

Vilcek Prize for Biomedical Science Split Between Two Giants of Immunology

*Richard A. Flavell and Ruslan Medzhitov named
co-winners of \$100,000 prize*

*Hashim Al-Hashimi, Michael Rape, and Joanna Wysocka win
\$35,000 Vilcek Prizes for Creative Promise*

New York, NY, February 5, 2013 – The Vilcek Foundation is pleased to name Richard A. Flavell and Ruslan Medzhitov as the co-winners of the 2013 Vilcek Prize for Biomedical Science. Drs. Flavell and Medzhitov, both professors at Yale University School of Medicine and investigators with the Howard Hughes Medical Institute, were selected for their research that elucidated the fundamental roles of the innate immune system.

“We are pleased to honor two truly outstanding scientists. The pioneering work of Ruslan Medzhitov and Richard Flavell has led to important insights into the mechanisms of the immune responses, which has implications for many fields of biomedical studies,” said Jan Vilcek, President of the Vilcek Foundation.

Awarded annually, the Vilcek Prizes recognize immigrants who have made significant contributions to the American arts and sciences, and include \$100,000 cash awards. This year the prize has been split between two winners in the field of biomedical science.

Although the work of Drs. Flavell and Medzhitov spans a wide range of topics in immunology, they are perhaps best known for their contributions to the understanding of the innate immune system, the host defense system that detects hostile pathogens in the human body and triggers a response from the more differentiated adaptive immune system. Seminal publications authored by Drs. Medzhitov and Flavell have elucidated many molecular processes underlying innate immune responses. In addition to broadening fundamental knowledge of the human immune responses, the research has opened up new possibilities for treating immune-related disorders and diseases.

Dr. Flavell is a native of the United Kingdom, and is currently the Department Chair and Sterling Professor of Immunobiology. His current projects include studies of the molecular mechanisms of differentiation of white blood cells called T lymphocytes, studies of mechanisms whereby immune cells become eliminated from the body, and an in-depth analysis of the cellular and molecular basis of autoimmunity. Dr. Flavell is a Fellow of the Royal Society, and a member of the U.S. National Academy of Sciences and the Institute of Medicine.

Dr. Medzhitov has been with Yale University School of Medicine since he emigrated from Russia and joined his former mentor, the late Dr. Charles Janeway, as a postdoctoral fellow. He is a member of the National Academy of Sciences, and received the prestigious Shaw Prize in 2011. Currently, Dr. Medzhitov is exploring three areas of interest: the relationship between inflammation and human diseases; the role of the immune system in allergic reactions; and the social behavior of cells within an organism.

The Vilcek Foundation is also awarding three Vilcek Prizes for Creative Promise in Biomedical Science, recognizing younger immigrant scientists who have demonstrated outstanding achievement. Each prizewinner must not be more than 38 years old, and in a position to lead independent research.

Hashim Al-Hashimi - Born in Lebanon, Dr. Al-Hashimi is the J. Lawrence Oncley Collegiate Professor of Chemistry and Biophysics at the University of Michigan. Dr. Al-Hashimi develops methods that combine nuclear magnetic resonance and computational approaches to visualize the dynamics of cellular molecules and processes, such as DNA replication, at an atomic resolution. Analysis of his first target twelve years ago, the HIV RNA molecule, revealed that RNA structures were not static; instead, they morphed into various structures, each with a distinct function. This opened the possibility of RNA-based therapeutic treatments. Currently, Dr. Al-Hashimi characterizes RNA molecules, including HIV RNA, in hopes of identifying small molecules with potential anti-HIV activity. In 2009, he founded the biotechnology company Nymirum, to focus on computational RNA-targeted drug discovery.

Michael Rape - Ubiquitylation is a process that occurs in all cells; the details of how the small protein termed “ubiquitin” modifies proteins and regulates cellular processes, however, are not yet well understood. The lab of German-born Dr. Rape is dedicated to exploring these mechanisms. To date, he has been successful in establishing structural characteristics of ubiquitylation at specific points in development, as well as identifying new ubiquitylation signals and linking them to different outcomes. Recently, Dr. Rape co-founded Nurix, a drug development company utilizing the biology of ubiquitylation, hoping to uncover new pathways for chemotherapy. He is an associate professor at University of California, Berkeley.

Joanna Wysocka - Polish-born Dr. Wysocka, associate professor at Stanford University, focuses on epigenetic mechanisms that regulate self-renewal and differentiation. Interested in the molecular basis of developmental plasticity, her work centers on two cell types: embryonic stem cells and neural crest cells. Dr. Wysocka also studies how instructions encoded by the genome are interpreted in the context of a cellular state and signaling milieu to establish chromatin states permissive or restrictive for gene expression. In the future, Dr. Wysocka is interested in exploring several major questions, one of which is the genetic basis of human diversity, as most characteristically exemplified in human facial variety.

All prizewinners were selected by independent juries composed of leading experts in the scientific community, representing institutions such as the New York University School of Medicine, Rockefeller University, Salk Institute, and the Memorial Sloan-Kettering Cancer Center.

The prizes will be presented at an awards ceremony at the Mandarin Oriental in New York City in April 2013. Titia de Lange, Leon Hess Professor at Rockefeller University and recipient of the 2011 Vilcek Prize in Biomedical Science, will be presenting. In addition to prizes in biomedical science, the Vilcek Foundation also awards prizes in the arts, this year focusing on contemporary music. For more information on all the Vilcek Prizes and recipients, please visit www.vilcek.org.

THE VILCEK FOUNDATION

The Vilcek Foundation is dedicated to raising awareness of immigrant contributions to the American arts and sciences. For more information, please contact Joyce Li at (212) 472-2500, or at joyce@vilcek.org.