

# **“Rabies in Tanzania: Mathematical Modeling with Epidemiological and Economic Considerations”**

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**12:15-1:15pm**

**Room A335 of Veterinary Teaching Hospital**

Although fatal if untreated, human rabies can be prevented through post-exposure prophylaxis (PEP), which involves a course of vaccination and immunoglobulin administered immediately after exposure.

However, high costs and frequent lack of rabies vaccine and immunoglobulin lead to about 55,000 deaths per year worldwide. Using data from a detailed study of rabies in Tanzania, we calculate a cost-effectiveness ratio for PEP when the WHO-recommended Essen regimen, a 5-dose intramuscular vaccination schedule, is adopted. Our analyses indicate a cost-effectiveness ratio for PEP of \$27/quality-adjusted life year (QALY) from a health care perspective and \$32/QALY from a societal perspective in Tanzania. From both perspectives, it is "very cost-effective" to administer PEP to patients bitten by an animal suspected to be rabid. Moreover, PEP remains "very cost-effective" provided that at least 1% of doses are administered to people who were actually exposed to rabies.

**Dr. Shim is a Candidate for the NIMBioS  
Faculty Position in Animal Infectious Disease Modeling**