



13th Annual CEIRS Network Meeting

Monday January 11, 2021 – Friday January 15, 2021

Zoom Virtual Meeting
Virtual Poster Session

Hosted by:

St. Jude Center of Excellence for Influenza Research
and Surveillance (SJCEIRS)

Sponsored by:

NIH/NIAID CEIRS Program



13th Annual CEIRS Network Meeting

Monday January 11th – Friday January 15th, 2021

Monday January 11th, 2021

Meeting Opening

9:00 am – 9:05 am	Meeting Welcome	Marciela DeGrace, PhD <i>NIAID</i>
9:05 am – 9:10 am	Opening Remarks	Anthony S. Fauci, MD <i>NIAID</i>
9:10 am – 9:15 am	Meeting Overview and Logistics	Erik Stemmy, PhD <i>NIAID</i>

Session 1: Transmission and Adaptation

9:15 – 9:25 am	Influenza Transmission: Highlights and Future Directions	Anice Lowen, PhD <i>Emory University</i>
9:25 – 9:45 am	A Global Cross-Laboratory Exercise to Improve Standardization of Ferret Transmission Studies	Jessica Belser, APRN-CNP <i>CDC</i>
9:45 – 10:05 am	Epistatic Interaction Reduces Fitness Costs of Influenza A Virus Escape from Stem-Binding Antibodies	Chung-Young Lee, PhD <i>Emory University</i>
10:05 – 10:25 am	Anti-N1 Antibodies Induced by Intramuscular Vaccination Do Not Block Airborne Transmission of Pandemic H1N1 in Ferrets	Kayla Septer <i>Pennsylvania State University</i>
10:25 – 10:35am	Break	
10:35 – 10:55 am	Pre-existing Heterosubtypic Immunity Provides a Barrier to Airborne Transmission of Influenza Viruses	Seema Lakdawala, PhD <i>University of Pittsburgh</i>
10:55 – 11:15 am	Identification of SARS-CoV-2 Recombinant Genomes	David VanInsberghe, PhD <i>Emory University</i>
11:15 – 11:30 am	Golden Syrian Hamster as a Model to Study the Effect of Biological Sex on SARS-CoV-2 Immunity and Pathogenesis	Santosh Dhakal <i>Johns Hopkins University</i>
11:30 – 11:45 am	Phyloepidemic Tracing of Multiple Independent Introductions and Spread of SARS-CoV-2 in Alaska	Eric Bortz <i>University of Alaska</i>
11:45 am - Noon	Intra- and Inter-host Evolution of H9N2 Influenza A Virus in Quails: Clonal Interference, Single Nucleotide Variants and Defective Interfering Particles	Lucas Ferreri, PhD <i>Emory University</i>

Tuesday January 12th, 2021

Session 2: Human-Animal Interface and Zoonotic Surveillance

9:00 – 9:10 am	Influenza at the Human-Animal Interface: Highlights and Future Directions	Ghazi Kayali, PhD <i>Human Link</i>
9:10 – 9:30 am	Molecular Determinants for the Interspecies Transmission of an Avian H6N1 Virus that Caused the Human Infection in Taiwan	Huachen (Maria) Zhu, PhD <i>University of Hong Kong</i>
9:30 – 9:50 am	Evolution of Low Pathogenic Avian Influenza H9N2 Viruses in North and sub-Saharan Africa: A Concern for Animal and Human Health	Maxime Fusade-Boyer <i>Université de Toulouse</i>
9:50 – 10:10 am	A Possible Role for Marine Mammals in Interspecies Transmission of Respiratory Viruses	Wendy Puryear, PhD <i>Tufts University</i>
10:10 – 10:20 am	Break	
10:20 – 10:40 am	Patterns of H10 Subtype Influenza A Virus: From Source to Sink 1977-2017	JoJo Crum Bradley <i>University of Georgia</i>
10:40 – 11:00 am	Susceptibility of Swine to Human Influenza A Viruses	J. Fletcher North <i>Auburn University</i>
11:00 – 11:15 am	Surveillance of Swine Influenza in Backyard Production Systems and Educational Farms in Central Chile	Pedro Jimenez-Bluhm, PhD <i>University of Chile</i>
11:15 – 11:30 am	Eurasian Avian-like Swine Influenza Virus Acquired Efficient Transmissibility Through Stepwise Avian-to-mammalian Adaptations	Wen Su <i>University of Hong Kong</i>
11:30 – 11:45 am	Assessing Global Connectivity of Avian Influenza Virus: How Do Gulls Contribute to Hemispheric Mixing and Spillover?	Nichola Hill, PhD <i>Tufts University</i>
11:45 am - Noon	Summary/Discussion	

Wednesday January 13th, 2021

Session 3: Immune History and Response to Vaccination

9:00 – 9:10 am	Influenza Vaccines: Highlights and Future Directions	Florian Krammer, PhD <i>Icahn School of Medicine at Mount Sinai</i>
9:10 – 9:30 am	Vaccine Assessment Using Antibody Landscapes and B Cell Probes Shows that Infection History Dictates Influenza Vaccine Immunogenicity	Annette Fox, PhD <i>University of Melbourne</i>
9:30 – 9:50 am	The Impact of Repeated Vaccination and Pre-existing Antibodies on the Magnitude and Specificity of the Human CD4 T Cell Response to Influenza Vaccination	Savannah Moritzky <i>University of Rochester</i>
9:50 – 10:10 am	The Impact of Prior Vaccination on Antibody Responses to the Influenza Virus Hemagglutinin and Neuraminidase	Sanja Trifkovic, PhD <i>St. Jude Children's Research Hospital</i>

10:10 – 10:20 am	Break	
10:20 – 10:40 am	Avian H5 Influenza A Viruses: Towards Antigen Design of a Universal H5 Vaccine	Adinda Kok <i>Erasmus Medical Centre</i>
10:40 – 11:00 am	The Intersection of Sex and Frailty in Humoral Immune Responses to Influenza Vaccine Among Community-Dwelling Older Adults	Janna Shapiro <i>Johns Hopkins University</i>
11:00 – 11:15 am	CEIRS Teambuilding: Scavenger Hunt	
11:15 – 11:30 am	Immune Responses to SARS-CoV-2 in Maternal and Cord Blood at Delivery	Morgan Sherer, PhD <i>Johns Hopkins University</i>
11:30 – 11:45 am	Female-biased Vaccine-induced Immunity and Protection Against Influenza A Viruses is Maintained Against Antigenic Drift in Mice	Rebecca Ursin <i>Johns Hopkins University</i>
11:45 am - Noon	Summary/Discussion	

Thursday January 14th, 2021

Session 4: Pandemic Response: COVID-19

9:00 – 9:20 am	The Effectiveness of Public Health Measures in Suppressing COVID-19 Transmission in Hong Kong	Ben Cowling, PhD <i>University of Hong Kong</i>
9:20 – 9:40 am	COVID-19 and its Transmission	Leo Poon, PhD <i>University of Hong Kong</i>
9:40 – 10:00 am	Molecular Dynamics of the SARS-CoV-2 Epidemic in New York City	Ana Gonzalez-Reiche, PhD <i>Ichan School of Medicine at Mount Sinai</i>
10:00- 10:20 am	SARS-CoV and SARS-CoV-2 are Transmitted through the Air Between Ferrets over more than One Meter Distance	Jasmin Kutter <i>Erasmus Medical Centre</i>
10:20 – 10:40	Surveillance Tells a Different Story than Experimental Infection in SARS-CoV-2 at the Human-Animal Interface	Kaitlin Sawatzki, PhD <i>Tufts University</i>
10:40– 10:50 am	Break	

COVID-19 Debate and Discussion: How can research Networks respond effectively?

10:50 am - Noon	Moderators: Andy Pekosz, PhD and Stacey Schultz-Cherry, PhD
	Panelists: Valerie Cortez, PhD Marciela DeGrace PhD Katherine Fenstermacher, PhD Florian Krammer, PhD Erik Stemmy, PhD

Friday January 15th, 2021

Session 5: Immunology and Host Response

9:00 – 9:10 am	Immune Response to Influenza: Highlights and Future Directions	Paul Thomas, PhD <i>St. Jude Children’s Research Hospital</i>
9:10 – 9:30 am	Impact of Antigenic Drift on Influenza A/H3N2 Vaccine Effectiveness in the United States	Amanda Perofsky, PhD <i>Fogarty International Center</i>
9:30 – 9:50 am	Influenza and SARS-CoV-2 in the Obese Ferret: Disease Severity and Host Response	Victoria Meliopoulos, PhD <i>St. Jude Children’s Research Hospital</i>
9:50 – 10:10 am	Distinct Peripheral Inflammatory Profiles Distinguish COVID-19 from Influenza Infection, with Limited Contributions from Cytokine Storm	Jeremy Chase Crawford, PhD <i>St. Jude Children’s Research Hospital</i>
10:10 – 10:20 am	Break	
10:20 – 10:40 am	Homotypic Protection Against Influenza in a Pediatric Cohort in Managua, Nicaragua	Steph Wraith <i>University of Michigan</i>
10:40 – 11:00 am	Broadly Neutralizing Antibodies Targeting a Membrane Anchor Epitope of the Hemagglutinin Stalk Domain	Jenna Guthmiller, PhD <i>University of Chicago</i>
11:00 – 11:15 am	Consequences of the Legacy of Obesity on Influenza Vaccine Efficacy	Rebekah Honce, PhD <i>St. Jude Children’s Research Hospital</i>
11:15 – 11:30 am	Differences in Influenza-Specific CD4 T Cell Mediated Immunity Following Acute Infection versus Inactivated Vaccination in Children	Jennifer Nayak, PhD <i>University of Rochester</i>
11:30 – 11:45 am	Exuberant Fibroblast Activity Following Influenza Virus Infection Compromises Lung Function via the ECM Protease ADAMTS-4	David Boyd, PhD <i>St. Jude Children’s Research Hospital</i>

Poster Awards and Meeting Wrap-Up

11:45 am - Noon Poster Awards, Closing Remarks and Meeting Adjourn

Poster List

Name	Center	Category	Title
Brian Merritt	JHCEIRS	Data and Resource Management	Basestack - Desktop Application for Rapid analysis and consensus generation of Oxford Nanopore Sequencing Data
Richard Scheuermann	NIH	Data and Resource Management	Support for SARS-CoV-2 research and surveillance in the Virus Pathogen Resource (ViPR)
Danielle Wurzel	NYICE	Data and Resource Management	SARS-CoV2 related Hospitalisations in 3 Tertiary Paediatric Sites in Australia
Jacob Bueno de Mesquita	CRIP	Experimental Data	Influenza A (H3) illness and viral aerosol shedding from symptomatic naturally infected and experimentally infected cases
Jeffrey Hall	SJCEIRS	Experimental Data	Experimental challenge of a North American bat species, big brown bat (<i>Eptesicus fuscus</i>), with SARS-CoV-2
Rajagowthamee Thangavel	CRIP	Experimental Data	Generation of primary epithelial cell cultures from nasal turbinates (gpNEC) and trachea (gpTEC) of guinea pigs
Yishak Woldetsadik	JHCEIRS	Experimental Data	Characterizing sex differences in Influenza B virus pathogenesis in C57BL/6 mice
Abhijeet Bakre	Emory-UGA CEIRS	Immunology	The innate response to swine influenza virus
David Boyd	SJCEIRS	Immunology	Exuberant fibroblast activity following influenza virus infection compromises lung function via the ECM protease ADAMTS-4
Miguela Caniza	SJCEIRS	Immunology	SARS-CoV-2 in Paraguay: Immune Response Characteristics
A. Karim Embong	NYICE	Immunology	Generation & Expansion of Memory B Cell Reactive to the Coronavirus Antigens During SARS-CoV-2 Infection
James Kobie	NYICE	Immunology	Therapeutic activity of an inhaled potent SARS-CoV-2 neutralizing human monoclonal antibody
Chun-Yang Lin	SJCEIRS	Immunology	Influenza A virus and SARS-CoV-2 infection contribute to development of autoreactive antibodies.
Jenna Lobby	Emory-UGA CEIRS	Immunology	Identifying mechanisms that enhance the longevity of tissue-resident memory CD8 ⁺ T cells in the lung
Philip Meade	CRIP	Immunology	Baby's first antibody repertoire: Mapping the antibody response to influenza in early childhood with an influenza virus protein microarray
Robert Mettelman	SJCEIRS	Immunology	Investigating cellular correlates of protection to influenza virus in adult subjects from the SHIVERS and HIVE cohorts
Jennifer Nayak	NYICE	Immunology	Differences in Influenza-Specific CD4 T Cell Mediated Immunity Following Acute Infection versus Inactivated Vaccination in Children

Ericka Roubidou	SJCEIRS	Immunology	St. Jude Tracking Study of Immune Responses Associated with COVID-19
Mark Sangster	NYICE	Immunology	S protein-reactive IgG and memory B cell production after human SARS-CoV-2 infection includes broad reactivity to the S2 subunit
Patrick Seiler	SJCEIRS	Immunology	Germinal Center Reactions Are Different in Mice Immunized with Different Influenza Subtypes
Morgan Sherer	JHCEIRS	Immunology	Immune responses to SARS-CoV-2 in maternal and cord blood at delivery
Aisha Souquette	SJCEIRS	Immunology	Genetic and infectious regulators of basal immunity and acute responses to influenza infection in human populations
Mike Sportiello	NYICE	Immunology	Resident memory CD8 T cells exhibit different metabolic profiles than other memory CD8 T cells in mouse lung
Melissa Uccellini	CRIP	Immunology	Development of a macrophage-based ADCC assay
Danielle Wurzel	NYICE	Immunology	Immune Responses in an Infant With Severe COVID-19 and Complex Congenital Heart Disease
Hui-Ling Yen	SJCEIRS	Immunology	Potent and poorly neutralizing antibodies protect golden hamsters against SARS-CoV-2 infection in an Fc-independent manner
Virginia Aida	Emory-UGA CEIRS	Immunology and Vaccine	Computationally Optimized Broadly Reactive Antigen (COBRA) recombinant hemagglutinin vaccines in the porcine model
Adrianus Boon	SJCEIRS	Immunology and Vaccine	Defining the role of host genetic variation in murine B cell responses to H5 vaccination
C. Joaquin Caceres	CRIP	Immunology and Vaccine	A live attenuated Influenza vaccine carrying the IgA-inducing protein (IGIP) is safe and confers protection against lethal challenge in mice.
Stivalis Cardenas Garcia	CRIP	Immunology and Vaccine	Development and Evaluation of Novel Platforms for Live Attenuated Influenza B Virus Vaccines
Carl Davis	Emory-UGA CEIRS	Immunology and Vaccine	Heterogeneity among influenza-specific plasma cells elicited by seasonal vaccination
Jesse Erasmus	SJCEIRS	Immunology and Vaccine	A replicating RNA vaccine for COVID-19: preclinical studies in mice and nonhuman primates
Natasha Gaudreault	SJCEIRS	Immunology and Vaccine	SARS-CoV-2 Reinfection in Domestic Cats
Sigrid Gouma	NYICE	Immunology and Vaccine	Antigenic characterization of antibodies elicited by the H3N2 component of the egg-based 2019-2020 Northern Hemisphere influenza vaccine
Walter Harrington	SJCEIRS	Immunology and Vaccine	Human Monoclonal Antibodies Against Influenza H1N1 Nucleoprotein

Rebekah Honce	SJCEIRS	Immunology and Vaccine	Consequences of the legacy of obesity on influenza vaccine efficacy
Christina Kackos	SJCEIRS	Immunology and Vaccine	Evaluation of anti-Neuraminidase Antibodies as Correlates of Protection During Symptomatic and Asymptomatic Influenza Infection and Their Relationship to anti-Hemagglutinin Antibodies
Helen Kuo	JHCEIRS	Immunology and Vaccine	Sex differences in immune response to the seasonal influenza vaccine in the 2017-2018 and 2018-2019 influenza seasons among healthcare workers
Wey Wen Lim	SJCEIRS	Immunology and Vaccine	The influence of repeated influenza vaccination on influenza vaccine effectiveness among adults in the United Kingdom
Susanne Linderman	Emory-UGA CEIRS	Immunology and Vaccine	Circulating B cells expressing influenza vaccine reactive IgG3 decline rapidly after vaccination
Sean Nelson	NYICE	Immunology and Vaccine	Intranasal nanolipoprotein vaccination elicits polyfunctional CD4 T _{RM} localized to airway and lung parenchyma
Faten Okda	SJCEIRS	Immunology and Vaccine	Tropism, susceptibility and infectivity of differentiated human tonsillar epithelial cells by different Influenza viruses.
Han-Sol Park	JHCEIRS	Immunology and Vaccine	Humoral immune responses to influenza vaccine viruses in healthcare workers during the 2019-2020 influenza season
Vasileios Pliasis	Emory-UGA CEIRS	Immunology and Vaccine	Influenza neuraminidase virus-like particle vaccine: immunogenicity and efficacy in the swine model
Leo Poon	SJCEIRS	Immunology and Vaccine	Heterosubtypic Protection Induced by a Live Attenuated Influenza Virus Vaccine Expressing Galactose- α -1,3-Galactose Epitopes in Infected Cells
Miruna E. Rosu	CRIP	Immunology and Vaccine	Contribution of neuraminidase to the efficacy of seasonal split influenza vaccines in the ferret model
Daniel Stadlbauer	CRIP	Immunology and Vaccine	Escape from antibodies that target the active site of the influenza virus neuraminidase
Stephen Turner	SJCEIRS	Immunology and Vaccine	Single cell genomic approaches for delineating factors that drive establishment of effective CD8 ⁺ T cell immunity to influenza A virus
Rebecca Ursin	JHCEIRS	Immunology and Vaccine	Female-biased vaccine-induced immunity and protection against influenza A viruses is maintained against antigenic drift in mice
Sophie Valkenburg	SJCEIRS	Immunology and Vaccine	Assessment of enhanced influenza vaccination finds FluAd advantage in mice and older adults
Kristin Wiggins	SJCEIRS	Immunology and Vaccine	Various Strategies for Increasing Influenza Vaccine Efficacy in High-Risk Obese Populations

Jo Wilson	JHCEIRS	Immunology and Vaccine	Influenza B Vaccines: A look Into The Effects of Cell Culture and Egg Adaption on Viral Phenotypes
Guha Asthagiri Arunkumar	CRIP	Molecular Virology	Characterizing the Functionality of the Wuhan Spiny Eel Influenza Virus Surface Glycoproteins
Lauren Byrd-Leotis	Emory-UGA CEIRS	Molecular Virology	Glycan binding of SARS-CoV-2 and other coronaviruses
Kevin Chiem	NYICE	Molecular Virology	Fluorescent and bioluminescent expressing SARS-CoV-2
Ketaki Ganti	Emory-UGA CEIRS	Molecular Virology	Differential reassortment and diversification of avian influenza A viruses in mallards and guinea pigs
Alexander Gultyaev	CRIP	Molecular Virology	Insertions of codons encoding basic amino acids in H7 hemagglutinins of influenza A viruses occur by recombination with RNA at hotspots near snoRNA binding sites
Nicholas Heaton	NYICE	Molecular Virology	Influenza viruses that require 10 genomic segments as antiviral therapeutics
Jeremy C Jones	SJCEIRS	Molecular Virology	Multiple PA I38X Substitutions in Influenza A(H1N1)pdm09 Virus Permit Polymerase Activity and Cause Reduced Baloxavir Inhibition
Adinda Kok	CRIP	Molecular Virology	Mapping the global antigenic diversity of avian H7 influenza A viruses
Kirsten Littlefield	JHCEIRS	Molecular Virology	Evaluating the Zoonotic Potential of Influenza D Virus
Jongsuk Mo	CRIP	Molecular Virology	Mutation E48K in the PB1 Gene improves stability of an Influenza B live attenuated vaccine and protects against homologous challenge.
Peter Neasham	Emory-UGA CEIRS	Molecular Virology	Exploring the mechanisms that contribute to influenza A virus species adaptation in human and swine respiratory cells
James Otieno	CRIP	Molecular Virology	Phylogenetic history of the seasonal Human coronaviruses
Jessica Resnick	JHCEIRS	Molecular Virology	Temperature dependent H1 LAIV infection of hNEC cultures is modulated by HA and M2 sequences
Eric Bortz	CRIP	Pandemic Preparedness and Risk Assessment	Phyloepidemic tracing of multiple independent introductions and spread of SARS-CoV-2 in Alaska.
Christine Huyen Trang Bui	SJCEIRS	Pandemic Preparedness and Risk Assessment	SARS-CoV-2, SARS-CoV and influenza virus in ex-vivo canine respiratory and soft palate tissue explants
J Brian Kimble	CRIP	Pandemic Preparedness and Risk Assessment	Cross-reactivity of contemporary US swine H1 viruses to current seasonal and candidate vaccine viruses and transmission to ferrets as a measure of risk to humans

Madelyn Krunkosky	Emory-UGA CEIRS	Pandemic Preparedness and Risk Assessment	Influence of Temperature on the Replication Kinetics of H1N1, H1N2, H3N1, and H3N2 Contemporary Swine Field Isolates in the Swine Nasal Epithelium
Carine Kunzler Souza	CRIP	Pandemic Preparedness and Risk Assessment	Antigenic characterization of contemporary US swine H3N2 strains and transmission from swine to ferrets as an indication of risk to humans
Nancy Hiu Lan Leung	SJCEIRS	Pandemic Preparedness and Risk Assessment	Respiratory viral shedding in exhaled breath droplets and aerosols, and its relationship with symptom severity
Ian Padykula	Emory-UGA CEIRS	Pandemic Preparedness and Risk Assessment	Pandemic risk assessment for a swine influenza A virus in comparative human substrates
Wendy Puryear	CRIP	Pandemic Preparedness and Risk Assessment	SARS-CoV-2 Aerosols Produced During Respiratory Support Therapy of COVID-19 Patients
Chengjin Ye	NYICE	Pandemic Preparedness and Risk Assessment	Rescue of SARS-CoV-2 from a single bacterial artificial chromosome
Elizabeth Anderson	NYICE	Pathogenesis	Characterization of circulating H1N1 strains during the 2019-2020 season in Philadelphia, PA
Tamarand Darling	SJCEIRS	Pathogenesis	Mouse Model Adaptation of Contemporary H3N2
Anja de Bruin	CRIP	Pathogenesis	Species-specific endotheliotropism of Highly Pathogenic Avian Influenza Virus in avian hosts
Santosh Dhakal	JHCEIRS	Pathogenesis	Golden Syrian hamster as a model to study the effect of biological sex on SARS-CoV-2 immunity and pathogenesis
Tamara García- Salum	CRIP	Pathogenesis	Integrated longitudinal analyses identify early response signatures that differentiate mild from moderate and severe COVID-19 outcomes.
Virginia Hargest	SJCEIRS	Pathogenesis	Reduced disease severity mediated by absence of $\beta 6$ integrin during influenza infection is sex-specific.
Kenrie, PY Hui	SJCEIRS	Pathogenesis	Antibody-dependent Enhancement of SARS-CoV-2 in macrophages
Christina Leyson	CRIP	Pathogenesis	Pathogenicity and genotypic changes observed with the South Carolina 2020 H7N3 highly pathogenic avian influenza virus in experimentally infected turkeys and chickens
Hongwei Liu	CRIP	Pathogenesis	An ex vivo rhesus macaque respiratory tract explant model to study SARS- CoV-2
Rafael A. Medina	CRIP	Pathogenesis	Evolutionary and spatio-temporal dynamics of SARS-CoV-2 in Santiago, Chile, during the early phase of the COVID-19 pandemic

Victoria Meliopoulos	SJCEIRS	Pathogenesis	Immortalized nasal and tracheal respiratory epithelial cells retain characteristics of primary cells and efficiently propagate diverse influenza A viruses
Jun-Gyu Park	NYICE	Pathogenesis	Lethality of SARS-CoV-2 infection in K18 human angiotensin converting enzyme 2 transgenic mice
Philippe Noriel Pascua	SJCEIRS	Pathogenesis	Baloxavir Treatment Reduces Replication and Limits Transmission of Influenza B Viruses in Ferrets
Nicolas Reinoso-Vizcaino	CRIP	Pathogenesis	The pneumococcal two-component system SirRH is linked to enhanced intracellular survival of Streptococcus pneumoniae in influenza-infected pulmonary cells.
Brittany Seibert	CRIP	Pathogenesis	Effect of antibiotic growth promoter administration on the intestinal microbiota and virus shedding post avian influenza virus infection in chickens
Maria Smith	SJCEIRS	Pathogenesis	Regulation of Interferon Responses by the Beta6 Integrin at the Respiratory Epithelium
Ana Vazquez-Pagan	SJCEIRS	Pathogenesis	Timing of infection during pregnancy impacts influenza disease severity
Nicholas Wohlgemuth	SJCEIRS	Pathogenesis	Cardiovascular complications of influenza virus infection in obese hosts
Muzaffar Ali	SJCEIRS	Surveillance - Animal	Avian influenza A (H9N2) virus live bird markets, Pakistan
Zebulun Arendsee	CRIP	Surveillance - Animal	Visualizing spatial and temporal trends in influenza A virus in US swine with octoFLUshow.
Abhijeet Bakre	Emory-UGA CEIRS	Surveillance - Animal	Detection of Swine Influenza Virus in Nasal Specimens by Reverse Transcription-Loop-Mediated Isothermal Amplification (RT-LAMP)
Abhijeet Bakre	Emory-UGA CEIRS	Surveillance - Animal	Molecular epidemiology and glycomics of swine influenza viruses circulating in commercial swine farms in the southeastern and Midwest United States
Cecilia Baumberger	SJCEIRS	Surveillance - Animal	Characterization of swine backyard production systems and risk of introduction of animal pathogens in Central Chile
Maxime Fusade-Boyer	SJCEIRS	Surveillance - Animal	Risk mapping of influenza D and A (H9N2) viruses occurrence in West Africa using a spatial multicriteria decision analysis approach
Jonathon Gass	CRIP	Surveillance - Animal	Evolutionary ecology and host transmission dynamics of influenza A viruses in Iceland: a hotspot for inter-hemispheric transmission?

Jonathon Gass	CRIP	Surveillance - Animal	Quantifying factors associated with anthroponotic transmission of SARS-CoV-2: The COVID-19 Human-Animal Interactions Survey (CHAIS)
Nichola Hill	CRIP	Surveillance - Animal	Assessing global connectivity of avian influenza virus: how do gulls contribute to hemispheric mixing and spillover?
David Hufnagel	CRIP	Surveillance - Animal	N1 neuraminidase evolution and reassortment of influenza A virus in US swine
Ganna (Anna) Kovalenko	CRIP	Surveillance - Animal	Dispersal and reassortment of H5 and H7 avian influenza subtypes by wild birds in the Caspian and Black Sea region.
Alexey Markin	CRIP	Surveillance - Animal	Identification and persistence of novel reassortment in H1 influenza A viruses in swine with RF-Net
Dillon McBride	SJCEIRS	Surveillance - Animal	Let's get this show on the road: Drivers of large-scale dissemination of influenza A virus in exhibition swine
Dillon McBride	SJCEIRS	Surveillance - Animal	Identifying the influenza A virus surveillance gap in unique sea duck host species and efforts to improve data completeness
Megan Neveau	CRIP	Surveillance - Animal	Increased H3 Cluster IV-A influenza A virus detection in US swine is associated with reassortment and antigenic drift
Lucia Ortiz	CRIP	Surveillance - Animal	Active surveillance of influenza A in a commercial pig farm, Guatemala, 2016-2018
Rebecca Poulson	SJCEIRS	Surveillance - Animal	Influenza A Viruses in Whistling ducks (<i>Dendrocygna</i> spp)
Gustavo Real-Soldevilla	CRIP	Surveillance - Animal	Surveillance of swine influenza in Spain: white pigs, free-range Iberian pigs and wild boars
Agustina Rimondi	CRIP	Surveillance - Animal	Evidence of a fixed internal gene constellation in influenza A viruses isolated from wild birds in Argentina (2006-2020)
Soledad Ruiz	SJCEIRS	Surveillance - Animal	EVALUATION OF ECOLOGICAL AND ENVIRONMENTAL FACTORS THAT INFLUENCE THE PREVALENCE OF INFLUENZA A VIRUSES IN THE LLUTA RIVER WETLAND
Alejandra Sepúlveda	SJCEIRS	Surveillance - Animal	Serological and molecular surveillance of Influenza A and SARS-CoV-2 in dogs and cats in central Chile.
Jasmine Turner	SJCEIRS	Surveillance - Animal	A New Introduction of A(H5N6) Clade 2.3.4.4h into the Live Poultry System of Bangladesh, 2020
Jasmine Turner	SJCEIRS	Surveillance - Animal	The Story of Avian Influenza in Bangladesh Live Poultry Markets from 2018-2019: The Continued Evolution of Highly Pathogenic H5N1 Viruses

Kuan-Fu Chen	JHCEIRS	Surveillance - Human	The manifestation of symptom is associated with the course of illnesses during influenza infection
Peter DeJonge	SJCEIRS	Surveillance - Human	Etiologic differences between viral respiratory infections of children who do and do not attend childcare
Marlene Espinoza-Moraga	Other	Surveillance - Human	Natural history of SARS-CoV-2 in comparison to influenza A virus: a multi-site study focused in the Southern Hemisphere and equatorial regions
Katherine Fenstermacher	JHCEIRS	Surveillance - Human	Adapting and operationalizing clinical research during the SARS-CoV-2 Pandemic
Katherine Fenstermacher	JHCEIRS	Surveillance - Human	Clinical characterization and comparison of hospitalized influenza and COVID-19 patients
Jeremiah Hinson	JHCEIRS	Surveillance - Human	The impact of rapid molecular viral testing on antibiotic prescriptions in an Emergency Department: an opportunity for antibiotic stewardship
Arias Juan F.	SJCEIRS	Surveillance - Human	Prospective Study of Respiratory and Arbovirus Co-infections in Pregnant Women During a Zika Outbreak in Colombia [1]
Ghazi Kayali	SJCEIRS	Surveillance - Human	Avian influenza at the human-animal interface in Egypt: Results of a household transmission study
Ghazi Kayali	SJCEIRS	Surveillance - Human	COVID19 Household Transmission and Seroprevalence in a Cohort of Rural Egyptians
John Kubale	SJCEIRS	Surveillance - Human	INDIVIDUAL-LEVEL ASSOCIATION OF INFLUENZA INFECTION WITH SUBSEQUENT PNEUMONIA: A CASE-CONTROL AND PROSPECTIVE COHORT STUDY
Hsuan Liu	JHCEIRS	Surveillance - Human	Phylogenetic and serological surveillance of human Influenza A virus H3N2 in 2016-17 winter and 2017 summer in Taiwan
Gideon Loevinsohn	JHCEIRS	Surveillance - Human	Nosocomial viral respiratory infections in a rural Zambian hospital
Gideon Loevinsohn	JHCEIRS	Surveillance - Human	Respiratory pathogen diversity and viral coinfections in rural Zambia
Hannah Maier	SJCEIRS	Surveillance - Human	The Nicaraguan Pediatric Influenza Cohort Study, 2011-2019: influenza incidence, seasonality, and effective reproduction numbers
Paula Marinho	JHCEIRS	Surveillance - Human	Tracking Influenza A Virus (H1N1) mutations during United States 2019-2020 Flu season
Dayana Pino	SJCEIRS	Surveillance - Human	Prospective Study of Respiratory and Arbovirus Co-infections in Pregnant Women During a Zika Outbreak in Colombia [2]
Catherine Sutcliffe	JHCEIRS	Surveillance - Human	Surveillance for respiratory infections in Macha, Zambia

Kristin Wiggins	SJCEIRS	Surveillance - Human	Longitudinal Study of Natural Influenza Infection in Unvaccinated People
Andrew Brouwer	SJCEIRS	Systems Biology	Patterns of hemagglutination inhibition titers to influenza A in humans are driven by age at times of cluster introduction
Lucas Ferreri	CRIP	Transmission and Adaptation	Intra- and inter-host evolution of H9N2 influenza A virus in quails: clonal interference, single nucleotide variants and defective interfering particles
Andrea French	JHCEIRS	Transmission and Adaptation	Streptococcus pneumoniae decreases airborne transmission of 2009 pandemic H1N1 in the ferret model
Meng Hu	SJCEIRS	Transmission and Adaptation	HA stabilization and alpha-2,6 receptor-binding specificity are necessary for airborne transmission of swine H1N1 gamma influenza viruses in ferrets
Prathanporn Kaewpreedee	SJCEIRS	Transmission and Adaptation	Transmission potential of the exhaled breath of influenza patients to naive ferrets: a pilot study
David Meekins	SJCEIRS	Transmission and Adaptation	Genomic Stability of SARS-CoV-2 After Experimental Transmission to Domestic Cats
Wen Su	SJCEIRS	Transmission and Adaptation	Eurasian avian-like swine influenza virus acquired efficient transmissibility through stepwise avian-to-mammalian adaptations
Yvonne Su	SJCEIRS	Transmission and Adaptation	Intrahost evolution of SARS-CoV-2 in Singapore
Todd Treangen	CRIP	Transmission and Adaptation	Intrahost-diversity of influenza A virus in upper and lower respiratory tract derived samples from a college community
Nidia Trovao	CRIP	Transmission and Adaptation	The antigenic evolution of neuraminidase across multiple host species
Harm van Bakel	CRIP	Transmission and Adaptation	PathoSPOT genomic epidemiology enables real-time surveillance of nosocomial respiratory virus outbreaks
Sungsu Youk	CRIP	Transmission and Adaptation	Adaptation and parallel evolution of North American H7 subtype avian influenza viruses upon poultry introduction
Sungsu Youk	CRIP	Transmission and Adaptation	Differences in viral fitness of live bird market-isolated H2N2 avian influenza viruses in chickens, Pekin ducks and Guinea fowl