Ladies and Gentlemen,

In biology we find many materials with complex, often hierarchical structures that are optimized to fulfill one - and frequently more than one - specific function. Prof. Aizenberg has been a pioneer not only in unraveling how Nature addresses these complex issues, but also in employing the design strategies from Nature in the development of new, artificial materials with unprecedented functionalities.

She has studied how organisms make optical lenses from calcium carbonate and optical fibers from silica, how the structure of beetle scales leads to specific colors and how pitcher plants catch
insects. These studies inspired her to produce materials in which the functionality was encoded in their structure, such as inks that can detect chemical substances, surfaces that can catch and release molecules, and materials that are so slippery that nothing sticks to them, neither oil, nor blood, nor ketchup.

Essential to these achievements is the unique approach of Professor Aizenberg in which she brings together many different disciplines: she combines surface science, polymer science, crystal growth, biology and materials engineering. Her scientific career brought her to work in some of the greatest research labs in the world, including the Weizmann Institute of Science, Harvard University and Bell labs, before she started her current lab at Harvard, where she guides young talented and enthusiastic researchers in establishing their own independent career. On many occasions these young enthusiastic people have been the honors students of our own university who have always been welcome to perform their bachelor project in her lab.

Prof. dr. Joanna Aizenberg is world-wide recognized and honored as the absolute world top in the domain of Bio-inspired Materials Engineering, as evidenced by her many prestigious awards and prizes, and her impressive list of publications which include 15 original publications in Science and Nature. Even more remarkable is that Prof. Aizenberg’s research efforts are not only of great fundamental importance, but are also resulting in numerous inventions of high technological relevance, for which she received the R&D 100 Award - “the Oscar of R&D” by R & D Magazine – both in 2012 and 2013.

She has developed materials for a variety of engineering and biomedical applications including low friction surfaces, optical
detection systems, anti-fouling coatings, and controlled release systems. The research of prof. Aizenberg therefore not only has a perfect match with the TU/e focus areas Energy and Health, but also with the activities of the Institute for Complex Molecular Systems and the Eindhoven Polymer Laboratories. Prof Aizenberg already holds strong connections with our university, in particular with the departments of Chemical Engineering and Chemistry and Biomedical Engineering: She has visited our university on several occasions to present lectures, and acts on the advisory boards of two big projects.

This honorary doctorate is not only a sign of recognition for her scientific achievements, but also marks our appreciation for her close collaboration with our university. We are therefore very happy that Prof Aizenberg has also accepted a honorary professorship, as part of which she will pay regular visits to Eindhoven to engage in the research and teaching of our two departments, which no doubt will lead to a further intensification of our collaboration and our friendship.