



THE  
DISCOVERY  
LECTURE  
SERIES

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**GAIL MARTIN, PH.D.**

FGF SIGNALING IN VERTEBRATE ORGANOGENESIS:  
HOW SPROUTY GENES HELP TO GET IT RIGHT

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Upcoming Discovery Lecturers

**JIM WELLS, PH.D.**  
University California San Francisco

*April 26, 2012*  
*208 Light Hall / 4:00 P.M.*

APRIL 12, 2012

4:00 P.M.

208 LIGHT HALL

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**JEFF WRANA, PH.D.**  
University of Toronto

*May 3, 2012*  
*208 Light Hall / 4:00 P.M.*



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VANDERBILT  UNIVERSITY  
MEDICAL CENTER

FGF SIGNALING IN VERTEBRATE ORGANOGENESIS:  
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My laboratory is interested in understanding the mechanisms that control the early steps in organogenesis in the vertebrate embryo, and the subsequent outgrowth and patterning of the developing organs. We have focused our attention on the roles played by members of the Fibroblast Growth Factor (FGF) family of intercellular signaling molecules in these processes. Our approach to elucidating the function FGF signaling in the developing embryo has been to produce mice carrying loss- and gain-of-function alleles of the FGF genes as well as of the Sprouty genes that encode antagonists of FGF and other receptor tyrosine kinase signaling. By studying the phenotypes of the mutant embryos, we have demonstrated that FGF signaling is essential for cell survival during the early development of the brain, kidney, limbs, lungs other organs. Our most recent studies have revealed an unexpected link between FGF signaling and mitotic spindle orientation that explains how airway tube shape is controlled during lung development.



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**GAIL MARTIN, PH.D.**

**PROFESSOR, DEPARTMENT OF ANATOMY, UCSF**  
**MEMBER, AMERICAN ACADEMY OF ARTS AND SCIENCES**  
**MEMBER, US NATIONAL ACADEMY OF SCIENCES**  
**HONORARY DOCTORATE OF SCIENCE, UNIVERSITY**  
**COLLEGE LONDON, 2011**

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Gail Martin obtained her Ph.D. in Molecular Biology from the University of California, Berkeley, and carried out post-doctoral work at University College, London. She joined the UCSF faculty in 1976, and is now a Professor of Anatomy. Dr. Martin has received numerous honors and awards, including the E.G. Conklin Medal (Society for Developmental Biology, 2002), the Pearl Meister Greengard Prize (Rockefeller University, 2007), the FASEB Excellence in Science award (2011), and an honorary Doctorate of Science (University College London, 2011). She was elected to the American Academy of Arts and Sciences (1991), to the US National Academy of Sciences (2002), and has served as President of the Society for Developmental Biology (2006-2007). Research in her laboratory is focused on elucidating the function of signaling molecules, particularly members of the FGF family, in the initiation and control of the early steps in the formation of organs as diverse as the limb, brain, kidney, tooth, and lung.

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