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Type: Motivation letter

Degree: Master

Major: Medicine

University: Utrecht University

Dear Admissions Committee,

My uncle had a farm. I often heard him complain about how expensive it is for him to keep animals, and how said expenses don't match the profits from sales. As a kid, I suggested that he cross a cow and a chicken to get a creature that I called the "Omelet" — subsequently, keeping the animals would be cheaper, and sales would go up because people would get two in one. Adults laughed at this incredible idea. But, after many years of scientific exploration, I realize that it is hard to call impossible.

It all started with my grandparents. My grandfather was a process engineer, and my grandmother was a dentist. When I was in elementary school, my grandfather would study additional mathematics with me, and my grandmother often told me interesting biological facts from her medical practice. Neither they nor I knew how much of an impact this would have on the rest of my life.

With my growing up, a parallel interest in the exact sciences and natural sciences grew. I successfully entered the Biotechnology Faculty of the Lomonosov Moscow State University and became particularly fascinated by cell technology and tissue engineering. I studied articles about the possibilities of using stem cells as a therapeutic strategy for tissue repair, being most interested in cellular technology and its wide uses — ranging from bone repair to alleviating the symptoms of Parkinson's disease and spinal cord injuries. Equally important is the ability to use stem cells to model diseases and test drugs; this allows us to make qualitative predictions regarding the course of experiments, saving time and materials. Such an emerging field of science also seems promising to me, in that it allows us to move from general medicine to more personalized medicine.

At the moment, I am working as a lab assistant at the Institute of Cell Biophysics (Russian Academy of Sciences), while simultaneously doing thesis research on the use of FGF-modified nanofilms as a way to increase the efficiency of stem cell cultivation in deprivation, as an alternative to commercial serum-free media. Also, our team conducts experiments with the effects of irradiation, polyelectrolyte nanofilms, growth factors and their combination on the

proliferative abilities of bone marrow stem cells of mice; I take a direct part in the practical part of these experiments.

My greatest ambition is to establish a regenerative medicine clinic that provides services, such as artificial transplants, to people affected by organ loss, most importantly making them accessible — there are thousands of people on transplant lists waiting for critical organs, but, unfortunately, there are not nearly enough donors available to fill that demand. I hope to take part in improving the quality and standard of living of the population, and the Regenerative Medicine and Technology program at Utrecht University seems to be the next step on the way towards achieving my goal. Besides highly specialized courses that would allow me to gain exclusive, up-to-date knowledge, I am attracted to the professors and specialists who truly make this program stand out. For example, Paulina Nuñez Bernal's publications on bioprinting anatomical structures left a huge impression on me — I can't wait to take part in discussions concerning promising 3D printing techniques and the use of biomaterials within a program dedicated to biofabrication, all while expanding my academic and professional skills among individuals just as passionate as me.

My path led me to realize that my “cow and chicken” are biology and engineering. As a student of Utrecht University, I aim to prove, first of all to myself, that nothing is impossible. Quoting Johann Wolfgang von Goethe: “Whatever you can do or dream you can, begin it. Boldness has genius, power, and magic in it.”

Sincerely,