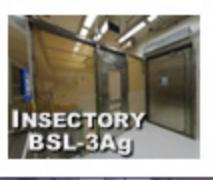


KANSAS STATE UNIVERSITY | BIOSECURITY RESEARCH INSTITUTE



Protecting American Agriculture — Crops, Livestock — and Food from Global Biothreats*



GLOBAL BIOTHREATS

PATHOGENS/TOXINS

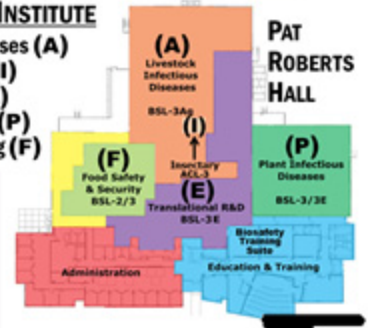


Agriculture Security is Homeland Security

SOLUTIONS TO GLOBAL BIOTHREATS


BIOSECURITY RESEARCH INSTITUTE

- Livestock Infectious Diseases (A)
- Disease Vector Insectary (I)
- Translational Research (E)
- Plant Infectious Diseases (P)
- Food Processing/Handling (F)



*While Safeguarding People from Zoonotic Animal Diseases and Foodborne Pathogens

Date	Principal Investigators	Infectious Disease/ Disease Pathogen	BRI R&D Area	Select Agent (CDC or USDA) Registration	Transfer or Permit Approval
BRI PROJECTS PENDING <small>Biosecurity Research Institute</small>					
(1) Mwangi, K-State, African Swine Fever, NBAF DISEASE ; Lab R&D and in Pigs; (2) Richt, K-State, SARS-CoV-2 , Transmission in: (a) Ferrets; (b) White Tailed Deer; (c) Sheep; (3) Huang, K-State, Yellow Fever Virus, Lab R&D in Mice; (4) Noronha, USDA, Japanese Encephalitis, NBAF DISEASE ; Lab R&D in Mosquitoes; (5) Wilson, USDA, Rift Valley Fever, NBAF DISEASE ; Mosquito transmission in Sheep					
Started BRI PROJECTS ONGOING <small>Biosecurity Research Institute</small>					
11/2009	Valent K-State	Wheat Blast Lab R&D and Development of Resistant Wheat Varieties	P	NA	Approved PPQ
01/2012	Wilson/Drolet USDA	Exotic Bluetongue Lab R&D	P/E	NA	Approved
05/2012	Richt K-State	Highly Pathogenic Avian Influenza (HPAI) Lab R&D and in Pigs & Chickens	A/E	Approved	Approved Domestic & Foreign
07/2012	Higgs K-State	Western Equine Encephalitis Virus Lab R&D	A/E/P	NA	NA
08/2012	Higgs K-State	Yellow Fever Lab R&D and in Mosquitoes	A/E/P/I	NA	NA
09/2012	Higgs K-State	Chikungunya Virus Lab R&D and in Mice	A/E/P/I	NA	NA
03/2013	Shi K-State	Chinese Porcine Reproductive & Respiratory Syndrome Virus (PRRS) Lab R&D and in Pigs	A/E	NA	Approved
04/2013	Wilson: USDA Richt/Ma: K-State	Rift Valley Fever (RVF) NBAF DISEASE Lab & Small Animal R&D	A/E	Approved	Approved
06/2014	Wilson: USDA Richt: K-State	Rift Valley Fever (RVF) NBAF DISEASE In Sheep and Cattle	A/E	Approved 1st U.S. BSL-3Ag Livestock R&D	NA
06/2014	Vanlandingham/ Higgs K-State	Japanese Encephalitis (JE) NBAF DISEASE Lab R&D and in Mice and Pigs	A/P	NA	NA
04/2015	Phebus K-State	Shiga Toxin-producing <i>Escherichia coli</i> (STEC) Food Processing Scale R&D	F	NA	Approved
05/2015	Shi K-State	Classical Swine Fever (CSF) NBAF DISEASE Lab R&D and in Livestock	A/E/P	Approved	NA
03/2016	Vanlandingham K-State	Zika Virus Lab R&D and in Mice	A/P	NA	Approved
07/2016	Richt K-State	African Swine Fever (ASF) NBAF DISEASE Lab R&D and in Livestock	A/E	Approved	NA
09/2017	Higgs K-State	Usutu Virus Lab R&D	P	NA	Approved
06/2018	Vanlandingham K-State	Cache Valley Fever Virus Lab R&D and Vector-borne Transmission in Sheep	A/E/P/I	NA	Approved

Date	Principal Investigators	Infectious Disease/ Disease Pathogen	BRI R&D Area	Select Agent (CDC or USDA) Registration	Transfer or Permit Approval
07/2018	Shi K-State	African Swine Fever (ASF) NBAF DISEASE Lab R&D and in Livestock	A/E	Approved	NA
11/2018	Noronha/Mitzel USDA	Japanese Encephalitis (JE) NBAF DISEASE Lab R&D and in Pigs	P/E	NA	NA
12/2018	Stack K-State	<i>Raythayibacter toxicus</i> Lab R&D	E	Approved	Approved PPQ
09/2019	Phebus K-State	<i>Salmonella spp.</i> Commercial Pork Processing Intervention Treatments	F	NA	NA
04/2020	Richt K-State	SARS-CoV-2 Vaccine and Diagnostic Test Development	E	NA	NA
05/2020	Niederwerder K-State	African Swine Fever (ASF) NBAF DISEASE Transmission in Pig Feed	E	Approved	NA
05/2020	Vanlandingham/ Huang: K-State	SARS-CoV-2 Inactivation in Donated Blood Supply Bags	P	NA	NA
07/2020	Richt K-State	SARS-CoV-2 Transmission in Hamsters	E	NA	NA
08/2020	Richt K-State	SARS-CoV-2 Vaccine Trial in Cats	A/E	NA	NA
09/2020	Richt K-State	Classical Swine Fever (CSF) NBAF DISEASE Lab R&D and in Pigs	A/E	Approved	NA
09/2020	Huang/Higgs/ Vanlandingham K-State	SARS-CoV-2 Disinfectant Validation	P	NA	NA
01/2021	Davis/Phebus/ Gragg/Trinetta K-State	SARS-CoV-2 Decontamination in Meat Processing and Food Service	F/A	NA	NA
Ended  PROJECTS COMPLETED					
<p>TWELVE PROJECTS, 2008-13: (1) Hesse/Rowland, PRRS Virus & Circovirus in pigs; (2) Richt, Pandemic H1N1 in pigs; (3) Oberst, Plague, Brucellosis, Anthrax, Tularemia food detection; (4) Rajagopalan [NanoScale], Anthrax, Glanders, Vaccinia inactivation; (5) Phebus, 2,000 lb. Hamburger grinds with Shiga toxin-producing <i>E. coli</i>; (6) Wilson/Richt, Rift Valley Fever MP12 [NBAF] in sheep & cattle; (7) Higgs, Barmah Forest & Ross River Viruses R&D; (8) McVey, Rift Valley Fever MP12 [NBAF] in mice; (9) Phebus, 2,000 lb. Hamburger grinds with Anthrax Sterne strain; (10) Ma/Richt, Swine influenza in pigs; (11) Ma/Richt, H7N9 influenza in pigs; (12) Hesse, Porcine Epidemic Diarrhea Virus in pigs.</p>					
02/2014	Ma/Richt K-State	Swine Influenza In Mice	A	NA	Approved
04/2014	Phebus K-State	Anthrax Sterne (Vaccine) Strain Food Threat Modeling Studies	F	NA	Approved
04/2014	Phebus K-State	Plague; Anthrax; Tularemia Food Threat Modeling Studies	F/P	Approved	Approved
12/2015	Shi K-State	Classical Swine Fever (CSF) NBAF DISEASE Synthetic Virus R&D & in Pigs	A/E	Approved 1st Non-Federal Livestock R&D	NA
01/2016	Phebus K-State	Foodborne Pathogens School Lunch Safety Study with Hospitality Management	F	NA	Approved

KANSAS STATE UNIVERSITY | BIOSECURITY RESEARCH INSTITUTE

Date	Principal Investigators	Infectious Disease/ Disease Pathogen	BRI R&D Area	Select Agent (CDC or USDA) Registration	Transfer or Permit Approval
06/2016	Ganta K-State	<i>Rickettsiae rickettsia</i> Vaccine Trial in Dogs	A	NA	NA
07/2016	Phebus K-State	Foodborne Pathogens Commercial Scale Sausage Processing Study	F	NA	Approved
03/2017	Richt K-State	Vesicular Stomatitis Virus (VSV) NBAF-RELATED VSV-Ebola Vaccine Trial in Pigs	A/E/P	NA	Approved
05/2017	Wilson/McVey: USDA Richt: K-State	Schmallenberg Virus Lab R&D and in Sheep & Cattle	A/E/P	NA	Approved
11/2017	Wilson: USDA Richt: K-State	Rift Valley Fever (RVF) NBAF DISEASE In White Tailed Deer	A/E	Approved	NA
11/2017	Niederwerder/ Rowland: K-State	ASF/CSF/Other Pathogens NBAF DISEASES Viability & Transmission in Feed	A/E	Approved	NA
12/2018	Niederwerder/ Rowland: K-State	Pseudorabies Virus (PRV) Viability & Transmission in Feed	A/E	NA	Approved
03/2019	Huang K-State	Japanese Encephalitis (JE) NBAF DISEASE Vaccine Trial in Pigs	P	NA	NA
09/2019	Vanlandingham/ Higgs: K-State	Rift Valley Fever (RVF) NBAF DISEASE Vaccine Trial in Mice	A/E	Approved	NA
10/2019	Wilson: USDA Richt: K-State	Rift Valley Fever (RVF) NBAF DISEASE Lab R&D and in Mosquitoes	A/E/I	Approved	NA
02/2020	Rowland K-State	Classical Swine Fever (CSF) NBAF DISEASE Lab R&D and in Livestock	A/E	Approved 1st Non-Federal Lab; 11/15/2013	NA
02/2020	Rowland K-State	African Swine Fever (ASF) NBAF DISEASE Lab R&D and in Livestock	A/E	Approved 1st Non-Federal Lab; 11/15/2013	Australia ASF Strains 09/30/15
02/2020	Rowland K-State	Pseudorabies Virus (PRV) Lab R&D and in Livestock	A/E	NA	Approved
05/2020	Richt K-State	SARS-CoV-2 Transmission in Pigs	A/E	NA	NA
05/2020	Huang/Higgs K-State	SARS-CoV-2 In Mosquitoes	A/P/I	NA	NA
06/2020	Wilson: USDA Richt: K-State	SARS-CoV-2 In Mosquitoes; Midges; Houseflies	A/P/I	NA	NA
07/2020	Richt K-State	SARS-CoV-2 Transmission in Cats	E	NA	NA
07/2020	Gragg/Phebus K-State	<i>Salmonella spp.</i> and STEC Commercial Pork Processing Intervention Treatments	F	NA	NA
10/2020	Ganta K-State	<i>Ehrlichia ruminantium</i> Lab R&D and in Livestock	A/E/P	NA	Approved
09/2020	Henningson K-State KSVDL	SARS-CoV-2 Human and Animal Diagnostic Test Processing	E	NA	CLIA/HIPAA Compliant

NBAF Disease Research Publications to Date: ASF = 46; CSF = 18; JE = 10; RVF = 44; TOTAL = 108