



2019 FNIH Lurie Prize in Biomedical Sciences Winner Uncovered the Microbiome’s Critical Role in Immune Regulation

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NORTH BETHESDA, MD, April 3, 2019 – The Foundation for the National Institutes of Health (FNIH) is delighted to name Yasmine Belkaid, Ph.D., the winner of the 2019 [Lurie Prize in Biomedical Sciences](#) for blazing a trail in understanding the microbiome’s significant role in immune regulation. The human body houses trillions of microscopic organisms called microbes (i.e. bacteria, fungi and viruses) that collectively make up a microbiome. While many of these microbes are beneficial to health (commensal), others can be harmful (pathogenic). Dr. Belkaid revolutionized our understanding of the role of these microbes in the gut and skin, demonstrating that they are essential for triggering an immune response to help fight infection, but that they also can initiate inflammatory disease. The Lurie Prize in Biomedical Sciences will be presented to Dr. Belkaid at the FNIH Award Ceremony on May 22, 2019 in Washington, D.C.

“We are extremely pleased to recognize Dr. Belkaid with this year’s Lurie Prize in Biomedical Sciences for demonstrating how the delicate balance of microbes play an essential role in health,” said Maria C. Freire, Ph.D., President and Executive Director of the FNIH. “Dr. Belkaid joins six previous recipients of the Lurie Prize, whose seminal research is transforming our understanding of diseases from cancer to diabetes to Alzheimer’s disease.”

Dr. Belkaid is the Director of the Microbiome Program and Chief of the Metaorganism Immunity Section in the Laboratory of Immune System Biology at the National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health (NIH), and an adjunct professor at the University of Pennsylvania. By introducing individual microbes into a host’s environment, Dr. Belkaid uncovered that commensal microbes stimulate cells in the immune system that produce proteins to fight infections and promote tissue repair.

The imbalance of commensal and pathogenic microbes and their stimulation of cells also can lead to inflammation, contributing to the development of diseases like psoriasis and Crohn’s disease. Inflammatory diseases, as well as allergies and autoimmune diseases, are more prevalent in parts of the world where overuse of antibiotics and changes in human diet have created an imbalance in the

microbiome. The next step in Dr. Belkaid's research will be to harness the power of these microbes to develop novel strategies to prevent or treat these diseases.

Now in its seventh year, the Lurie Prize in Biomedical Sciences recognizes outstanding achievement by a promising scientist aged 52 or younger. The prize includes a \$100,000 honorarium, which is made possible by a donation to the FNIH by philanthropist Ann Lurie, the President of the Ann and Robert H. Lurie Foundation and the President of Lurie Holdings, Inc.

"Each year, through the Lurie Prize, we strive to inspire young students to learn and participate in STEM," said Ms. Lurie. "As an advocate for women in science, we know Dr. Belkaid will serve as an inspiration to many young girls around the world, so they will aspire to be preeminent in their field of science."

Dr. Belkaid earned an M.S. and B.S. in biochemistry at the University of Science & Technology Houari Boumediene of Algiers, Algeria and a Ph.D. from the Pasteur Institute in Paris. She is a Member of the National Academy of Sciences and the National Academy of Medicine.

"It is a tremendous privilege to be named the recipient of this year's Lurie Prize in Biomedical Sciences," said Dr. Belkaid. "I am honored to be recognized among the extraordinary roster of scientists who have earned the prize over the past six years. This prize is a testament to the incredible work of all the members of my laboratory."

A jury of six distinguished biomedical researchers selected Dr. Belkaid as this year's Lurie Prize in Biomedical Sciences winner. The jury is chaired by Solomon H. Snyder, M.D., Distinguished Service Professor of Neuroscience, Pharmacology & Psychiatry, The Solomon H. Snyder Department of Neuroscience at Johns Hopkins University and Vice Chairman for Science of the FNIH.

Previous recipients of the Lurie Prize in Biomedical Sciences are Zhijian "James" Chen, Ph.D., from the University of Texas Southwestern Medical Center (2018), David M. Sabatini, M.D., Ph.D., from the Whitehead Institute for Biomedical Research and the Massachusetts Institute of Technology (2017), Jeannie T. Lee, M.D., Ph.D., from Massachusetts General Hospital and Harvard Medical School (2016), Karl Deisseroth, M.D., Ph.D., from Stanford University (2015), Jennifer Doudna, Ph.D., from the University of California, Berkeley (2014) and Ruslan M. Medzhitov, Ph.D., from Yale University School of Medicine (2013).

For more information about the FNIH Award Ceremony and a complete list of sponsors, please visit fnih.org/AwardCeremony.

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