, textbooks
- f. Career training grant awards
- g. Independent grant awards as PI
- h. Grant awards as Co-investigator
- i. Presentations of research at national / international meetings
- j. Peer recognition for research activities including invitations to present at national / international meetings and other universities
- k. National recognition as evidenced by election to specialty societies, editorial boards, service on national committees, NIH study sections, grant review panels of other funding agencies
- l. Institutional or external research awards
- m. Mentoring achievements: individuals mentored, achievements of mentees including grants received and important publications of mentees under your guidance, and where mentees are today
- n. Membership and involvement in professional and scientific organizations
- o. Contributions to research-oriented committees at department, college, university, community, state, regional, national and international levels
- p. Leadership roles in research in appropriate department, college, or university

Additional information is available at: <http://academicdepartments.musc.edu/com/faculty/apt/musc/index.html>. Open the tab Guidelines and Appendix and this will open the College of Medicine's Appointments, Promotions and Tenure Guidelines. **A matrix with criteria for promotion including ranks and tracks is available on Pages 9 and 10. The matrix is also included in this document Appendix 6 and 7.**

Departmental Promotion Process

The Chair recommends faculty to the Dean based on recommendations of the departmental Promotions Committee. The committee consists of the department's full professors and is chaired by the Vice Chair for Faculty Development. The Committee meets twice a year in March and October. The charge of this committee is to: a) Determine eligibility of a faculty for their respective academic promotion based on their FAIR CV and COM requirements; b) Vote on it and c) Make the appropriate recommendation to the Chair of the department. The Committee does not review the teaching portfolio. Those who do not meet the promotion criteria are counseled by the committee and specific recommendations are offered. .

1.3 Documentation of Career Development

In order to achieve promotion and tenure, the professional growth of the faculty member must be documented.

i Curriculum Vitae

Faculty will maintain a current curriculum vitae in the format required by the College of Medicine. This CV is accessible on line at <https://fair.musc.edu>. Log in to Shibboleth using your net ID and password. Click on "Display Vita" and your CV will open in a Microsoft WORD format. The site has instructions on adding additional items to your CV. Your administrative assistant is available to help with this process. Glenda Ross is the contact person in the department for expert advice on filling out the FAIR CV.

ii Portfolio

Faculty are encouraged to develop and update portfolios of their research, teaching, and clinical accomplishments. Depending on your track, more emphasis will need to be placed on a specific portfolio e.g., for academic investigators, the research portfolio is most important, whereas for a faculty member in an education track, the teaching portfolio is of primary importance. The typical components of each of these portfolios include but are not limited to the following:

Research Portfolio

1. Completion of educational requirements necessary for career in academic research
2. First authored original publications (with impact factor information if possible)
3. Senior authored original publications (indicate whether the first author was someone you mentored)
4. Co-authored original publications
5. Other publications, e.g., review papers, book chapters, textbooks

6. Career training grant awards
7. Independent grant awards as PI
8. Grant awards as Co-investigator
9. Presentations of research at national / international meetings
10. Peer recognition for research activities including invitations to present at national / international meetings and other universities
11. National recognition as evidenced by election to specialty societies, editorial boards, service on national committees, NIH study sections, grant review panels of other funding agencies
12. Institutional or external research awards
13. Mentoring achievements: individuals mentored, achievements of mentees including grants received and important publications of mentees under your guidance, and where mentees are today
14. Membership and involvement in professional and scientific organizations
15. Contributions to research-oriented committees at department, college, university, community, state, regional, national and international levels
16. Leadership roles in research in appropriate department, college, or university

Teaching Portfolio

A teaching portfolio includes documents and materials that show the scope, quality, and creativity of faculty members' teaching efforts, progress, and achievements¹. Reflection is an integral part of the portfolio and shows how faculty members have integrated new learning with their teaching philosophy and performance.

1. Completion of educational requirements necessary for career in academic teaching
2. Philosophy of teaching and learning
3. Teaching goals for student accomplishment
4. Teaching methods and evaluation strategies
5. Participation in course and/or curriculum development
6. Engagement in the scholarship of teaching and learning (SoTL)
7. Evidence of teaching accomplishments
 - a. Description of types of different teaching activities such as formal courses, small group seminars, one-on one tutorials, supervision of student research projects, chairing thesis or doctoral committees, and coaching manuscript preparation for students, residents, and fellows
 - b. Course materials (syllabi, readings, handouts, assignments, examinations)
 - c. Samples of teaching innovation (simulation, educational technology)
 - d. Samples of manuscripts related to teaching and or educational activities
 - e. Student, resident and fellow evaluations of teaching
 - f. Peer evaluations of teaching
 - g. Audience evaluations of presentations at state or national meetings
 - h. Membership in departmental, college, university, society, community, state, regional, national and international committees or organizations related to teaching
 - i. First authored publications (papers, chapters, reviews, textbooks) related to

- teaching
- j. Senior authored publications (papers, chapters, reviews, textbooks) related to teaching
- k. Co- authored publications (papers, chapters, reviews, textbooks) related to teaching
- l. Grant awards related to teaching
- m. Presentations on teaching at national / international meetings
- n. Leadership roles in teaching in appropriate department, college, or university
- o. Honors and awards for teaching
- 8. Mentoring achievements in teaching: individuals mentored, achievements of mentees in teaching arena, and where mentees are today

Clinical Portfolio

1. Completion of educational requirements necessary for career as an academic clinician, including certification by appropriate specialty board
2. Evidence of a heavy clinical load
3. Evidence of excellence in high quality patient care
4. Development of innovative clinic practices i.e., new clinical services that the faculty member established or participated in e.g., telemedicine, new surgical technique
5. Evidence of organization of clinical services to provide an optimal setting for medical education and a data base for research
6. Evidence of excellence in clinical training of students, residents, and fellows
7. Documentation of teaching activities including formal lectures, grand rounds, and continuing medical education
8. Superior evaluations of teaching by students, residents, fellows, peers, course directors and department chairs
9. First authored publications (papers, chapters, reviews, textbooks)
10. Senior authored publications (papers, chapters, reviews, textbooks)
11. Co-authored publications (papers, chapters, reviews, textbooks)
12. Presentations at national or international meetings
13. Peer recognition for clinical activities including invitations to present at national / international meetings and other universities
14. Co-investigator on research grant awards
16. Mentoring achievements: clinicians trained, achievements of trainees, and where trainees are today
17. Membership and involvement in professional and scientific organizations
18. Contributions to clinically oriented committees at department, college, university, community, state, regional, national and international levels
19. Leadership roles in clinical activities in appropriate department, college, or university

iii. Departmental Chair Evaluations

In addition specific Departmental goals will be tracked during annual Chair evaluations as shown in Appendix 4.

1.4 Resources Available for Faculty Development

Resources are required for optimal faculty development and may be found in the department, at the institutional level, and at the state or national level.

Departmental Resources

The Department is committed to supplying the resources necessary for supporting faculty development.

i. Academic Time

Protected time for teaching is allocated by the Chair. Faculty desiring non clinical time to pursue these interests are expected to complete a **Faculty Education and Administration Development (FEAD) Allocation Proposal. (Appendix 1)** This form can be accessed on line at http://academicdepartments.musc.edu/anesthesia/faculty-development/Appendix_1_FEAD_Form.pdf

This completed proposal can be presented to the Chair at the annual faculty evaluation meeting as a plan for the upcoming academic year or on an ad hoc basis throughout the year. It is the Chair's prerogative to grant such non clinical time and that decision is based on the academic merit of the proposal and the applicant's prior history of academic productivity.

ii Research Time

The Department has a merit based assignment of predictable and "inviolable" assignment of time for investigators.

- Dr. Reeves has reserved one day each week for research pursuit by the chosen faculty
- Time will be assigned on a given day and will occur on that day each week or every 2 weeks so that reliable plans may be made to conduct the research.
- Time will be generally allocated over an initial, but renewable 3 month time period
- There are some weeks that time is not available and these are: weeks of the annual ASA meeting, Christmas and New Year weeks
- Applications must be in by the 10 of the month for the following session
- Applications can be sent to Dr. J. Reves either electronically from the Department research webpage or on paper
- A subcommittee: Drs. Hebbar and Reves will allocate the time based on merit and will take into consideration:
 - External competitive funding
 - Productive investigator (number of abstracts/publication in the past academic year)
 - Actively involved with mentor
 - New investigator with promising proposal
 - Exciting project(s)

The research time application form can be accessed on-line at <http://horseshoe.musc.edu/~media/files/univ-files/colleges-files/com-files/departments-files/anes-files/research/faculty-research-time-request-form.pdf?la=en>

iii. Personnel Support

The Department of Anesthesia and Perioperative Medicine Office of Research Support exists to provide pre- and post-award administrative support of both sponsored and non-sponsored awards. Services include but are not limited to the following:

- Search and identification of potential funding opportunities.
- Administrative support in the completion and execution of applications.
- Budgetary development and oversight
- Compliance management
- Assistance with understanding and meeting reporting requirements
- Fiscal management of awards, including regular provision of financial statements.
- Identification and negotiation of statistical analysis support personnel
- IRB application support
- Data collection and data entry support (including 2-3 full-time data coordinators) including entry into the RedCap data system
- Professional support of relevant aspects of clinical studies and trials
- Professional support of patient care needs related to studies and trials.

Current personnel in the Office of Research Support are:

Brenda Dorman, Executive Administrator
Wanda Jones, Research Nurse Coordinator
Megan McDonough, Administrative Coordinator

iv. Departmental Research Funds

The Department has budgeted adequate funds to support new initiatives until the investigators obtain outside funding. Faculty will present detailed proposals for research projects to the Departmental Research Committee chaired by the Vice Chair for Research. The Committee will score the project and recommend the allocation of financial, personnel, academic time and other resources. Research projects will be regularly reviewed by the Committee to ensure productivity.

v. Statistical Support

The department provides in-house statistical support. Dr. Beth Wolfe is our in-house statistician and she is available for in-person consult on Wednesdays in the department. Dr. Wolfe is available for half day on Wednesdays and she alternates her hours between 8-12noon and 1-4pm. Dr. Dulaney Wilson is available on Tuesdays and Fridays between 1-4pm. Please contact Kim Pompey, administrative assistant to set up an appointment with them.

vi. Resources Available for Leadership Development

The Joanne M. Conroy MD Endowed Chair for Education and Leadership Development was established to honor Dr. Conroy's significant contributions to the leadership of anesthesia and medicine. The endowment is dedicated to providing anesthesiology professionals with skills concentrating on areas such as:

- Effective meeting management
- Creative problem solving
- Recruiting and motivating others
- Building consensus
- Communications and conflict resolution
- Inspiring purpose, passion and performance
- Effective advocacy and political action

Grants from this endowment are available to members of the faculty for substantial development opportunities such as advanced degrees or fellowship training. Examples of opportunities include but are not limited to the Master of Science in Clinical Research from the MUSC College of Graduate Studies, the ASA Certificate in Business Administration Program, the Executive Leadership in Academic Medicine program at the Institute for Women's Health and Leadership at Drexel University College of Medicine, and advanced degrees such as Masters of Business Administration from outside institutions.

Proposals will be reviewed by the Executive Committee or Research Committee (whichever applicable) and make recommendations to the Chair. Each proposal should contain specifics as to how the educational endeavor will improve your academic career and advance the goals of the Department and College of Medicine. It is expected that applicants will make a personal investment of time and money into this effort as well as that provided by the Department.

If the program selected requires substantial Departmental funding and time, applicants will be expected to make a contractual commitment to the Department for a period of time determined by the Chair and Executive Committee.

The Residency Program Director will hold the Joanne Conroy Endowed Chair for Education and Leadership Development.

vii. Personal Academic Development Funds

The Department provides an allowance of \$6,000 and ten meeting days to each full time faculty member per academic year for travel to scientific meetings, membership in professional organization and purchase of books, journals or software. Faculty have wide discretion in the use this time and money but are expected that this use should make a substantial contribution to their academic career.

Resources External to the Department

In addition to the Department's resources, a detailed list of institutional and state and national resources for supporting clinical and translational research, basic science research, and education are provided in Appendix 2.

It is also important for all faculty to be aware of two important faculty groups on campus that serve important organizational, support and advocacy roles for faculty:

The Faculty Senate is the representative body of the Medical University of South Carolina faculty (http://academicDepartments.musc.edu/faculty_senate). The Senate's recommendations reflect and advocate the faculty's collective interests to further the university's mission. The mission of the MUSC Faculty Senate is to represent the views, needs, and interests of faculty in the educational, research, and service programs of the university. One of the important roles of the Faculty Senate is arranging the New Faculty Orientation Program. This is a biannual event that includes a general welcome from key leaders at MUSC and breakout sessions detailing clinical, research, and teaching resources specific to MUSC. The Faculty Senate also provides Town Hall Meetings and Workshops several times a year to update the faculty on University Initiatives, Tenure and Promotion, and other relevant topics.

The Women Scholars Initiative (WSI) is a joint initiative of the Office of Academic Affairs and the Office of the President with a long-term goal of promoting careers of women faculty. This organization provides a monthly workshop series (recent topics include promotion and tenure, work/life balance, contract negotiation, financial planning, and establishing good mentoring relationships). Other events sponsored by the WSI include the annual Eminent Scholar Seminar and Award, which brings an eminent scientist to MUSC to talk about his/her work and visit with MUSC faculty members. Past Eminent Scholars include members of the National Academy of Sciences and the Howard Hughes Medical Institute. WSI sponsors the John R. Raymond Fellowship, an annual award made to a junior faculty member to be used towards building collaboration with a renowned expert (male or female) in her field. WSI also sponsors a number of peer mentoring events and roundtables. WSI events are open to all MUSC faculty. Learn more at <http://academicDepartments.musc.edu/womenscholars/index.htm>

1.5 Hiring of New Faculty and Initial Mentoring

Successful faculty development begins during the hiring phase of a new faculty recruit. When new faculty members fail to fulfill their potential or get frustrated professionally, it can sometimes be traced back to a failure in the hiring process, e.g., misunderstanding the demands of the position by the new recruit, not knowing about impending decisions that could impact the job, not negotiating for adequate resources to be successful, or not identifying a committed mentor.

Interim mentor: Once a decision is made to seriously consider hiring a new faculty candidate, a member of the Department who met and interacted well with the recruit during the initial interview and who is willing to be the *interim* mentor for the new recruit should be identified. Ideally this should be a senior faculty member (not the Department Chair) who would not be competing in any direct or indirect way for resources with the new recruit. This mentor should be familiar with the candidate's career plans and know what the needs of the recruit are to be successful. The mentor would then work with the Chair, acting as both a go-between for the Chair and the new hire, and as an advocate for the new hire in the negotiation process. Aspects of the negotiation process that could constitute a conflict of interest for the interim mentor should be excluded from the items that the interim mentor would assist with during the negotiations. Some of the items that the interim mentor could assist with during the negotiations are:

- deciding on the right track and rank
- adequate protected time and support for administrative, research and teaching efforts
- development of a mentoring team. The initial mentor can help the recruit develop a mentoring team. This can start during the interview process by introducing the candidate to potential members of a mentoring team and continue once the new faculty member arrives.

i. **Vice Chair for Faculty Development** The Vice Chair for Faculty Development is appointed by the Chair person. This position shall receive time and salary report. This can start at the interview process by introducing the candidate to potential members of a mentoring team and continue once the new faculty member arrives.

1) Arrange and conduct meetings of the Promotion Committee - meet twice a year (Sept/Mar).

2) Confirm and validate all member votes regarding Promotion recommendations.

3) Communicate to the Department Chair in writing the recommendations of the promotions committee regarding Promotion decisions.

4) Notify members of faculty under review of the comments and recommendations of the eligible faculty.

5) Meet with faculty who have been denied promotion to discuss areas for improvement.

6) Meet with all new faculty to review faculty tracks and Promotion procedures.

7) Meet with faculty considering promotion to discuss appropriate timing and likely success of application.

8) Assisting the Chair in his role in revising, as appropriate, the departmental Promotion document as well as its Patterns of Administration.

9) Faculty Development

i) Works collaboratively with senior faculty mentors to assist faculty with regards to their career development in order to enhance their effectiveness as clinicians, educators and researchers

ii) Assist each faculty member in establishing an individual faculty development and mentoring plan.

iii) Develop a 5 year career plan for each faculty member.

iv) Update the departmental intranet for information regarding faculty development links; COM APT guidelines and mentoring details.

10) Serve on the Departmental Executive Committee

ii Mentoring

Mentoring is a critical component of career development and success for academic faculty. The overall goal that links the evolving mentoring and research structure within the Department is development and support of a community that is dedicated to the pursuit of new knowledge in anesthesiology and perioperative care, pain management, and medical education and simulation. Faculty at the Professor and Associate Professor level will serve in the role of mentors. It is mandatory that all faculty have a mentor either Lead and /or Career. It is preferable for the faculty to choose their own mentors, if not they will be assigned a mentor by the Vice Chair for Faculty Development. A list of departmental mentors and their areas of expertise is outline in Appendix 3.

A Lead mentor could be a faculty in another department or outside the University with the following attributes and responsibilities

- Expert in their scientific area
- Able to guide mentees in the following areas:
 - Professional research & academic skills (promotion and tenure)
 - Career advice & management: develop a five-year plan
 - Develop a feasible, coordinated research plan
 - Provide resources: databases, access to space, research staff, access to finding and potential funding resources (campus and national)
 - Collegial networking: national, international
 - Assist with communication of findings including oral presentations, writing of abstracts, manuscripts and development of grants

A Career mentor attributes include

1. A senior faculty member responsible for providing career guidance and support for their junior faculty mentees but may not be intimately familiar with the mentees' research interests.
2. Expected to meet with the mentee at least every six months to review overall career goals and advise them on issues related to advancement and promotion.
3. May not be a mentee's direct supervisor but will almost always be in their home department.

Role of junior mentee in the promotions process

1. Complete a self-assessment (form on the intranet) which will help you identify your strength and weaknesses.
2. Map out an Individual Development Plan (intranet) –both short term and long term.
3. It is the sole responsibility of the faculty member to solicit mentorship, one or multiple, peer or senior within the department / university or external.
4. Meet with the mentor on a regular basis to discuss your IDP, solicit help with filling out CV, and teaching portfolio (including other advice).

5. The junior mentee will be responsible for presenting their project at the monthly research committee meeting. In addition to providing constructive feedback, these meetings will be an opportunity for the mentor to bring in outside expertise and identify potential collaborations.

iii. Mentor - Mentee Relationship

Components of this relationship include:

- The responsibility of developing an effective mentoring plan should be shared by the individual faculty member, the mentor, and the Department Chair.
- The successful mentoring plan needs to provide guidance in several different areas including: advice in area of focus (e.g., research, teaching, clinical care); professional development, which should include an active role for the mentor in promoting the career of the mentee (e.g., suggesting role for mentee on a grant review panel or scientific writing committee, introducing the mentee to leading experts in the field, etc.); monitoring the progress of the mentee; helping to ensure academic promotion of the mentee at MUSC; academic career guidance; and psychosocial support.
- To ensure that the mentee - lead mentor relationship is an effective one and for each party to understand their commitments to that process, a formal agreement between the mentee and the lead mentor should be reached that describes how they will work together and collaborate on the development of a mentoring plan. Two examples of this type of agreement are included in Appendix 4. It is expected that each faculty member has a signed mentor-mentee contract.

1.6 Faculty Goal Setting and Measurement

Each faculty member at the Assistant Professor meets once a quarter with a senior career advisor or mentor. Together they will decide on a promotable academic focus area (Education, Research, Clinical Specialty or Leadership/Administration). Then they set attainable goals for one year and three to five years that will allow measurement of progress in this career trajectory with metrics that are easily obtained. It is expected that following this career trajectory will result in promotion at the appropriate interval. Finally they will discuss what time, money and other resources are necessary to achieve these goals. This is all enumerated for each faculty member and an example template is attached as Appendix 5.

Each faculty member then meets with the Chair for an annual evaluation. The goals are reviewed by the Chair to determine if the goals are feasible and within the overall mission of the Department. Then the Chair commits departmental resources to accomplish the agreed upon goals.

Progress in meeting these milestones is reviewed with the Chair during the subsequent year's evaluation. Faculty who are achieving appropriate goals for promotion and academic success will be encouraged and departmental support continued. Faculty who are not achieving appropriate academic goals will be counseled by the Chair.

Appendix 1.

**Faculty Education and Administration Development (FEAD) Allocation Proposal
Medical University of South Carolina
Department of Anesthesia and Perioperative Medicine**

Directions: Please feel free to expand the areas for answers as you need to. All academic days must be accounted for.

Name:

Years in Current Rank:

Administration

Activity:

Justification:

Time Requested:

What extra- or intradepartmental funding supports your administrative time and goals?

Education

Activities:

Justification:

Time Requested:

What extra- or intradepartmental funding supports your educational time and goals?

Signature

Date

Appendix 2.

Institutional, State and National Resources for Supporting Faculty Development at MUSC

1. Institutional Resources

1.1 Research Support

There are a number of institutional resources that support clinical, translational, and basic science research. These are listed on the MUSC Research website

(<http://research.musc.edu/index.html>). Some of these resources are described below:

- **The South Carolina Translational Research (SCTR) Institute.** The recently NIH funded MUSC Clinical Translational Science Award (CTSA) that is called the South Carolina Translational Research (SCTR) Institute (<http://sctr.musc.edu/>) provides research support to investigators across campus. Within SCTR is the **SUCCESS Center** which provides research navigation support such as collaborator and mentor matching and links to institutional cores and programs. Additionally, the SUCCESS center (http://academicdepartments.musc.edu/sctr/programs/success_center/) provides consultation for regulatory submissions and study subject recruitment, lists studies on clinical trials registry, and helps with grant budget development. At SCTR there is a toolkit that can help the most inexperienced investigator navigate the process required to get clinical trials underway and much more. MAP-R is a web portal that identifies approvals needed for all types of grant submissions Visit http://academicdepartments.musc.edu/sctr/tools_links/toolkit_design.html to find a wealth of information and pertinent advice about research at MUSC.
- **Career Development Funding Opportunities** are available through various institutional KL2 and K12 grant awards from NIH:
 - the SCTR KL2 and COM K12 Programs
http://academicdepartments.musc.edu/sctr/education_training/K12
 - K12 Career Development Program in Drug Abuse and Addiction.
<http://academicdepartments.musc.edu/psychiatry/addiction-sciences/education/nidak12/index.html>
 - The Building Interdisciplinary Research Careers in Women's Health (BIRCWH) K12 Program.
<https://www.musc.edu/psychiatry/addiction-sciences/education/birewh/>
 - The Paul Calabresi Clinical & Translational Oncology Training Program
<http://academicdepartments.musc.edu/psychiatry/addiction-sciences/education/K12-paul-calabresi.html>
- **SCTR Pilot Project Program.** SCTR supports pilot grant applications across the translational spectrum - from basic science to population health - including patient-centered and community-engaged applications as well as applications from Early Career Investigators to shorten the time to research independence.
http://academicdepartments.musc.edu/sctr/programs/pilot_projects

- **SCTR Vouchers** can be requested for up to \$1,000 for research services and supplies per approved protocol every six months. Investigators are limited to two active vouchers in any one six month period as long as they are for two different protocols. For more information please visit http://academicdepartments.musc.edu/sctr/funding_opportunities/vouchers.

If you think that applying for a SCTR Voucher could be beneficial to your research study, please visit <http://academicdepartments.musc.edu/sctr/index.htm> and fill out a SPARC Service Request Form. The SUCCESS Center staff reviews all voucher requests and a decision of award is made within two business days of application.

- **The Office of Research Development (ORD)** (<http://research.musc.edu/ord/index.html>), which is funded through the Vice President for Academic Affairs & Provost's Office, focuses on program and proposal development, identifies funding opportunities, develops proposal concepts, networks faculty members with complementary interests, provides grant-writing consultation and workshops, offers pre-submission critiques, compiles institutional data, and prepares competitive proposals for research resources and research training. New faculty and trainees are encouraged to visit the office in 101 Basic Science Bldg to meet the ORD staff and learn about networking opportunities. The following are among the services offered by the Office of Research Development:

Research Project Grant (RPG) Retreats are held approximately 3 times / yr. These interactive half-day sessions give individual investigators the opportunity to gain constructive criticism on a specific research concept or proposal. Researchers at any phase of career development are encouraged to present or attend.

ORD Alerts mailing list is a service for MUSC faculty and trainees to receive research news and funding opportunities by email (<http://www.carc.musc.edu/ordalerts/>).

Community of Science (COS) is an external web-based system, offered as an institutional subscription service, that provides a range of services including searchable databases for funding opportunities and expertise, as well as a personalized workbench from which to access and manage COS services.

Institutional "Boilerplate" is a compilation of information about MUSC, its components and programs, primarily used to assist MUSC faculty, staff, and trainees in preparing institutional resources and environment sections for research grant and contract proposals.

Grantsmanship Workshops are held twice per year. Led by an external consultant, the workshop content focuses on the NIH organization, peer review system, grantsmanship tips, and the ABCs of an R01 or other NIH grant application. Individual and team consultations are also offered. The workshops and consultation opportunities are an institutional research support service, provided at no charge to investigators or programs.

MyPeerReview is an internal, on-line searchable database of information about MUSC faculty service on review panels and study sections for the NIH and other federal and non-federal sponsors, as well as journals for which MUSC faculty members have served or currently serve as an ad hoc reviewer, member, editorial board, etc.

- **Grant Writing Help** is provided by: i. The Office of Scientific Editing and Publications (OSEP) which provides support to augment manuscript and grant writing skills for MUSC faculty, trainees, and staff <https://www.musc.edu/esl/writingcenter/>, and ii. through the SUCCESS center http://academicdepartments.musc.edu/sctr/programs/success_center/
- **Grant Administrative Support.** The Office of Research and Sponsored Programs (ORSP) and Office of Grants and Contracts Accounting (OGCA) provide the fundamental support need to obtain and manage sponsor-supported research funding. In addition to individual support, their websites provide important information regarding basic information needed for submission, and management of grants and contracts.
 - Office of Research and Sponsored Programs (<http://research.musc.edu/orsp/index.html>)
 - Office of Grants and Contracts Accounting (<http://academicDepartments.musc.edu/vpfa/finance/gca/index.htm>)

Some Specific Resources for Clinical and Translational Research:

Research Nexus Center. The primary purpose of the Research Nexus is to support clinical and translational research projects within the institution and SCTR affiliate members as well as pilot studies that may lead to future NIH or other sources of peer-reviewed clinical/translational research grant support. The specialized staff of Nexus consist of research nurses, laboratory personnel, nutritionists, IT specialists, and professional/administrative personnel. A core laboratory, fully-equipped outpatient clinic, dental suite, and imaging suite comprise the highly-technical physical facilities that are on hand to support your research.

http://academicdepartments.musc.edu/sctr/nexus/services/research_facilities.html

- **Biostatistics Consultation** through the SCTR Biostatistics & Epidemiology Program. Services offered are:
 - Biostatistical Education: Consultation and assistance in understanding one or more biostatistical concepts
 - Methodology/Study Design: Guidance with selecting an appropriate study design or developing a statistical analysis plan
 - Power Analysis / Sample Size Calculation: Assistance with determining the statistical power or sample size required for a proposed study
 - Data Analysis: Assistance with analyzing data collected for a research study
 - Other: (e.g. help with presentations, manuscripts, etc.)

These services are offered for several different settings:
Assistance Preparing Grants (Federal, Foundation, Other)
Assistance Preparing CTSC Protocols
Assistance with Current CTSC Funded Project
Unfunded Research Project (e.g. Abstract/Manuscript Preparation)

Links to these services are

<http://academicdepartments.musc.edu/sctr/programs/biostatistics.html> and
http://academicdepartments.musc.edu/sctr/tools_links/toolkit_design.html

- **Master of Science in Clinical Research Program (MSCR)** degree is offered by MUSC. This program teaches core competencies in clinical research methods, fosters development of a sustainable research focus, and provides the participant with the skills to compete for extramural support.
http://academicdepartments.musc.edu/mscr_domestic/
- **Society of Clinical Research and Translational Early Scientists (SOCRATES)** provides a forum for junior faculty to present their research projects in front of peers, senior researchers and statisticians, foster collaboration across multiple subspecialties at MUSC, and trouble shoot about ways to improve mentoring across campus. http://academicdepartments.musc.edu/sctr/education_training/socrates

Some Specific Resources for Basic Science Research:

- **Research Support** (<http://academicdepartments.musc.edu/research/connect/for-researchers/research-support-services.html>)
 - **Shared Core Facilities.** A number of core facilities are available to support basic research (see information of each of these facilities in Research Shared Facilities on this website). In addition, an annual EXPOsition of these facilities that enables meetings with core personnel occurs in the Fall each year.
 - **College of Graduate Studies (CGS) Office of Postdoctoral Affairs.** In addition to providing useful information regarding practical aspects of hiring and mentoring postdoctoral scientists, the office also offers services to enable recruitment of postdoctoral scientists.
- **Responsible Conduct of Research (RCR).**
 - **CGS RCR Retreat resources.** All MUSC postdocs participate in a mandatory 2-day retreat focused on career development, conflict resolution, and compliance issues related to the responsible research practices. All lectures and handouts are available on the CGS website http://academicdepartments.musc.edu/grad/post_doc_resources/curr_postdocs/resp_conduct.htm
 - **The MUSC** (<http://academicdepartments.musc.edu/research/ori/>) and **HHS Offices of Research Integrity** (<http://ori.dhhs.gov>) websites have a

wealth of educational resources on RCR practices with case scenarios, videos and tutorials for all stages of research professionals

- **Personnel/Trainees Relationships**

- College of Graduate Studies (<http://academicdepartments.musc.edu/grad/>)
 - Graduate Faculty Resources – application for appointment to graduate faculty and conflict of interest forms.
 - Mentoring Compact – AAMC recommendations for mentoring graduate students and postdocs (<https://www.aamc.org/initiatives/research/postdoccompact/>).
 - Graduate Council Minutes – record of monthly meetings and policy discussions.
 - Graduate Faculty Research – web-based database of faculty research interests to aid students looking for potential mentors.
 - Training Grants – listing of MUSC training grants and career development programs for graduate students and postdocs.
 - Student Handbook – specifics of graduate programs, resources, dissertation requirement, and CGS policies.
 - Summer Research Programs for Undergraduates and Health Professional Students. These programs provide students the opportunity of a 10-week long internship with MUSC faculty.
http://academicdepartments.musc.edu/grad/summer_research_program/
- Howard Hughes Medical Institute
 - “Lab Management: Making the Right Moves” is an essential resource for postdocs and faculty, available free on-line.
(<http://www.hhmi.org/resources/labmanagement/moves.html>)
- Human Resources Career Development Courses and Seminars. MUSC HR provides a variety of professional development workshops and seminars to facilitate more effective lab management and hiring practices.
(<http://academicDepartments.musc.edu/vpfa/hrm/training/trainingpage>)
- MUSC Toastmasters Club. This club provides a supportive environment for learning how to give effective scientific presentations, and benefit from constructive feedback of peers and faculty sponsors.
(<http://musc.toastmastersclubs.org/>)
- CGS725 Teaching Techniques. This course is offered every Fall and Spring semester and is open to all students and postdocs. Contact the College of Graduate Studies office for registration information (weised@musc.edu)

- **Networking Opportunities**

- “B & BS” (halushpv@musc.edu). The B & BS club provides an informal forum for faculty, postdoctoral and graduate students to present their research ideas, grant proposals or research problems to a mixed audience that can provide useful feedback and often potential collaborations or exchange of reagents
- MUSC Core Facilities “Octoberfest” Reception. This is an annual event for core facility directors to highlight the services available.
- Research INKlings (<http://research.musc.edu/inklings.html>). INKlings is a monthly on-line news letter of recent events of interest to MUSC researchers.

- SACNAS promotes a diverse research academy by providing workshops and networking opportunities that encourage Chicano/Hispanic and Native American students and postdocs to pursue and persist in STEM fields. This is also an excellent recruitment resource. (<http://www.sacnas.org/>)
- ABRCMS is an annual conference that brings underrepresented minority students and postdocs together to present their research in an environment that encourages their development into future STEM faculty. This is also an excellent recruitment venue. (<http://www.abrcms.org/index.html>)
- www.MinorityPostdoc.org hosts a variety of career development resources for postdocs, including job listings and articles, with an emphasis on minority scholars.

1.2 Resources for Education

Academy of Medical Educators in the College of Medicine - The Academy of Medical Educators was established in June 2012 to provide a forum for higher levels of participation, training and recognition of faculty educators. The members are an interdisciplinary group of educators who are dedicated to promoting excellence, innovation and scholarship in teaching and education. http://academicdepartments.musc.edu/com/faculty/Academy_of_Medical_Educators/

Types of Educational Technology

- a. Tegrity - Tegrity is a lecture capture service that lets faculty automatically capture every class – on and off campus – for later review by every student, anytime, anywhere. <http://tegrity.musc.edu>
- b. Adobe Connect - Adobe Connect is a Web conferencing software that securely shares presentations and multimedia right from a desktop computer, supporting feedback from hundreds of participants — all using a web browser and the Adobe Flash® Player runtime. <http://connect.musc.edu>
- c. WebCT - WebCT is MUSC's current Learning Management System. A Learning Management System is a software package that enables the management and delivery of learning content and resources to students.

Education Technology Services (ETS) Provides support in the areas of digital imaging, audio visual support in centrally scheduled classrooms and distance education technologies, and video production.

Apple Tree Society - The Apple Tree Society exists to foster dialogue and activity related to the scholarship of health professions teaching through campus and national partnerships. <http://academicdepartments.musc.edu/appletree/>

The following are the goals of the Society:

- Expand the faculty development opportunities related to teaching on campus.

- Initiate programs that recognize and enhance the value of teaching as a scholarly activity.
- Explore and support innovative methods and technologies for teaching and learning.
- Promote professional development of current and future educators.

Activities of the Society include:

- Monthly Brown Bags – noontime sessions on topics related to the Scholarship of teaching
- Workshops focused on development of teaching skills including lecture and presentation skills, case based discussions, evaluating learners, and using technology such as WebCT (see below)
- Collegiality – informal meetings to discuss teaching and learning

Copyright Toolkit - Understanding and complying with the laws governing the use of copyrighted materials is daunting. The information on this site is directed at teaching faculty, students, scientific writers, researchers, and others at MUSC who use copyrighted works. It includes Copyright @ MUSC: Policies, Forms, & Resources, forms, and information about Coursepacks, Plagiarism and How to Cite Sources, releases, Images and text, and print and digital/online resources. Many of the links lead to the excellent copyright Websites of other universities. <http://musclibguides.com/copyright>

Creating Collaborative Care/Interprofessional Education - Creating Collaborative Care (C3) is a Quality Enhancement Plan (QEP) for the Medical University of South Carolina that focuses on inter-professional education. <http://academicdepartments.musc.edu/oii/education/programs/>

Faculty teaching awards (College and University) - In recognition of faculty accomplishments the individual colleges, as well as the university, present annual awards in teaching, research, and service. These awards are very competitive underscoring the excellence of the faculty with respect to their achievements. The awards are sponsored by various groups. The university annual awards include:

- Developing Scholar Awards
- Outstanding Clinician Awards
- Teaching Excellence Awards (Developing Teacher, Educator-Lecturer, Educator-Mentor)
- Distinguished Faculty Service Awards

Library resources - <http://www.library.musc.edu/>

- a. Computer labs – 4 computer labs are available for use by faculty for their classes. The labs host an average of 25 iMac computers that support the use of both Windows and Macintosh operating systems
- b. Learning Commons – An initiative of the MUSC library currently under development designed to provide spaces for study and socialization and

- access to the latest technologies for teaching and learning.
- c. Center for Academic and Research Computing – Works with faculty and staff across the campus to design, develop and support interactive instructional programs.
- d. Journals The library currently provides access to approximately 17,498 e-journals and 34 current print-only subscriptions <http://muscls.musc.edu/>

Center for Academic Excellence - The CAE is dedicated to improving learning and teaching on campus. Health care providers must learn and re-learn in order to adapt their practices to the latest advances in biomedical science. They also must collaborate with colleagues across professions to provide quality care and conduct groundbreaking research. That's why the CAE provides collaborative learning groups; and the effectiveness of these groups is why a majority of MUSC students choose to participate—in addition to their scheduled class time. Another vital part of the work of the CAE is teaching the material and the strategies necessary for success on national and state licensing board/certifying exams. Under the tutelage of CAE faculty and their fellow students, students approach these rigorous exams with confidence and exceed national performance averages. <http://www.musc.edu/cae/>

The Writing Center - The Writing Center faculty members teach students to communicate effectively with their professors, their fellow students, and their patients. <http://www.musc.edu/writingcenter/>

Enrollment Services - Enrollment Services oversees student admissions, records and financial aid. <http://www.musc.edu/em>

2. State or National Resources

Funding Agencies

By going to the Office of Research Development website (<http://academicdepartments.musc.edu/research/ord/fundingops/index.html>) information on the following opportunities are available

- Funding alerts
- Federal and state funding opportunities
- Sponsor opportunities (Corporate and Foundations)
- **New Investigator Funding Opportunities**
- **Postdoctoral Funding Opportunities**
- Limited Submissions Competitions Opportunities

Associations

- **Association of American Medical Colleges (AAMC)**. The AAMC represents all 133 accredited U.S. medical schools; approximately 400 major teaching hospitals and health systems, including 68 Department of Veterans Affairs

medical centers; and nearly 90 academic and scientific societies. Through these institutions and organizations, the AAMC represents 125,000 faculty members, 75,000 medical students, and 106,000 resident physicians. Through its many programs and services, the AAMC strengthens the world's most advanced medical care by supporting the entire spectrum of education, research, and patient care activities conducted by member institutions. <http://www.aamc.org/>

- **Association of Women in Science (AWIS)** is a national advocacy organization championing the interests of women in science across all disciplines and employment sectors. By breaking down barriers and creating opportunities, AWIS strives to ensure that women in these fields can achieve their full potential. <http://www.awis.org/>
- **National Postdoctoral Association.** The NPA provides many resources useful for enriching the research environment, managing a research lab, and expectations of mentors and trainees. MUSC is an affiliate institution which provides membership to all faculty, postdocs, and students. <http://www.nationalpostdoc.org/>

Appendix 3.

<u>Areas of expertise</u>	<u>Mentors</u>
Pediatrics	Walton, Reeves,
Neurosciences	J.Reves, Harvey
Adult Cardiac	Nelson, Guldán Finley, Reves, Reeves
Peds Cardiac	Reeves, Walton
Obstetrics	Hebbar, Wilson
Informatics	Field,
Administration	Guidry, Clark, Bolin
Patient Safety/Effectiveness Care	J.Reves, Hebbar, Clark Intensive Field, Rieke, Clark
Chronic Pain	Smith
Simulation/Education	Schaefer, Rieke, J Reves
Regional Anesthesia	Wilson, Bolin

Appendix 4.

MENTOR/MENTEE AGREEMENT

A successful mentee/mentor relationship requires a commitment on the part of both partners. The following agreement is intended to provide a starting framework for the partnership. This partnership will be confidential and have clear mutual expectations. Either party should understand that they may withdraw from the relationship at any time by contacting the Vice-Chair for Faculty development. Each party should keep a copy of this agreement and make every effort to fulfill the terms of the agreement.

Mentor _____ **Mentee** _____

MENTEE GOALS

The mentee should establish with the mentor at least three professional development or personal growth goals. ***Goals should be specific, measurable, attainable, relevant and have a time frame.***

GOAL # 1 _____

GOAL # 2 _____

GOAL # 3 _____

CONTACT AGREEMENT

The duration of the formal mentoring program is twelve (12) months. Mentors are encouraged to continue the relationship on a voluntary basis. Contacts with mentee may be in person or by telephone; however, face to face contact is required for the first meeting. Mentee/mentor should allow enough time during a contact for discussion of goals, as well as questions from the mentee concerning their professional and/or personal development.

Mentee and Mentor agree to meet at least once every two months for twelve (12) months.

Mentee and Mentor agree to provide the Vice-Chair for Faculty development with written feedback at the end of 6 months.

Mentee Signature and Date

Mentor Signature and Date

Appendix 5.
Career Development Goals and Resources Template
Medical University of South Carolina
Department of Anesthesia and Perioperative Medicine

Name	John Doe	
Career Focus	Education	
	Clinical Subspecialty Expertise	
	Clinical Research	
Goals	One Year	
	1	IRB approval for propofol study
	2	Explore funding for study of effect of use of BIS on neuro outcome
	3	Refine the resident neuro curriculum with pre and post testing
	4	Reconfigure the CCM fellow journal club
	5	Join SEA and attend Fall Meeting
	6	Attend Program Directors' meeting
	Three to Five Year	
	1	Publish propofol study
	2	Study the effect of use of BIS on neuro outcome
	3	Attend SEA Teaching Workshop
	4	Become femoral nerve block educator at regional and national meetings
Needs	Currently 1-2 Admin Days per month	
	1	Increase number of Admin Days when studies start
	2	Institutional support to locate funding for BIS study
	3	Time to attend SEA Teaching Workshop

Rank Assistant professor
Year Hired July 1, 2010
Year Next Promotion July 1, 2015

Mentors Educator from outside the department

Mentor career path agreement
 yes
 date

Chair career path agreement
 yes
 date

Appendix 6: COM Promotion Matrix for Promotion to Professor Level. R= required and S=suggested. Currently ALL our faculty falls in the Clinician Educator Track

Professor	Clinician Educator
Continues to meet all the criteria for Associate Professor with major accomplishments in research, teaching, and/or clinical service	R
Distinguished career exemplifying scholarship. Excellence & productivity in research, outstanding success as a teacher, and/or outstanding service contributions are required. Involved in teaching activities, including formal lectures, grand rounds, and/or continuing medical education. (Leadership in interprofessional teaching and interdisciplinary research encouraged)*	R*
Principal investigator on significant research grants	
Co-investigator on research grants.	
Direct involvement in research.	R
Key individual in training of students, post-graduates and mentorship of junior faculty	R
Serves as Course Director for one or more major courses	
Continues to carry a heavy clinical or teaching load	R
Continued publication of reviews, chapters, textbooks, peer reviewed papers, and/or innovative teaching materials (new curricula, educational programs, syllabi, video materials, computer programs, etc.) that influence the science and practice of medicine at the regional & national levels	R
Continued publication of important and original clinical and/or laboratory investigations with significant authorship.	
Publications with significant authorship since promotion to Associate Professor (line 1), and in total (line 2)	
Publications with authorship since promotion to Associate Professor (line 1), and in total (line 2)	≥5 ≥10
National recognition, as evidenced by election to generalist or specialty societies, service on national committees, study sections, editorial boards, visiting professorships, and/or invitations to speak in CME courses.	R
Leadership roles in appropriate department, hospital and college	R

Appendix 7: COM Promotion Matrix for Promotion to Associate Level. R= required and S=suggested. Currently ALL our faculty falls in the Clinician Educator Track

Associate Professor	Clinician Educator
Continues to meet all the criteria for Assistant Professor with a record of achievement in research, teaching, and/or clinical service. (Participation in interprofessional teaching and inter-disciplinary research encouraged)*	R*
Record of excellence in high quality patient care, teaching and/or research	R
Established independent investigator with major impact in planning/development of research project. Involved in teaching activities, including formal lectures, grand rounds, and/or continuing medical education.	
Principal investigator on significant research grants	
Co-investigator on research grants.	
Local, regional or national grant support for independent research or development of teaching methods, or health care delivery methods, or clinical care systems	S
Peer recognition for research activities including invitations to present work at other universities, workshops and scientific conferences.	
Direct involvement in research.	R
Organization of clinical services to provide a setting for medical education and a data base for clinical research.	R
Active in training of students and/or post-graduates.	R
Serves as Course Director for one or more major professional courses	
Important contributor to course development or course direction.	S
Superior evaluations of teaching by students, residents, peers, course directors, dept. chairs.	R
Nominated for or recipient of teaching awards.	S
Presentations at national/international meetings.	R
Continued publication of reviews, chapters, textbooks, peer reviewed papers, and/or innovative teaching materials (new curricula, educational programs, syllabi, video materials, computer programs, etc.) that influence the science and practice of medicine at the regional & national levels	R
Continued publication of important and original clinical and/or laboratory investigations with significant authorship.	
Total publications with significant authorship since last promotion	
Total publications with authorship since last promotion	≥5
Development of new teaching materials, such as curricula, educational programs, textbooks, syllabi, computer programs and video tapes	R
Established reputation inside and outside local institution as an authority in a clinical specialty or for leadership in primary care	R
Contributions to committees at department, college, university, community, state, regional, national and international levels	R State Level
Leadership role in department and hospital as a section or division head, or program director	S
Active involvement in local and national professional organizations	R
Election to scientific organizations in discipline.	S