

## **Defense-in-depth Against Mucosal HIV Transmission**

Although approximately 90% of all HIV transmissions in humans occur through mucosal contact, the induction of mucosal anti-HIV immune responses has remained understudied. I will summarize data demonstrating the powerful protection that is achievable at mucosal frontlines through virus-specific mucosal IgA alone or combined with IgG. Our passive immunization studies in nonhuman primate/primate immunodeficiency virus models have given the first proof-of-concept for a new protective mechanism against HIV: immune exclusion. Active vaccine strategies designed to induce mucosal IgA and systemic/ mucosal IgG responses have given promising data. Unanswered questions remain regarding the interplay between mucosal IgA and other host immune defenses, including their induction with immunogens by active vaccination. Our recently funded Program Project is designed to address such issues.