Harvard Scientist Recruited to Lead USC’s Broad Center for Stem Cell Research and Regenerative Medicine

The University of Southern California has announced a major scientific recruitment to the Keck School of Medicine of USC, one that will have a transformative effect on the medical and biological sciences across the university’s campuses and in the regenerative medicine and biology communities.

Andrew P. McMahon, Ph.D., will leave Harvard University to join the university on July 1, 2012, as a Provost Professor and the inaugural holder of the W. M. Keck Professorship of Stem Cell Biology and Regenerative Medicine. He also will hold an appointment in the Department of Biological Sciences in the USC Dornsife College of Letters, Arts and Sciences. In addition, he will chair the newly created Department of Stem Cell Biology and Regenerative Medicine at the Keck School and serve as director of the Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC.

“As USC advances its ambitious fundraising campaign, we will continue to make bold investments in recruiting world-class faculty,” said USC President C. L. Max Nikias, Ph.D. “Dr. McMahon’s appointment marks a significant milestone in these efforts, and will dramatically bolster the medical and biological sciences at the university, elevating our programs to an entirely new level.”

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Boldy Transforming the Future of Medicine

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The Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at the Keck School of Medicine of USC was founded in February 2006 with a $30 million gift from The Eli and Edythe Broad Foundation. Its purpose: to create a cornerstone of scientific recruitment to the Keck School.

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The facility’s core laboratories provide access to specialized equipment and technical experts to scientists across the university, as well as to colleagues from the Southern California Stem Cell Scientific Collaboration (SC3), which includes researchers working at Children’s Hospital Los Angeles, City of Hope Medical Center, the University of California, Santa Barbara, the California Institute of Technology and the House Ear Institute.

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joined Harvard University as a full professor, and from 2001 to 2004, served as chair of its Department of Molecular and Cellular Biology. McMahon is currently a professor in the Department of Stem Cell and Regenerative Biology, Department of Molecular and Cellular Biology and principal faculty member in the Harvard Stem Cell Institute.

McMahon says he decided to come to USC because of university leadership’s compelling vision for the future and the university’s strong potential to achieve it.

“There’s an obvious investment being made to advance the university as a whole and to enhance the stem cell and regenerative medicine program,” he said. “It’s also quite appealing to have the opportunity to build something at an institution that is clearly heading to the big leagues.”

In establishing his laboratory at USC, McMahon will bring a team of highly accomplished researchers from Harvard. At USC, McMahon will be charged with recruiting a new generation of the world’s top biological scientists to the campuses. USC anticipates building a core group of faculty across the university to pursue science that will benefit the university’s entire life sciences research enterprise, as well as contribute to larger efforts to better understand basic biology.

In addition to conducting research and leading USC’s regenerative medicine and biology efforts, McMahon will teach undergraduates and graduate students at USC, fulfilling a commitment to helping students learn basic scientific concepts.

“During the recruitment process, Dr. McMahon specifically requested the opportunity to teach undergraduate students each year at the USC Dornsife College of Letters, Arts and Sciences—a testament to his belief in the importance of mentoring future scientists,” said Provost Elizabeth Garrett, J.D. “This will be an outstanding opportunity for USC’s undergraduates to learn directly from a world-renowned scientist.”

McMahon will work closely with USC’s clinicians to develop new stem cell therapies.

“In leading the Broad Center for Regenerative Medicine and Stem Cell Research at USC, Dr. McMahon will bridge our Health Sciences campus, the research departments at the Keck hospitals, and a number of schools and academic departments on our University Park campus, including the Vitreus School of Engineering and our biology and chemistry departments within the Dornsife College of Letters, Arts and Sciences,” said Keck School Dean Carmen A. Puliafito, M.D., M.B.A. “The Broad Center will provide a central core around which these scientists—and those at Children’s Hospital Los Angeles—can come together.”

McMahon and his team study the mechanisms that underlie the assembly, repair and regeneration of critical organ systems, and have made enormous contributions to the understanding of the way the kidney matures during development. In building knowledge on these subjects, they seek to provide an informed, logic-based platform for translating basic research into practical applications in the area of regenerative medicine. This carries enormous potential for the treatment of human disease, as stem cell science offers a particularly broad reach. It can provide insights into normal and abnormal development in human cells, and holds the potential for the repair and replacement of human tissues and organs.

McMahon’s basic research has yielded important findings into the biology of mammalian signaling factors that have been translated into clinical medicine with the development of a novel anti-cancer drug, vismodegib, the first FDA-approved hedgehog pathway inhibitor, in a Curis/Genentech partnership.

Harvard colleague Clifford Tabin, Ph.D., George Jacob and Jacqueline Hunt Leider Professor and chair, Department of Genetics, Harvard Medical School, said he would miss working closely with McMahon but praised McMahon’s leadership abilities in research.

“He has clear vision, is good at organizing, and knows great science from medieval science,” Tabin said. “This is a great opportunity for him to develop something at a larger scale. He is one of the people at the forefront of regenerative medicine, breaking ground in creative ways while maintaining rigorous thinking.”

Before arriving at Harvard, McMahon led the Department of Cell and Developmental Biology at the Rockefeller Institute for Molecular Biology in Newark, N.J. He previously held the position of staff scientist at the National Institute for Medical Research in London, where he started his independent research program.

While at the National Institute for Medical Research, McMahon worked closely with Reginald Hogan, Ph.D., George Barre Geller Professor and chair, Department of Cell Biology at Duke University and director of the Duke University Stem Cell and Regenerative Medicine program. She lauded his innovative work in kidney development research.

“He’s done some superb work for many years,” said Hogan. “He has done interesting work in embryonic development and more recently in the area of stem cells in many organ systems, but most recently in the development of the kidney. He has pioneered new ways of looking at the complex three-dimensional organization of the kidney. This has had far-reaching importance as the model for development of other organ systems, but also for diseases that afflict the kidney.”

McMahon received his bachelor’s degree from St. Peter’s College, Oxford University and his Ph.D. from University College London. He subsequently worked for three years as a postdoctoral fellow at the California Institute of Technology.

McMahon is an elected Fellow of the American Association for the Advancement of Science, the American Academy of Arts and Sciences, and the Royal Society (London), as well as an elected Associate Member of the European Molecular Biology Organization. He has served as an editor of the journals Development and Developmental Biology, and on the editorial boards of several other scientific journals, including Genes and Development and Current Biology.