

# Invited Speaker

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## Melody Swartz

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*Associate Professor, Institute of Bioengineering, Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland*



Melody Swartz holds a B.S. in Chemical Engineering from Johns Hopkins University, USA and a Ph.D. from Massachusetts Institute of Technology, USA under the guidance of Rakesh Jain. Following her postdoctoral research at Harvard's Brigham and Women's Hospital, USA, she became Assistant Professor of Biomedical Engineering at Northwestern University in Evanston, Illinois, USA in 1999. She moved to the Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland in 2003 and was promoted to Associate Professor in 2006. Her laboratory focuses on the lymphatic system and its roles in cancer and immunology, including strategies to exploit lymphatic transport for immunomodulation. Her contributions include the first description of interstitial fluid flow driving lymphatic morphogenesis and its characterization for use in tissue engineered capillaries; the identification of a mechanism of "autologous chemotaxis" whereby cells can sense small interstitial stresses by autologous chemokine signaling; and the discovery that tumors can mimic and exploit certain tolerance-maintaining features of the lymph nodes for immune escape. Her work in lymphatic targeting for immunomodulation, in collaboration with Jeffrey Hubbell, has led to a promising new vaccine platform technology that uses ultrasmall size and complement activation on its surface to potently modulate immunity. She has received numerous awards for her work, including the National Science Foundation Career Award, the Rita Schaffer Young Investigator Award from the Biomedical Engineering Society and the Arnold and Mabel Beckman Young Investigator Award.