Katalin Karikó is the most renowned Hungarian scientist of our time. An alumna of the University of Szeged, she is revered as the developer of the mRNA technology underlying the modern vaccine against the SARS-CoV-2 coronavirus during the Covid-19 pandemic. Katalin Karikó’s work is an exceptional response to the question of how a basic research result is applied, and what the social benefits of science are.

Katalin Karikó was born in 1955. Her interest in biology was sparked by her butcher father. She acquired the basic methods of in-depth learning during her school years in Kisújszállás, in a biology study group. In this workshop of talent promotion, students read and discussed the ideas expressed in books published in Hungarian by Hans Selye, the father of stress theory, and Albert Szent-Györgyi, Nobel Prize laureate researcher of the University of Szeged. She was greatly influenced by her correspondence with the two world-famous Hungarian scientists as a student.

The biology-interested high school student participated in the talent promotion and admission exams preparation programmes of the University of Szeged when it was still called József Attila University in 1972 and 1973. Katalin Karikó considers the five years between 1973 and 1978 she spent as a biology student at the University of Szeged as the happiest time of her life. As an undergraduate, she was awarded the most prestigious scholarship of the time in three academic years. Katalin Karikó obtained a biology degree with honours from the University of Szeged, where she first heard about the possibility of the medical application of messenger RNA.

She conducted the research for her doctoral thesis between 1978 and 1982 in the Nucleotide Group of the Institute of Biophysics of the Szeged Biological Research Centre (BRC). Thereupon the analysis of the structure and function of nucleic acids, the virus research has become of interest to her. Katalin Karikó received her PhD in biochemistry at the University of Szeged in 1983. Her first job as a fellow of the Hungarian Academy of Sciences was at the BRC, a national stronghold of life sciences. The research workshop she joined was at the cutting edge of the discipline, but it closed in 1985. A researcher with a wealth of professional experience, she arrived in the United States with her family and a job opportunity in hand.

After working in Philadelphia, and Washington, she was admitted to the University of Pennsylvania in 1989, where she continued her research for 24 years. Despite the hardships, she persisted in her principal scientific interest, the study of mRNA, the messenger of biological information. Although, she was also involved in clinical teaching tasks: she mentored and lectured.

Katalin Karikó is a founding member of the Scientific Committee of the International mRNA Health Conference. Her support extends to young Hungarian researchers engaged with her research topic.

She is a co-inventor on 13 patents filed in the United States of America. Together with Drew Weissman, she founded RNARx, a company focused on the development of nucleoside-modified mRNA for therapeutic purposes. She was CEO of this company from 2006 to 2013.

Building on the results of her research and innovative developments, the mRNA-based vaccine represents a revolutionary new approach to vaccine production. Katalin Karikó joined a biotechnology company in 2013 to improve her basic research results, which significantly contributed to the production of this technological breakthrough. This company is the BioNTech in Germany, which partnered with a multinational pharmaceutical company in 2020 to produce the worldwide-applied Covid-19 vaccine. Her innovation has opened up new avenues for vaccine-based treatments and cures.

The American Rosenstiel Award and the Hungarian Széchényi and Semmelweis Awards stand out among the nearly half a hundred awards she has received so far in 2021 as the scientist whose research paved the way for the development of a new type of coronavirus vaccine.

Katalin Karikó’s persistent and task-focused research work, her commitment to scientific conviction, her development work based on her above-mentioned qualities and of outstanding importance for the whole society and her innovative attitude are exemplary for any researcher working in any field of science. The University of Szeged is proud that Katalin Karikó’s world-renowned research career has been made possible by the excellent education she received in the University of Szeged’s Department of Biology. All citizens of the University of Szeged are proud that, according to the decision of the Senate of the University of Szeged, Katalin Karikó has been a Doctor Honoris Causa of the University of Szeged since 4 September 2021.