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Vilcek Foundation awards \$50,000 prize to immigrant biochemist Edward Chouchani

The \$50,000 Vilcek Prizes for Creative Promise recognize rising immigrant scientists living and working in the United States whose work represents a significant contribution to their field.

NEW YORK, April 17, 2023—Edward Chouchani receives a [Vilcek Prize for Creative Promise in Biomedical Science](#) for his work to decipher the molecular mechanisms that drive metabolic disease, with the aim of developing therapeutic interventions.

The Vilcek Prize for Creative Promise is a \$50,000 recognition awarded annually by the Vilcek Foundation as part of its prizes program. Awarded annually since 2006, the Vilcek Foundation prizes recognize and celebrate immigrant contributions to scientific research and discovery, and to artistic and cultural advancement in the United States. The Vilcek Foundation prizes support the Vilcek Foundation's mission to raise public awareness of the value of immigration for a robust society.

As part of the Vilcek Foundation's recognition of Chouchani's work, the foundation has produced a biographical profile and video profile celebrating his experience and research. Titled "[Edward Chouchani seeks to understand the role of metabolism in disease](#)," it is now available on the Vilcek Foundation website.

Born in Canada to an Egyptian academic, Chouchani grew up attending schools in Greece, Thailand, and Cuba as his father's work took the family abroad. This peripatetic lifestyle and a fascination with science fiction literature fostered an innate curiosity in Chouchani about human life and biology. He earned a BS in biochemistry and biotechnology at Carleton University in Ottawa, and his PhD in biological sciences at the University of Cambridge. In 2014 he moved to Boston to pursue postdoctoral research at Harvard Medical School, where he is now an associate professor of cell biology. Chouchani directs a research laboratory at the Dana-Farber Cancer Institute, where he is also an associate professor of cancer biology.

"Edward Chouchani's research has had a powerful impact on our current understanding of metabolism and mitochondrial biology," says Vilcek Foundation Chairman and CEO Jan Vilcek. "His approach encompasses the spectrum of research, from bench science to computational analysis. With this approach he has not only developed new tools and methods to study metabolism in cells, but has identified potential clinical applications and interventions for metabolic and metastatic disorders and disease."

Chouchani's work primarily focuses on metabolism, using mass spectrometry and biochemical approaches to understand how metabolites regulate cellular function in pre-clinical models of health and disease. The research implications are myriad: By better understanding the function of metabolism and

the role that different metabolites play in living cells and tissues, Chouchani and his team can identify metabolites and enzymes that contribute to disease.

“Mass spectrometry lets us peer into the cell and systematically map how metabolism controls our biology,” he says. “Our goal is to leverage these newfound mechanisms to develop new therapies for metabolic, inflammatory, and metastatic diseases.”

“There are over 20,000 different types of protein machines in the cell and over 95% of them are what’s called un-drugged,” he says. “The way our technology works, we query many of those 20,000 proteins in living systems and look for pockets where small-molecule metabolites can interact with them.” By finding and understanding these pockets, Chouchani and his team illuminate metabolic functions and identify potential points of intervention. “If we can understand the nooks and crannies of where these interactions occur, we can develop new ways to leverage these interactions, and protect against cancers and diseases of aging.”

Chouchani is energized by his work, and takes inspiration from his research team and colleagues at Harvard. “That really is one of the most invigorating things about science,” he says. “If you’re doing it properly, and with the right people, it starts evolving in ways you never could have anticipated, and it makes it one of the most exciting careers that one can have.”

Access the full article and video at the Vilcek Foundation: [*Edward Chouchani seeks to understand the role of metabolism in disease*](#)

The Vilcek Foundation

The Vilcek Foundation raises awareness of immigrant contributions in the United States and fosters appreciation of the arts and sciences. The foundation was established in 2000 by Jan and Marica Vilcek, immigrants from the former Czechoslovakia. The mission of the foundation was inspired by the couple’s respective careers in biomedical science and art history. Since 2000, the foundation has awarded over \$7 million in prizes to foreign-born individuals and supported organizations with over \$6 million in grants.

The Vilcek Foundation is a private operating foundation, a federally tax-exempt nonprofit organization under IRS Section 501(c)(3). To learn more, please visit vilcek.org.