Eötvös 100 Central Event, Budapest, 08.04.2019
Kathryn Whaler, Vice President of IUGG

Distinguished guests, ladies and gentlemen.

Greetings on behalf of the International Union of Geodesy and Geophysics, or IUGG, on this auspicious occasion! I am the current Vice-President of IUGG, and I wish to thank you most sincerely for the invitation to participate in this wonderful event in these magnificent surroundings. It celebrates the life, science and activities of Baron Loránd Eötvös, in association with UNESCO, exactly 100 years after his death, but the year 2019 also marks the centenary of the birth of the IUGG. With its establishment at a General Assembly of the International Research Council (now the International Science Council), IUGG brought together international societies with interests in geodesy, geomagnetism and electricity, meteorology, physical oceanography, seismology, and volcanology. Those subject areas now constitute six of IUGG's eight International Associations, with the other two covering hydrological sciences, and the most recent addition, cryospheric sciences.

We will hear about many of Baron Eötvös' interests and achievements in the course of the day and I do not wish to pre-empt those contributions. However, I would like to mention that Baron Eötvös was very active in fostering and furthering international cooperation and collaboration, essential ingredients of IUGG. One of his scientific interests was geodesy – loosely, characterising the Earth's shape and the variation in gravitational acceleration on its surface – and he presented his results in Budapest (1906), London and Cambridge at General Conferences of the 'Internationale Erdmessung', which was one of the international societies that was brought together to form the IUGG. We know him and his science now through terms such as the Eötvös parameter, Eötvös effect, Eötvös rule, Eötvös tensor, Eötvös experiment and Eötvös number, some of which refer to his geodetic work, as well as features named after him on Earth and the moon, and planetoid 12301 Eotvos in the asteroid belt.

Baron Eötvös developed a high precision torsion balance, still one of the most accurate ways of measuring Earth's gravitational acceleration. This would go on to provide proof of part of Einstein's general theory of relativity. I first heard his name in relation to the Eötvös effect, which describes how gravitational acceleration changes when measured from a moving (eastward or westward) platform. Originally, the Eötvös effect corrected measurements of gravity made from ships, but now data are collected from helicopters, fixed wing aircraft and even satellites. We see the results of plate tectonics, such as mid-ocean ridges and subduction zones, reflected in marine gravity data, and they enable us to infer the strength of the tectonic plates. Gravity data are also used to explore for Earth resources, such as hydrocarbons and minerals, so the torsion balance and Eötvös effect have important economic implications, too. It is perhaps fitting that the geological mineral named after him, Lorándite, occurs in economically viable ore bodies containing gold, thallium, arsenic and antimony (amongst others). I'm sure he would be fascinated to know that Lorándite is now being used to determine the flux of neutrinos from the Sun, enabling scientists to understand its nuclear fusion reactions.
So, although I am here representing IUGG and have hence concentrated on Baron Eötvös' geodetic work, it eclipsed IUGG and had much wider-reaching implications, and he had interests that would have associated him with many other International Unions that are around to-day. These include the International Astronomical Union, also celebrating its centenary this year, the International Union of Geological Sciences, formed more recently but also with predecessors dating back to Baron Eötvös' time, and the International Union of Pure and Applied Chemistry that collates surface tension data, another of his interests. He truly was one of our great polymaths.

I know you have plans to showcase some of Baron Eötvös' work, equipment and three-dimensional images at the IUGG centenary General Assembly in Montreal, Canada in July. This will enable a new generation of scientists from all over the world to appreciate his contributions and understand better the history of our subject and how it has developed from Baron Eötvös' time, over the century of IUGG, to the next century of advancement.

Thank you!