SSR New Investigator Award
(Sustaining support from the Virendra B. Mahesh New Investigator Endowment Fund)

This award recognizes an active, regular member of the Society for outstanding research completed and published within 10 years after receiving the Ph.D. or other equivalent professional degree. In considering nominees for this award, the Awards Committee will consider the originality of the research, the significance and impact of the research in reproductive sciences or allied fields, and the degree to which the nominee's research was independent of that of a mentor. The recipient of the 2012 SSR New Investigator Award is **Jon M. Oatley, Ph.D.**

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Dr. Jon Oatley completed his M.Sc. and Ph.D. in Animal Sciences at Washington State University and furthered his training as a postdoctoral fellow in the laboratory of Dr. Ralph Brinster at the University of Pennsylvania, where he initiated innovative and exciting studies on the biology of spermatogonial stem cell self-renewal and survival. In 2007, Dr. Oatley was recruited by The Pennsylvania State University and joined the Faculty of Dairy and Animal Science.

In his new position, Dr. Oatley quickly established a productive laboratory with a focus on spermatogonial stem cell biology using mice and cattle as animal models. He acquired extramural grants from the U.S. Department of Agriculture and Eunice Kennedy Schriver National Institute of Child Health and Human Development (NICHD) to support investigations into the cellular and molecular mechanisms regulating spermatogonial stem cell fate. Dr. Oatley is a key young scientist in the fields of reproductive biology and stem cell biology. His research involves using laboratory and large animal models to decipher: 1) molecular mechanisms within spermatogonial stem cells that control self-renewal and differentiation; 2) pathways controlling postnatal development of the spermatogonial stem cell pool to establish the adult stem cell population; and 3) determinants of the stem cell niche microenvironment within mammalian testes. He has established an innovative research program that is focused on understanding the biology of spermatogonial stem cells and has provided conceptual breakthroughs of considerable significance.

The current focus of Dr. Oatley's research is to discover the role of basic helix-loop-helix (bHLH) proteins in controlling spermatogonial stem cell fate decisions, the influence of non-coding small RNAs on establishment of the spermatogonial stem cell pool, and identifying growth factors produced by testis somatic support cell populations that contribute to the niche microenvironment. A reduction in or loss of spermatogonial stem cell function disrupts spermatogenesis, leading to subfertility or

infertility in males. In addition, because spermatogonial stem cells are the only cells in the body that self-renew and contribute genes to the next generation, they provide an avenue to alter genes within a male's germ line. The possibly immortal nature of stem cells provides a potential avenue for regenerative medicine to treat a variety of degenerative diseases caused by loss of tissue homeostasis. Aside from medical implications in humans, preservation of genetic lines of endangered species and expanded use of gametes from valuable food or companion animals represents a potential application of spermatogonial stem cell populations utilizing their capacity for regeneration of male germlines upon transplantation. Furthermore, information gained from studying spermatogonial stem cells may be applicable to other tissue-specific stem cell populations.

In the past seven years, Dr. Oatley has published 13 peer-reviewed scientific journal articles and four book chapters, received funding from the National Institutes of Health (NIH; R01 and R21) and USDA extramural grants programs, and presented 13 invited talks at national and international scientific meetings. Indeed, he presented the Barron Lecture in 2010 at the University of Florida, which recognizes scientists whose published work represents innovative insights into reproductive biology. Aside from Dr. Oatley's pioneering research, he has provided critical leadership and selfless service to the field of reproductive biology over the last six years. For instance, he currently chairs the SSR Membership Committee and has organized and chaired scientific sessions at the SSR Annual Meeting. Further, he has served as an Ad Hoc Reviewer for several study sections at the NIH as well as the National Science Foundation and has dedicated time and resources to the popular Eunice Kennedy Shriver National Institutes of Child Health & Human Development (NICHD)-funded Frontiers in Reproduction course at the Marine Biological Laboratories in Woods Hole. Finally, Dr. Oatley provides reviews for many scientific journals, including BOR, Development, Stem Cell Research, and Science, and is on the Editorial Board of Spermatogenesis.

Dr. Jon M. Oatley is an outstanding researcher in reproductive and stem cell biology whose research and service is outstanding for a new investigator and benefits the study of reproduction, as well as many other scientific fields, and society in general. *(Submitted by Thomas E. Spencer, Ph.D.)*