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Key questions defining research program:

- 1) Can pre-exposure prophylaxis prevent transmission of drug-resistant HIV?
- 2) Can pre-exposure prophylaxis select for HIV drug resistance?
- 3) How is HIV disseminated after mucosal transmission and how are viral tissues reservoirs established?
- 4) What are the host cell factors involved in early, post-entry events of HIV infection (e.g. capsid uncoating, reverse transcription, and nuclear entry)?
- 5) Can we identify novel anti-HIV compounds to treat or prevent HIV infection, including drug-resistant virus?

Key words describing research program:

- 1) Transmission and prevention of HIV
- 2) Establishment and persistence of viral reservoirs in vivo
- 3) HIV treatment and drug resistance
- 4) Biology of the early events of HIV-1 infection of cells

Titles for shovel-ready research projects:

- 1) Efficacy of PrEP on vaginal or rectal transmission of drug-resistant clinical isolates
- 2) Contribution of macrophages/dendritic cells on HIV transmission, establishment of reservoirs, and treatment efficacy
- 3) Determine how M. tuberculosis infection affects replication and evolution of HIV
- 4) Pharmacokinetics and HIV inhibition of novel integrase inhibitors in mice