

National Emerging Infectious Diseases Laboratories (NEIDL)

Community Liaison Committee (CLC)

Wednesday, June 14, 2023

Meeting Notes

6pm Zoom

Attending:

Jean Lee, CLC; Jim Keeney, CLC; J. Kevin Fisher, CLC; Joe Lillis, CLC; Norm Stenbridge, CLC; Robert Timmerman, CLC; Dr. Nancy Sullivan, NEIDL Director and Professor of Biology and Microbiology- Chobanian & Avedisian School of Medicine; Joseph Maldonis, NEIDL; Lora Forman, NEIDL; Valeda Britton, Executive Director, Community Relations/MED, BU; Elizabeth Leary, Executive Director, Government & Community Affairs, Dr. Mohsan Saeed, Assistant Professor of Biochemistry & Cell Biology, NEIDL Investigator

Presentation Topic: Investigating the Disease Mechanisms of SARS-CoV-2

Presenter- Dr. Mohsan Saeed, Assistant Professor of Biochemistry & Cell Biology -NEIDL Investigator

Ms. Britton introduced Dr. Saeed

As a researcher, Dr. Saeed asks scientific questions, and then seeks to answer those questions using responsible and safe research. His research focuses on identifying and characterizing proteins to understand how they contribute to viral disease. He explained his rationale for studying viral proteins? He said that his motivation is twofold: first, to target viral proteins for preventing the development and progression of severe disease. Second, to design antiviral drugs against viral proteins with the goal to rid the body of virus infections.

Dr Saeed then discussed the SARS- CoV-2 research in his lab. He noted that when a virus particle enters our body, it makes more proteins. These viral proteins are critical in that they promote virus infection, and cause tissue damage. He said that the virus SARS- CoV-2 causes a disease, named Covid- 19.

At the beginning of the pandemic, Dr. Saeed's lab received samples of the first SARS- CoV-2 isolate identified in Washington in February 2020 (he called this virus "wild -type"). Soon numerous variants were identified, including Omicron. In contrast to the wild-type virus, Omicron did not seem as lethal as the wild virus.

The Saeed lab then asked why was Omicron less severe as compared to the wild-type virus. At that time, it was thought that the spike protein was behind the lower severity of Omicron. To

address this question, the Saeed lab generated a chimeric virus in which the spike protein of Omicron was placed in the wild-type virus backbone. The research in the lab came to the conclusion that the spike protein was not the main reason for lower severity of Omicron. The lab then asked if there were other viral proteins responsible for lower severity. Their subsequent experiments identified nsp6 as a critical protein behind Omicron's lower severity. This was the first time that nsp6 was shown to be a key factor in the development of the Covid-19 disease.

Dr Saeed's lab is excited to do further research on nsp6 to determine how this protein contributes to the development of disease. What is its role in inflammation? What small molecule inhibitors of nsp6 can be found? How can effective antivirals for SARS-CoV-2 and other coronaviruses be discovered?

NEIDL Director Update: Dr. Nancy Sullivan

BU Summerlab-Thanks to funding from both the NEIDL and BU Government & Community Affairs as well as collaboration from Summerlab faculty and staff, there will be 6 scholarships awarded to Boston Public Schools (BPS) high school students. Participants are from BPS such as Boston Latin School, Academy of the Pacific Rim, O'Bryant High School and Charlestown High School

Summerlab provides students with the opportunity to develop a deeper understanding of basic techniques and concepts associated with biotech and DNA science. This is a hands-on, lab based program during which students work cooperatively in labs on the BU Campus.

<https://www.bumc.bu.edu/citylab/summerlab-2023/>

Government & Community Affairs Update -Valeda Britton

Ms. Britton continues to attend both virtual and in person community meetings and shares BU events with neighbors and other stakeholders. She is currently interviewing candidates for the Outreach & Community Director position for the Med Campus/NEIDL

She mentioned the new BU Center for Computing & Data Sciences (fondly known as the "Jenga Building") on the Charles River Campus and offered to organize a visit for the CLC at a later date. She attended the 1st Annual Unity Ball at SOWA. Event proceeds benefit South End Soccer, Boston Unity Cup and free youth soccer programs.

Greater Boston Research Opportunities for Young Women (GROW) is scheduled to visit the NEIDL in July. GROW offers young women who are seniors in high school the opportunity to perform research in a lab at Boston University for six weeks. Participants will work in their labs from 9:30-4:30 (M-F) and have the opportunity to participate in cutting edge research in a collaborative setting. They will learn best research practices, hear from guest speakers at the NEIDL and BU, and develop communication skills by presenting their research at a culminating symposium. Participants receive a stipend of \$1500 after successfully completing all program requirements.

<https://www.bu.edu/lernet/grow/>

In May, Ms. Britton attended the Casa Myrna 14th Annual Community of Conscience Breakfast Fundraiser. The Keynote speaker was Attorney General Andrea Campbell.

At the end of April, NEIDL researchers and staff headed to Galveston National Laboratories (GNL) as members of the NBL/RBL Networking Group. Approximately 130 global professionals attended. In 2024, the group anticipates a return to Boston.

Next Meeting- Wednesday, September 13, 2023 at 6pm via Zoom

The public is invited to attend NEIDL CLC meetings. Minutes are posted on the NEIDL website: <https://www.bu.edu/neidl/community/>

If you would like to attend or need more information, please contact Valeda Britton, JD. Executive Director, Community Relations BU Medical Campus vjbritto@bu.edu or 617 358 9180.