In each e-newsletter we highlight some of the important research ongoing at UTMB. In this edition we’d like to introduce you to one of our researchers in the field of infectious diseases. Minkyung Yi, PhD, is an associate professor in the department of Microbiology & Immunology, a scientist with the Sealy Center for Vaccine Development and a member of the Institute for Human Infections and Immunity.

Inside her BSL2 lab, located in the Galveston National Laboratory, Dr. Yi and her team of three postdocs and one technician are involved in research related to the replication of the hepatitis C virus (HCV). HCV is an important human pathogen that chronically affects an estimated 170 million people – a number that Dr. Yi is hoping to diminish through her research. She has been incredibly successful in obtaining grant funding for her work, reflective of HCV’s status as one of the important emerging infectious diseases affecting human health here at home and abroad.

HCV causes a range of diseases, including chronic hepatitis, cirrhosis, hepatocellular carcinoma (HCC) and metabolic syndromes such as type 2 diabetes. Currently, Dr. Yi is focusing her research on understanding the fundamental role of nonstructural proteins during HCV replication. Her group is also studying HCV-induced signaling pathways that lead to the development of metabolic diseases and cancer, with the goal of developing better means of treatment and prevention for HCV-induced diseases.

The Galveston National Laboratory’s associate director for research and operations, Dr. Joan Nichols, reports that all labs within the GNL are now in full operation. Most recently the BSL3-enhanced (BSL3-E) laboratories were cleared for full operation and researchers have begun occupying that space. Unlike a normal BSL3 lab, BSL3-E laboratories require use of respiratory protection and a clothing change (no street clothes inside); also, each person must shower prior to leaving the facility.

The online status of the BSL3-E marks the end of a more than two-year effort to bring the entire GNL facility into full operation. This is a tremendous accomplishment! As you know, each stage of this “commissioning and approval” process involved hundreds of hours of careful step-wise preparation and safety planning. Getting a complex medical research facility such as the GNL to fully operational status takes a dedicated team and a tremendous amount of patient and careful planning. Researchers now at work in the biocontainment level 2, 3 and 4 areas are putting the lab to good use fulfilling the GNL’s purpose to aid the U.S. in the discovery, development and evaluation of the tests, treatments and vaccines needed to advance global health initiatives now and in the future.
Biosecurity, especially as it regards select agent research, is currently one of the hottest topics under debate within the federal government. This debate will ultimately result in updated federal regulations and guidelines that will impact U.S. research and the lives of future scientists in the infectious disease research field.

To better understand the current national dialogue on biosecurity, the GNL recently hosted a Topics in Biosecurity Symposium Series. As the only active BSL4 research program underway on a U.S. academic campus, the GNL seeks to ensure that our students, staff, faculty and community have opportunities to participate in this ongoing discussion. So, on November 9, 2010, the GNL, along with UTMB’s Western Regional Center of Excellence for Biodefense and Emerging Infectious Diseases Research (WRCE) and the National Biocontainment Training Center (NBTC), hosted the first symposium in what is intended to become a series dedicated to topics in biosecurity.

An overflow crowd of students, faculty and community members heard from policy experts on the probable outlook for future industry regulatory guidelines. The Honorable Susan A. Ehrlich, J.D., L.L.M., a retired judge on the Arizona Court of Appeals and a member of the National Science Advisory Board on Biosecurity (NSABB), joined Victoria Sutton, M.P.A., Ph.D., J.D., Professor of Law and Director of the Center for Biodefense, Law and Public Policy at Texas Tech University School of Law, as guest speaker for this inaugural session, which tackled some of the pressing biosecurity policy matters facing today’s researchers. Click here to read a follow-up editorial in the Galveston County Daily News. Look for the next session in the series in February 2011!