Office of the
Vice President for Research
University of South Carolina

Strategic Plan
FY2013 - FY2018

A comprehensive strategy for cultivating research, scholarship, creativity, and innovation at the University of South Carolina

UNIVERSITY OF
SOUTH CAROLINA

Office of the Vice President
for Research
University of South Carolina

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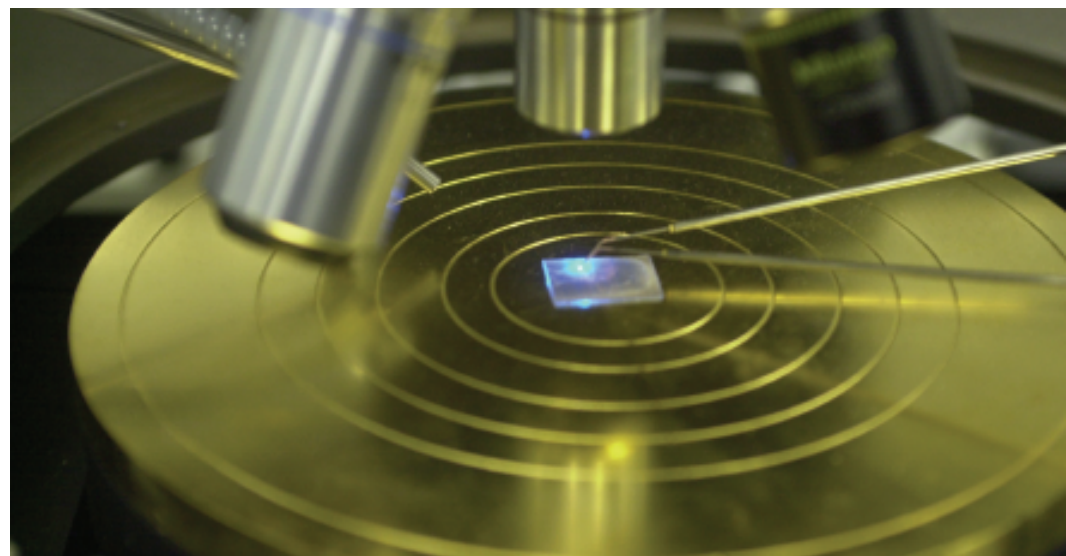Columbia, SC 29208

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"This strategic plan is the culmination of the efforts of the Office of Research, the Internal Research Advisory Board and input obtained from faculty at our Research Retreat as well as from department, college and campus visits. The goals and initiatives presented here will support increased research and scholarly activities at USC, encourage the recruitment and retention of outstanding faculty and students, prepare us to enter the global marketplace with innovative ideas, and increase awareness of the exciting advances happening at the University of South Carolina."

Prakash Nagarkatti, Ph.D.
Vice President for Research

The University of South Carolina is leading the way to a more promising tomorrow

Outstanding Faculty Yield Innovative Research

The University of South Carolina has outstanding faculty, scholars and researchers who engage students by sharing their knowledge, skills, innovations and ideas. Our faculty are nationally and internationally recognized for their research activity. USC is the only institution in the state that has received the highest ranking by the Carnegie Foundation as an institution with "very high research activity". Our sponsored research awards in 2012 were over $238 million, which has a significant impact on our state's economy. Being a comprehensive University, our faculty and students are engaged in a diverse array of research and scholarly activities that promote innovation across multiple disciplines. By participating in interdisciplinary research, USC researchers are providing solutions to problems that will benefit the people of South Carolina and our nation. Whether tackling global challenges, improving healthcare and sustaining our environment or developing alternative sources of energy, USC researchers are finding answers.

Interdisciplinary research advances scientific discovery and inspires innovation as faculty from different disciplines collaborate to search for answers to unique challenges and problems.

Goal 1 Promote Interdisciplinary Research (IDR)

Foster a collaborative environment

- Create the mechanisms to bring interdisciplinary groups together by sending out regular calls for interdisciplinary research themes; identify a faculty point of contact; publicize meetings, results; create interdisciplinary club(s) for grad students, postdocs, and faculty
- Administratively support efforts towards interdisciplinary research by arranging meetings/mini-retreats for groups participating in research themes; utilize Research & Grant Development office to support large interdisciplinary proposal preparation
- Create/fund VPR IDR Fellowships

Recognize faculty for IDR

- Provide funds to IDR leaders
- Create recognition mechanism for faculty conducting IDR

Provide seed money for IDR

- Increase ASPIRE-II, ASPIRE-III awards

Overcome/Remove barriers

- Meet with Provost/Deans to discuss: cross-departmental budgeting, team-teaching, faculty movement among programs and departments, establishing "Presidential Professors", internal sabbaticals, tenure and promotion guidelines to recognize IDR contributions and interactions, departmental evaluations that account for IDR collaborations/teaching

Goal 2 Identify niche opportunity areas for growth

Tackle unique, significant problems that transcend individual disciplines

- Identify and connect research experts in areas of national and global importance (e.g., Energy, Environment & Sustainability, and Life Sciences)
- Advance and lead university-wide, high-performance computing efforts

Align key parts of research portfolio with needs of SC high-tech industry

- Establish private-public partnerships responsive to needs of industry in SC (i.e., Boeing, Michelin, Milliken, BMW) or other problems/opportunities unique to our region (ex: Nuclear energy, Stroke, Obesity)
- Develop process to place USC students and graduates with our SC industrial partners

Identify, work to solve problems unique to SC

- Create a "USC Faculty Connect" to promote faculty work around themes of SC needs and research strengths
- Hold faculty focus group meetings

Exploit opportunities unique to our region

- Combine current resources (e.g., I-95 Corridor: connect bioenergy, social and health sciences, and environmental aspects)
- Promote continuum of research "from bench to community"

South Carolina's distinctive population and environment provide unique opportunities for targeted cross-discipline research.

Research and scholarship are important components of student education. The Office of Research aims to equip our students with the tools they need to excel.

Goal 3 Develop and promote integrated undergraduate and graduate programs

Promote leadership development and prepare students for the workforce by providing relevant training

- Develop partnerships with businesses and community to get undergraduates involved in relevant research and training
- Develop the Support to Promote Advancement in Research and Creativity (SPARC) graduate-level fellowship program
- Feature researchers discussing their research via online videos to stimulate undergraduate interest

Provide incentives to faculty for involvement in undergraduate research

- Provide support to Principle Investigators coordinating Research Experience for Undergraduates (REU) grants

Work with university leadership to create opportunities

- With the Office of the Provost: enable collaborative opportunities that include undergraduate, graduate and post-doctoral researchers; develop, implement, and communicate opportunities for cross-disciplinary courses, degrees and programs
- With Deans and departmental Chairs, prioritize the recruitment of top graduate students, particularly doctoral students

Goal 4 Promote diversity in research

Promote minority student recruitment and training

◆ Provide research training opportunities to students from Historically Black Colleges and Universities (HBCU)

◆ Provide support to faculty mentors working with HBCU students

Provide support for both internal and external research partnerships to extend diversity

◆ Identify specific research collaborations with the local HBCUs, the Technical Colleges, and two-year programs throughout the State; provide opportunities for student and faculty exchange

Coordinate activities with Provost's Task Force on Diversity (Focus Carolina)

◆ Specific research-related activities should be coordinated and inventoried by this Task Force

◆ With the Office of the Provost and Deans, identify methods to reward, recruit and retain diverse faculty

A diverse faculty produces innovative research and ideas. By encouraging a more heterogeneous faculty, we can better guarantee our relevance in the decades to come.

Experienced senior faculty members can help fast track the careers of our bright young faculty by providing them with encouragement, practical knowledge, and advice.

Goal 5 Enhance the growth of junior faculty through effective mentoring

Create a community of mentors

- Establish/publicize the Research Mentoring Institute (create a website with general information, forms, and "Expertise Locator", where faculty "self-identify" technical expertise)

Provide mentor/mentee training

- Develop a formal series of training workshops (how to be a good mentor/mentee, what to expect from a mentee, what to ask from a mentor)
- Establish both group and individual, formal and informal mentoring forums
- Include topic of mentoring in new faculty orientation (emphasize the importance of mentoring, resources)

Improve junior faculty proposal prep skills

- Nominate junior faculty for review panels
- Create/publish a database of faculty who are on or have been on study section panels
- Provide funds for external reviews of select grant proposals

Overcome/Remove barriers

- Recognize, value, and reward successful mentoring
- Acknowledge mentorship in tenure and promotion process and yearly evaluations
- Explore the potential of creating rewards/incentives
- Evaluate the outcomes of mentoring experiences

Goal 6 Recognize/reward faculty excellence in research and scholarly activity

Develop a faculty incentive plan

- Meet with Provost/Deans to discuss establishing consistent standards for salary on sponsored projects, and research incentives (develop "formula", consider temporary salary supplements and summer pay incentives during external funding cycles); providing course release based on time "bought out" or on productivity
- Hold an annual reception to acknowledge and celebrate recipients of external funds that enhance research/scholarship

Create internal mechanisms of recognition

- Create a "Hall of Fame" (utilize a faculty committee to establish selection criteria, determine appropriate method(s) to seek nominations, select honorees, publicize
- Select "Researcher/Scholar of the month" (request Colleges/Schools across the USC system to provide monthly nomination of outstanding scholars; feature on Research website)

Support external means of recognition

- Establish a faculty committee responsible for nominating deserving faculty for significant external awards, including discipline specific-society fellows

Faculty at the university must be recognized for their outstanding achievements within the university and to the broader public.

Interaction with enterprise is critical as we move forward into a more connected global marketplace. The Office of Research will help faculty commercialize their technologies and in turn boost the regional knowledge economy.

Goal 7 Promote faculty entrepreneurship

Stimulate Entrepreneurship

- Train faculty in entrepreneurship through "boot camps"
- Encourage entrepreneurship from the top of the university down
- Reinforce and empower entrepreneurship on a department level (Include activities in tenure and promotion criteria)
- Utilize entrepreneurial faculty to educate others
- Increase communication of entrepreneurial resources
- Provide facilities for the "One stop shopping approach": The Center for Entrepreneurial Development
- Provide incentives, royalties, and celebrations

Amplify the inventor base

- Publicize intellectual property policies; educate faculty on how such policies work to their benefit
- Provide educational seminars (Technology Commercialization staff)
- Develop a mechanism for faculty submitting papers to have papers reviewed for potential new intellectual property
- Publicize that faculty can meet with Incubator personnel for advice, input, and coaching

Connect with commercialization partners

- Increase interaction between the Technology Commercialization and Industrial Contracts offices
- Efficiently communcate how the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) process works, and how faculty can participate
- Identify active SBIRs and notify suitable investigators so that they can participate under the umbrella of the existing SBIR

Goal 8 Promote media relations and development

Develop efficient internal communications

◆ Create a centralized website to link currently fragmented websites
◆ Develop and empower an internal research marketing committee
◆ Create a centralized calendar (to include speakers/notable visitors)

Customize message to external audience

◆ Work with USC Communications and Development Divisions to identify critical external groups (e.g., lay public, alumni, media, donors, business/professional groups, grass roots organizations) and develop appropriate means to channel messages on research

Develop key messages

◆ Provide common talking points and themes (to all faculty, disciplines, and colleges) that will highlight focus areas and provide appropriate "sound bites"

Educate faculty on effective presentations

◆ Help faculty effectively communicate audience-specific information
◆ Provide seminars and workshops to enhance communication and presentation skills, including the "elevator pitch"

Identify research "content experts"

◆ Create a faculty committee to identify "content experts" to whom the media can reach out to for expert commentary on regional/national opinion pieces

Meet regularly with Communications and Development Divisions

◆ Coordinate efforts between offices to promote research to external audiences , including areas related to legislative initiatives, presidential initiatives, and the capital campaign

Research leads to amazing discovery and tangible benefits to our community. The Office of Research aims to share our successes regionally, nationally and globally.

As our world becomes increasingly connected, more and more opportunities will arise for global collaboration yielding new ideas and approaches to challenges in many fields.

Goal 9 Promote global research initiatives

Bring together the resources of USC and the global community

- Support international conferences and workshops in key research areas
- Assist in the development of interdisciplinary teams targeting international funding
- Form a faculty committee to identify focus countries/areas and major funding agencies, foundations, etc., that support global collaborations
- Determine what Memorandums of Understanding (MOUs) are currently in place

Support research abroad activities for faculty and students

- Act as an intermediary for students and faculty going abroad or coming to USC by closely collaborating with the Office of International Programs in the Provost's office.
- Identify and communicate sources of support for faculty and student exchange

Goal 10 Promote infrastructure development

Address the demands on the current cyber- and facilities infrastructure

- Develop and implement long-term policies and financial models for core facilities in areas such as high performance computing, electron and light microscopy, animal research facilities, and libraries
- Address short-term issues regarding compliance with federal funding agencies by developing a data management plan to allow faculty to publish promptly, archive, share, and provide easy access to data gathered using public funds
- Identify additional financial resources

Utilize the faculty replenishment initiative to stimulate changes in research

- Coordinate efforts to integrate cutting-edge research with education and to advance the development of new courses in specific targeted areas

Develop more efficient processes to facilitate the timely integration of new faculty

- Facilitate the communication between faculty, departments and deans with the facility and maintenance groups at USC in order to decrease project time lines for facility build outs and upgrades

A well-developed infrastructure is essential for supporting our faculty in their challenging research programs.