



**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 2009 SSR New Investigator Award is Dr. Wei Yan.

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Dr. Wei Yan of the University of Nevada School of Medicine, Reno, NV, is the recipient of the 2009 SSR New Investigator Award. Dr. Yan embodies all of the criteria listed for this award and is a most deserving and exemplary recipient. Dr. Yan's work has been quite original and has led, and continues to lead to multiple conceptual breakthroughs that are highly significant to the field of reproductive biology. Several aspects of Dr. Yan's research overlap with allied fields of investigation, such as those involved with basic processes of cell biology, the biology of small noncoding RNAs, and methodologies to produce gene knockouts in mice, among several others. Thus, his work has made significant contributions both to our basic understanding of biological processes, especially as they pertain to reproduction, and to the methodological and technical tools used by those working in our field. These contributions have not only contributed to our understanding of the basic biology of reproduction, but have also made significant contributions to knowledge and methodologies of potential clinical relevance, particularly in the area of contraception.

After earning his MD degree in China, Dr. Yan obtained his Ph.D. degree with Dr. Jorma Toppari at the University of Turku, Finland in 2000. He then moved to Dr. Marty Matzuk's lab in Houston where he was a postdoc from 2001-2004. Following his postdoc, he accepted a position as Assistant Professor at the University of Nevada, Reno in 2004, and he continues in that position today. Dr. Yan's CV documents his impressive productivity in the field of Reproductive Biology, with a particular emphasis on molecular mechanisms that regulate germ cell development and fertility. Despite his relatively brief career, he has published over 50 peer-reviewed research articles on topics of reproductive biology, including 16 papers published since he took up his independent faculty position at the University of Nevada, Reno. Much of his work has been published in prestigious journals, including *PNAS* (6 papers), *Molecular and Cellular Biology* (2 papers), *Developmental Biology* (2 papers), *Molecular Endocrinology* (3 papers), *Nucleic Acids Research* (1 paper), and *Biology of Reproduction* (5 papers). In addition Dr. Yan presented minisymposium talks at the last two SSR meetings in San Antonio and Hawaii, and has been invited to speak at the upcoming Gordon Research Conference on Mammalian Gametogenesis & Embryogenesis. He has also served as an ad-hoc reviewer

for the NIH DEV1 study section and has been awarded two NIH grants – one RO3 award and one RO1 award.

Dr. Yan's recent research achievements are highlighted by his work on spermiogenesis-specific genes and testicular small non-coding RNAs. He began to identify and define functions of genes exclusively expressed during the haploid phase of spermatogenesis during his postdoctoral training with Marty Matzuk. He has continued to focus on late spermiogenesis-specific genes as part of his ongoing independent research because he believes that malfunction of these genes may contribute to many forms of spermatological anomalies leading to idiopathic male infertility. He is also pursuing these late spermiogenesis-specific genes and their products as potential non-hormonal, male contraceptive targets. In addition to these studies that represent an extension of the work he began during his postdoctoral training, Wei has ventured into a completely new research area involving extensive cloning and expression profiling of testicular small non-coding RNAs. In this regard, his lab has established novel methodologies for cloning and quantification of small RNAs, and he has published papers describing numerous novel piRNAs and miRNAs expressed during spermatogenesis. A particularly novel aspect of this work, which I have had the pleasure of collaborating with Wei to pursue, has involved the surprising finding that many X-linked miRNA genes escape the effects of meiotic sex chromosome inactivation (MSCI) and post-meiotic sex chromatin. This represents the first report of any X-linked gene(s) escaping MSCI, and has opened the door to an entire new series of investigations into the mechanisms by which these genes escape MSCI, and the function during spermatogenesis of the miRNAs encoded by these genes. With respect to the latter, Wei has taken advantage of his skills in producing gene knockout models to ablate a cluster of X-linked miRNA genes and has shown that this leads to a phenotype characterized by male infertility due to a spermatogenic block manifest at meiosis. These early results promise to lead to an extensive and very exciting body of work to come to fruition in the near future.

In summary, Dr. Yan is a young investigator in our field who has been amazingly productive, and who is capitalizing on his many research skills to venture into novel and very significant areas of reproductive biology. As noted above, embodies all of the criteria put forth for the SSR New Investigator Award, and, therefore, he is highly deserving of this honor.