



SSR New Investigator Award

(Supported by the Virendra B. Mahesh New Investigator 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 2013 SSR New Investigator Award is **Stephanie A. Pangas, Ph.D.**

The SSR New Investigator Award recognizes an active, regular member of the Society for outstanding research completed and published within 13 years after receiving the Ph.D. or other equivalent professional degree. In considering nominees for this award, the Awards Committee considers 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.

Stephanie A. Pangas, Ph.D., completed her B.A. at Kent State University in biological anthropology. She earned her M.S. at Northwestern University in molecular biology and biochemistry in the laboratory of Dr. Richard Morimoto, and then was a Ph.D. student in the laboratory of Dr. Teresa Woodruff. As part of her Ph.D. studies in Dr. Woodruff's laboratory, Stephanie became one of the world leaders in the production of recombinant activins and inhibins. This feat was significant not only for the success of the Woodruff laboratory, but that of many laboratories around the world, because the recombinant proteins were distributed by the National Institutes of Health. The inhibins and activins were used for the remainder of Dr. Pangas's work (and others in the Woodruff laboratory) to decipher the inhibin and activin signal transduction systems in the mammalian ovary. Furthermore, her thesis work included developing alginate as a three-dimensional matrix in which to grow ovarian follicles, and she was the first to publish on this technology using

mouse follicles. These studies formed the basis of Dr. Woodruff's Oncofertility Consortium, and variations of this technique are being tested as potential means to produce oocytes for patients who risk infertility due to cancer treatments. Her graduate studies were supported by a predoctoral fellowship from the Northwestern University Program in Endocrinology, Diabetes and Hormone Action (1999–2002).

Dr. Pangas joined the laboratory of Dr. Martin Matzuk at Baylor College of Medicine (June 2002), was awarded a position on the Reproductive Biology training grant (T32 HD07165) (2002–2004) in the Department of Molecular and Cellular Biology, and later received an NRSA postdoctoral grant (2004–2007). Stephanie was an active participant and leader on several reproductive biology- and cancer-related projects in the Matzuk laboratory (2002–2007). Her publication list from her postdoctoral work includes an impressive 20 papers that were co-authored with Dr. Matzuk, including papers in *Science*, *Biology of Reproduction*, *Journal of Biological Chemistry*, *Molecular and Cellular Biology*, *Proceedings of the National Academy of Sciences*, and *Molecular Endocrinology*. During this period, she successfully produced high levels of the oocyte protein growth differentiation factor 9 (GDF9), which was distributed internationally for use by other groups. She contributed significantly to the field of ovarian development through the generation and analysis of mouse models for oocyte-specific transcription factors, such as NOBOX and

SOHLH1. She also developed the first conditional knockouts in granulosa cells for the SMAD transcription factors, which are mediators of TGF β signaling. This work was time and labor intensive and at times required the development and analysis of double- and triple-knockout mice.

Following the startup of her own laboratory, Dr. Pangas has authored 15 peer-reviewed papers from 2006 to the present, independent of Dr. Matzuk, including senior-author papers in *Biology of Reproduction*, *Endocrinology*, and *Oncogene*, as well as four book chapters. Dr. Pangas's research focuses on oocyte-somatic cell interactions, ovarian folliculogenesis, and ovarian cancer. Stephanie has been committed to understanding the roles of the TGF β signaling pathways in the ovary. This work led to the discovery that BMP signaling through a SMAD1/5 pathway functions to suppress ovarian cancer. This is an exciting area of research that was published in *Molecular and Cellular Biology* in 2009. The high impact of this work also earned Dr. Pangas a Burroughs Wellcome Fund Career Awards in the Biomedical Sciences grant in 2006 and her first NIH R01 grant from the National Cancer Institute in 2010. Stephanie's research has been recognized by the reproductive biology community, and she has been invited to present her work at multiple national and international

meetings, including at the SSR annual meeting. She has been an active member of SSR for 11 years; served as an ad hoc reviewer for the National Institutes of Health, the National Science Foundation, and international funding agencies; provided reviews for a number of journals, including *Biology of Reproduction*, *Development*, *Endocrinology*, and *Proceedings of the National Academy of Sciences*; and is on the Editorial Board of *Molecular Human Reproduction* and *Systems Biology in Reproductive Medicine*.

In summary, the last decade has been a very exciting and important period in Dr. Stephanie Pangas's career, as she has identified key regulatory genes that are critical for gonadal function and growth control. This work has had broad implications for reproductive biology and cancer research. Dr. Stephanie Pangas has the highest potential for a promising career in academic, clinically relevant, reproduction-related research. It is with great pleasure that we bestow on Stephanie A. Pangas, Ph.D., the SSR New Investigator Award. Stephanie is most deserving of this award based on her contributions to reproductive biology, her dedication to the mission of the SSR, and her interactions with others in our field. (*Submitted by Martin M. Matzuk, M.D., Ph.D.*)