

**GEORGE MASON UNIVERSITY  
COLLEGE OF SCIENCE  
BIOLOGY DEPARTMENT SEMINAR  
Fall 2014**

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National Zoological Park, Washington, DC**

***“Wildlife Biodiversity and Human Biomedicine: The Perfect Union?”***

The outbreak of disease in humans is not a singular event. Over half of all known infectious diseases are zoonotic, originating from an animal species and jumping into humans. Despite this fact, most biomedical research remained focused on developing cures for humans, largely ignoring the incredible wealth of information harbored in natural populations of wildlife with similar diseases. With milestones such as the first complete sequence of the human genome in 2001, coupled with the extraordinary advancements and rapidly declining costs in genomic sciences, opportunities abound for integrating human biomedicine and wildlife diversity.

Advancements in comparative medicine of human and wildlife will be presented. Lessons learned include retroviral emergence in the charismatic cat family Felidae, with eerily similar parallels to the HIV-AIDS pandemic, but with a twist. Other examples include the impact of primate phylogenomics across a spectrum of scientific endeavors. The era of personalized medicine has arrived, with genomic insights gained only through the study of wild species. The genomic basis uniting wildlife and humans is generating unprecedented discoveries in biomedicine, veterinary science, wildlife biology and the conservation of endangered species.

**TUESDAY November 11, 2014  
3:00-4:15 PM  
Johnson Center Room 334 Meeting Room E**