

Dr. Moon Nahm, Professor of Pathology and Director of the NIH Bacterial Respiratory Pathogen Reference Laboratory at UAB, joined the Division of Pulmonary, Allergy, and Critical Care Medicine on May 1, 2016.

Dr. Nahm received his B.A. and M.D. degrees from Washington University in St. Louis, MO. He completed residencies in Internal Medicine and Laboratory Medicine at Washington University, prior to holding faculty positions at Washington University in St. Louis and the University of Rochester. At Washington University, he pioneered the use of monoclonal antibodies as diagnostic reagents.

Dr. Nahm began his work at UAB in June 2001. While at UAB, Dr. Nahm's laboratory has investigated pneumococci, pneumococcal pathogenesis, and pneumococcal vaccines. Pneumococci are Gram-positive bacteria that are responsible for most cases of bacterial pneumonia, as well as other diseases such as meningitis, sepsis, and ear infections. Because of the high impact of these illnesses, preventative pneumococcal vaccines are given to all children and elderly adults in the US.

Pneumococci's most important virulence factor is its polysaccharide capsule. The main host defense against pneumococci is anti-capsule antibody production. Dr. Nahm's laboratory studies these polysaccharide capsules and anti-capsule antibodies to better understand host-bacterial pathogen interactions and to improve pneumococcal vaccines. These studies led his lab to discover new, previously unrecognized serotypes. One of these new serotypes is 6C, which had previously been misclassified as serotype 6A. Dr. Nahm's laboratory research also predicted and discovered a new pneumococcal serotype, 6D. These two serotypes have become essential in pneumococcal vaccine development and evaluation.

Dr. Nahm's anti-capsule antibody research led him to develop an assay specific for pneumococcal antibodies. His work also led to the creation of the multiplexed opsonophagocytosis assay (MOPA). MOPA is used now in laboratories across the world, bringing about a paradigm shift in vaccine evaluations and helping pneumococcal vaccines become affordable worldwide.

Dr. Nahm's recent studies of host-bacterial pathogen interactions led to the discovery of innate immunity against pneumococcal capsules. Specifically, he found the innate immune opsonin ficolin-2 to be protective. He is currently investigating how immune protection by ficolin-2 wanes in old adults.

These achievements led Dr. Nahm's laboratory to become a Reference Laboratory for both the NIH and the World Health Organization, and be described by the NIH as "a national treasure." His reference laboratories have taught numerous investigators from more than 20 different countries how to study pneumococcal vaccines and will continue to do so for years to come. Dr.

Nahm has long-standing research collaborations with Dr. Mark Dransfield and the UAB Lung Health Center. His research is well-funded with multiple grants, contracts and NIH R01 funding.

We greatly respect Dr. Nahm's work and are proud to have him as a colleague in our division.