



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 2011 SSR New Investigator Award is Dr. Derek Boerboom.

Dr. Derek Boerboom is the recipient of the 2011 SSR New Investigator Award. He completed an M.Sc. in biochemistry at McGill University, and a D.V.M. and Ph.D. at the Université de Montréal. He was the first student at the Faculté de Médecine Vétérinaire to complete a Ph.D. while pursuing a D.V.M. His Ph.D. thesis not only merited the Prize for Excellence of the Academy of Montreal, but was also recognized nationally with the award of the Governor General's Academic Gold Medal, an exceptional honor. Following completion of his Ph.D., Dr. Boerboom embarked on postdoctoral training in the laboratory of Dr. JoAnne Richards at Baylor University, where he initiated innovative new studies and generated new mouse models for investigation of functional genomics of the ovary. His work there resulted in publication of exciting and novel findings on the Wnt signaling pathways in the ovary.

Dr. Boerboom was recruited back to Centre de Recherche en Reproduction Animale of the Université de Montréal in 2005. At that time, he was awarded a prestigious Canada Research Chair. He set about to establish a thriving and productive laboratory for investigation of the signaling mechanisms in the ovary. To this end, he has acquired a solid funding base for his research, including two grants from the Canadian Institutes of Health Research, one from the Natural Sciences and Engineering Research Council of Canada, and funding from the Canadian Foundation for Innovation. These grants were awarded at times when funding was highly competitive, and this accomplishment is indicative in itself of a quality scientific program.

In the relatively brief period that he has been an independent investigator, Dr. Boerboom has made significant contributions to our understanding of ovarian biology. He continues to focus on Wnt signaling in his highly original research endeavors, and he has employed several models, including innovative transgenic mice in which components of the WNT signaling pathway have been disrupted in specific tissues. His work has clearly shown that WNT4 is essential for normal antral follicle development, and that the WNT receptor Frizzled4 is required for both formation and appropriate function of the corpus luteum. An exciting component of his investigations has been the demonstration that misregulation of the WNT/CTNNB1 pathway results in granulosa cell tumors. He successfully expanded this work to show that a significant proportion of granulosa cell cancers display mutations in this pathway, providing a cross-species confirmation of the importance of his work. His newest studies have defined downstream targets and mediators of WNT signaling in the ovary, with a particular focus on establishing the mechanisms employed by this pathway in regulating granulosa cell function and avoiding tumorigenesis. These new studies have been highlighted in recent abstracts and are in preparation for publication.

Dr. Boerboom has shown the capability to understand and exploit the power of targeted mutation in mice. An intriguing finding from his laboratory indicated that aggressive tumors with the granulosa cell phenotype resulted in his model of overactivation of WNT signaling not only in the ovary, but also in the Sertoli cells of the testis. This investigation has provided a conceptual breakthrough by showing phenotypic plasticity in a somatic cell type of the reproductive system that was previously believed to be terminally differentiated. His work on cancer models is a substantial contribution outside his field of direct interest.

Dr. Boerboom has published more than 35 papers and 75 abstracts, a phenomenal number for an individual at such an early stage in his career. His publications appear in *Biology of Reproduction* and in other high profile journals, including the *FASEB Journal*, *Cancer Research*, and *Carcinogenesis*, among others. He has summarized his work in seminal reviews in *Trends in Endocrinology and Metabolism*, and in *Frontiers of Bioscience*. Although these articles are relatively new, they have each received multiple citations by other authors, further demonstrating that his work is topical and of elevated scientific value.

In addition to his extensive scientific contributions, Dr. Boerboom has been a productive member of the Society for the Study of Reproduction. He received the Trainee Research Award for best poster as a postdoctoral fellow in 2005, he has presented his work in an SSR minisymposium, and he has served on the SSR Program Committee. He has been a conscientious member of the Editorial Board of *Biology of Reproduction*, and the editors have been pleased to receive from him fair and rigorous reviews of more than 30 manuscripts, all delivered in a timely manner.

The novel mouse models that Dr. Boerboom has developed for his ovarian studies have been generously provided to other investigators, and many are now being used by others to study the roles of genes, including *Wnt4* and *Adamts4*, in other reproductive and non-reproductive tissues. He has established fruitful and interactive collaborations with other scientists in Canada, the U.S., and throughout the world.

Dr. Derek Boerboom is an outstanding young scientist and an accomplished and independent molecular reproductive biologist. In a very brief time, he has made substantial contributions to our understanding of important elements of reproductive biology. He not only meets but surpasses the criteria for the New Investigator Award, and clearly merits this honor. (Submitted by Dr. Bruce Murphy.)