Gérard Mourou was born in Albertville, France. He graduated from the University of Grenoble, and earned his PhD degree at Université Pierre et Marie Curie, Paris in 1973. He then moved to the USA, where he became a professor at the University of Rochester in 1977, and then at the University of Michigan, where he founded the Center of Ultrafast Science (1990) and led it for one and a half decades. In 2005, he returned to his home country, and took the post of director of Laboratoire d’Optique Appliquée (LOA). Currently he is a professor at École Polytechnique.

Since the early 1980s, Professor Mourou has been a leading figure of laser science, which is clearly evidenced by his scientific track record – he has nearly 50,000 citations and an H index of 95. He published his results at an astonishing speed already at the beginning of his academic career at Rochester. Those papers represented the milestones of the development of ultrafast science, then restricted to the picosecond regime. Just to name a few examples: development ultrafast electronic switches and jitter-free streak cameras, generation of THz pulses, electron diffraction in the picosecond time-scale etc. In addition to these results, Professor Mourou demonstrated his exceptional ability to provide his students with extraordinary motivation. The members of the Rochester group — Wayne Knox, Theodore Sizer, Irl Duling, Janis Valdmanis, James Kafka, Donna Strickland, Maurice Pessot, Jeffrey Squier and Daniel Blumenthal – became the leading figures of ultrafast science by the late 1980s, and have continued to pursue highly successful careers.

Amongst his major scientific achievements, the one that stands out is the so called chirped pulse amplification (CPA) technique, which he published jointly with his PhD student, Donna Strickland in 1985, and for which they were jointly awarded the Nobel Prize in Physics. The CPA technique represented a real breakthrough in laser technology, because it enabled scientists to shatter a generally accepted paradigm, according to which nonlinear optical effects prevent the generation of really high power pulses using solid-state lasers thus, the advantages offered by the solid state laser materials can not be exploited. Soon after the invention of CPA, the attainable laser power grew by three orders of magnitude, and since then we have witnessed another growth of the same scale. The development of the CPA method has outstanding significance both in science and practical applications. Here we would like to highlight only the one that is mentioned in the brief citation of the Nobel Prize: LASIK, the most advantageous eye surgery technique currently available for vision correction would not be possible without CPA. (Perhaps it is worth mentioning here that Hungarian researchers have played an important role in the development and further improvement of the LASIK procedure.)

After his return to France in 2005, Professor Mourou once again embarked on a project in which he had to rely on his ability to motivate his colleagues to achieve large-scale goals. In 2005, he launched the Extreme Light Infrastructure (ELI) project. In the first step, the document titled ELI Science Case was prepared. It was convincing enough to have the project included in the roadmap of the European Strategy Forum on Research Infrastructures (ESFRI), and in the scientific infrastructure development strategy of the European Union. In 2007, with Professor Mourou as principal investigator, a consortium involving 13 countries won support for an FP7 project (ELI-PP) for the preparation of ELI’s White Book. It was also the time when Professor Mourou’s ties with the University of Szeged strengthened, greatly due to the fact that he asked Dr. Károly Osvay, associate professor at the Department of Optics and Quantum Electronics, to serve as a deputy programme manager. In line with what was outlined in the White Book, 2011 saw the actual start of the nearly HUF 73 billion worth project, as a result of which ELI ALPS was established in Szeged.

In the past 15 years, Professor Mourou has been to Szeged several times, but in the last two years our cooperation has moved to an even higher level. When he visited the city as a fresh Nobel Prize laureate in 2018, he presented the project idea he had developed jointly with Professor Toshiki Tajima to facilitate the safe disposal of burnt nuclear fuel via transmutation. The Hungarian Government decided to make this project a flagship project, and to directly fund it. The use of the HUF 3.5 billion grant is coordinated by the University of Szeged (SZTE). To this end, in April 2019 SZTE concluded a cooperation agreement with École Polytechnique and Tri Alpha Energy Technologies, the chief science officer of which is Professor Toshiki Tajima. In other words, in the next three years, SZTE will count on Professor Gérard Mourou’s valuable contribution to the implementation of this project.

Based on the above, it raises no doubt that Professor Gérard Mourou truly deserves to be conferred with the Honoris Causa Doctorate title from the University of Szeged not only due his scientific excellence, but also due to his relationships with the University.