

Boston University Medical Campus

Community Liaison Committee (CLC)

National Emerging Infectious Diseases Laboratories (NEIDL)

MEETING NOTES

April 22, 2025

6:00 pm. *Zoom

Attendees:

James Keeney- CLC, J. Kevin Fisher- CLC, Norm Stembridge- CLC, Dr. Jean Lee- CLC, Olawumi Akinwumi -CLC, Robert Timmerman- CLC, Joe Lillis- CLC, James Eliscar- CLC, Dr. Nancy Sullivan-NEIDL, Adam Carter- NEIDL, Anna Tseng- NEIDL, Elias Nafziger- NEIDL, Dr. Devin Kenney- NEIDL, Joe Maldonis- NEIDL, Valeda Britton- NEIDL, Fernando Fortin- NEIDL, Lora Forman- NEIDL, Elizabeth Leary -BU, Jose Solis (public member).

Zoom Meeting:

NEIDL Updates: Nancy Sullivan, Sc.D. Director, NEIDL; Edward Avedisian Professor and Professor of Virology, Immunology & Microbiology; Professor of Biology

Dr. Sullivan welcomed the CLC and then discussed how we do science at the NEIDL. Basic discovery covers Genomics and virus characterization as well as virology and antibody discovery. Applied research may be in vitro or with organoids. Areas studied may include the digestive system, respiratory system, neurology, disease borne vectors, and sexual mucosa. Translational science covers in vivo models, high throughput screening and finally, vaccine candidates and therapeutics.

The NEIDL has many strategic global partnerships with public and private health institutions, including NIH, CEPI, Moderna, Bill & Melinda Gates Foundation. These partnerships and other diverse funding sources allow us to work and advance research with several emerging and reemerging infectious disease such as Nipah, Mpox, Covid and other respiratory viruses. While external relationships are important, internal convergent research across both campuses and departments are equally necessary, especially when training the next generation of researchers.

NEIDL Updates: Adam Carter, Executive Director, NEIDL

Mr. Carter mentioned that the NEIDL is in the process of reviewing its portfolio of grants. This will help us appreciate and identify where any changes in U.S. research priorities could be potentially impacted.

Presentation: Meet the Next Generation of Scientists- My Journey to a Career...

Presenters: Anna Tseng (Dr. Crossland Lab), Elias Nafzinger (Dr. Davey Lab) and Devin Kenney (Dr. Douam Lab) BU Chobadian & Avedesian School of Medicine, Department of Virology, Immunology and Microbiology (VIM)

Ms. Anna Tseng is a Boston transplant from California. She is a third- year PhD student. Her career road map has been varied and creative. Prior to becoming interested in microbiology, pathology and lab medicine, her dream jobs involved being an astronaut, graphic designer, and nutritionist. Now she studies how different tissues in the body respond to dangerous viruses such as Nipah, and Ebola. These tissues have different immune defenses and behave differently depending on environment and location in the body. This knowledge will allow scientists to design better and more targeted treatments. Anna spends time in the lab exploring animal modeling, molecular virology, spatial techniques/imaging and bioinformatics. In this challenging environment, she is always learning. Each day is different. Her goal is to start her own lab focused on tissue-specific immune responses.

Mr. Elias Nafziger is another Boston transplant, but he is from Virginia. He was homeschooled until high school. He has always had a lifelong interest in virology. Once Covid-19 arrived in the US, he applied to the BU PhD program and moved to Boston to study more viruses. He studies how Ebola Virus (EBOV) proteins interact with and manipulate human cells to help the virus replicate. His current focus is on VP40, a protein that plays a key role in the virus. While VP40 is mostly found in the cytoplasm of infected cells, some of it ends up in the nucleus, and he's trying to figure out why. Specifically, he is asking two questions: 1) how does VP40 get into the nucleus? and 2) what is it doing there? To answer the first question, He is looking at how VP40 interacts with human proteins that transport other molecules into the nucleus and testing which parts of VP40 are responsible for this movement. For the second question, He's studying whether VP40 affects human gene activity by interacting with host genes or DNA. Elias also plans to look at similar viruses, like Reston Virus and Marburg Virus. This research will help explain how EBOV hijacks cells, potentially revealing how it avoids the immune system and persists in the body.

Dr. Kenney is from Massachusetts and completed his bachelor's degree at Bridgewater State University. After graduation he worked at the National Institutes of Health as a post-bac. His work focused on understanding the mechanisms of lymphoid cell development. He then came to Boston University for his PhD where he joined Dr. Douam's lab in the NEIDL. His PhD work was focused on understanding the immunological mechanisms that control SARS-CoV-2 infection in the lung. He also developed projects that helped to further our understanding of the differences between how male, and females respond to viral infections and how these differences cause distinct disease. Now, Dr. Kenney is a post-doc In Dr. Saeed's lab, where is working to understand how innate immune cells respond to different stimuli and he hopes to understand how biological sex impacts these responses. His research will help understand why males and females present with different disease severities or symptoms during viral infection.

Community Engagement & Outreach:

Ms. Britton and Mr. Fortin discussed several of their outreach activities and attendance at community events. Dr. Sullivan asked the CLC to think about ways to expand NEIDL outreach and local community partnerships. This will be a topic for discussion at the next CLC meeting. Ms. Akinwumi suggested organizing a Roxbury Cultural District tour of the NEIDL.

Next Meeting: June 17, 2025 @ 6pm via Zoom-Introduction to the BU Center for Regenerative Medicine (CReM)