Toespraak Floris Rutjes – Eredoctoraat Katalin Karikó

Dear Dr. Karikó,

It is a real privilege to have you here at this occasion to receive an Honorary Doctorate at the Dies Natalis of our university. It is a rather special birthday, as today we celebrate the 99th year of existence of Radboud University.

At Radboud University we aim to perform research of high scientific quality in an environment of integrity and academic freedom. Research performed by academics who follow their own ideas and ambitions with scientific curiosity being one of the prime drivers. They connect to other researchers, sometimes in other disciplines, to organizations in society and address scientific questions, but also societal needs and challenges. By doing so Radboud University makes an impact on society, both by educating and training people, from students to professors, and by contributing to solving societal challenges.

Looking at your career, you fit this profile perfectly well. Since the start of your academic career, in a Hungarian university in Szeged, you developed your scientific vision, namely that there must be opportunities to develop mRNA into therapeutic applications to cure disease. Being convinced of your own revolutionary ideas is one thing, but if others, your peers in fact are not, this may not be easy. Not being able to convince your colleagues in the field means that grant applications are turned down, and that there may be few resources to carry out your plans. It requires perseverance and courage to continue, leaving your home country in your case, moving with a baby and husband to the US to further pursue your scientific ideas. Also there, it required a long road with disappointments at times before you reached a point where you actually produced the scientific evidence that mRNA can be of therapeutic value. Breakthrough was the 2005 paper in Immunity, published jointly with your colleague Drew Weissman “Suppression of RNA recognition by Toll-like receptors: the impact of nucleoside modification and the evolutionary origin of RNA” reporting how an immune response of the body could be circumvented by changing one component in the transcription reaction (pseudouridine instead of uridine). Eventually, it was that simple you said.

That simple finding turned out to have an enormous impact, driven by the disruptive Covid-pandemic that started in the spring of 2020 and required a worldwide vaccination campaign. Herein, the mRNA-based vaccines appeared particularly effective and thereby unequivocally demonstrated the importance of mRNA for medical use. I anticipate that medical applications will not stop at this point but that many researchers, inspired by this success, are studying as we speak new applications for mRNA technology. Your leading role in the therapeutic use of mRNA has been crucial and is one reason for this honor today.

Besides these scientific merits, there is another aspect that is important to us, which is diversity of the research community, and in particular the role of women in Science, Technology, Engineering, and Mathematics (STEM) programs. With your career and

scientific achievements, and the visibility that you now have in the academic community and beyond in society, you are a perfect role model for female researchers and most certainly will inspire many young women to pursue a career in STEM as well.

You have made important scientific discoveries in fundamental research, discoveries that turned out to be key to solve a societal challenge, and you are a prominent role model for women in science. This is what makes that we award you this honorary degree of doctorate.