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**VERLEIHUNG DER HELMHOLTZ-MEDAILLE 2021
DER BERLIN-BRANDENBURGISCHEN AKADEMIE DER WISSENSCHAFTEN
AN GÁBOR SOMORJAI**

18. November 2021, Berkeley (USA)

Video-Botschaft

How I would have loved to be among you today in Berkeley, dear Gábor Somorjai, but you probably hear that I have such a bad cold that unfortunately I had to stay in Berlin. These days we should avoid taking health risks by traveling or increasing them for others. I am all the happier that I can at least be with them in digital form and would like to thank them very, very much for their great support for this celebration in Berkeley and would therefore like to greet especially at the beginning Dean Matt Francis, Omar Yaghi, Peter Fischer, and all the Colleagues of the Colleague and the Faculty. And I am particularly pleased to know that Joachim Sauer, the chairman of our Medal Commission, is in Berkeley – even if the medal is still in the mail and will not physically be in California until tomorrow, he is there in person and also represents the rich tradition of chemical research at the Prussian and Berlin-Brandenburg Academies, which I admire as a humanities scholar, but of which I am of course not a part.

Too gladly, dear Dean Matt Francis, I would have enjoyed not only the view across the bay to San Francisco from campus, but also the College of Chemistry. Its central mission is for more than 140 years to advance society through education and research – and that naturally reminds a historian and theologian in the office of President of the Academy of Sciences in Berlin of Leibniz, the founder of our academy: We in Berlin, too, when we do research in a quiet chamber, ultimately do it for the purpose of advancing society. Leibniz coined the beautiful expression *theoria cum praxi*, theory with its practice, and that means: basic research with its useful application (how important both are can be seen in the vaccine development now in the SARS CoV2-pandemic), but also theory in the academy for the practice of society. But I am of course well aware that such a highly capable group of chemists needs less coaching about this than some representatives of the historical sciences.

The Helmholtz Medal of the Prussian Academy of Sciences, which we award today to Gábor Somorjai, was established on August 31, 1891, on the occasion of Hermann von Helmholtz's 70th birthday. It is a highly prestigious award given to scholars for outstanding achievements, first in the fields of natural and technical sciences, medicine and epistemology, and today also in the humanities and social sciences, by the Prussian Academy of Sciences. The first four recipients had been proposed by Helmholtz himself in 1892 and I would like to mention their names because this marks the bar that we still set today when we award them. The first medals were awarded to Emil Heinrich Du Bois-Reymond, Robert Wilhelm Bunsen, William Thomson, Baron Kelvin and Karl Weierstrass. And you, dear colleagues, probably know a thousand times better than I do what significance the research of these pioneers of exact natural sciences still has for your field today - I only suspect it (not to speak of Weierstrass in more detail).

I can only testify to the enthusiasm with which I read Hermann von Helmholtz's writings in the year of his bicentennial - here, too, the theory of his subject is combined with the practice of instrument making, but also with very fundamental contributions on the freedom of science and the principles of exact

knowledge. And in view of today's situation, for example in Eastern Europe, for example in Hungary, dear Gábor Somorjai, these contributions of Helmholtz to the freedom of science remain highly topical, and in view of the unbelievable nonsense spread by scientists in the pandemic, also a clear orientation of science to truth and measurable facts, which was so important to Helmholtz.

Dear Gabor Somorjai, you can sing a sad song about the destruction of scientific freedom, indeed of human freedom in general – the destruction of Freedom by German crucibles in your homeland, from which you were able to escape, persecution of Jewish life by Fascists, but also by the suppression of the Hungarian freedom movements during the time of communism. But you can also sing a grateful and joyful song about the fact that this freedom cannot be suppressed forever, that there are places of freedom and freedom movements that allow people to speak freely again even in formerly unfree places. Especially as Germans, we bow humbly before your moving life, which teaches us, especially those born later, how important it is to stand up for freedom, not only in science.

In view of so many prominent chemists in this auditory, I should not attempt to acknowledge the scientific merits of Gabor Somorjai; I am very grateful that this will be done in a moment by Joachim Sauer, who knows from his own everyday life what he is talking about. I am sorry to miss the opportunity to understand a little better, even in Berkely, what you are working on and have worked on, and I hope very much to be able to make up for this visit of mine under happier circumstances someday. But at least since my days as president of the Humboldt University in Berlin, I have an inkling of what it means, dear Gábor Somorjai, that you are one of the fathers of the research field we now call "surface science," what it means that you have spent a lifetime combining surface chemistry and heterogeneous catalysis. Earlier I talked about theory with practice and I was impressed by how much you helped to develop scanning tunneling microscopy under higher pressures, X-ray photoelectron spectroscopy under background pressure, and sum frequency mixing. Even the layman has an idea of how strongly these techniques influence various sciences and applications. Hermann von Helmholtz, it seems to me, was a Leibniz one hundred and fifty years after Leibniz. He was a very practical instrument maker, almost a craftsman, he was a theoretician in his field, and he reflected on the fundamental conditions of excellent science. In addition, he and his person stood up for freedom and in particular for academic freedom in the German Empire at that time. Gábor Somorjai, it seems to me, is a Helmholtz one hundred and fifty years after Helmholtz. That is why he is particularly worthy of wearing the Helmholtz Medal donated by this great scientist and I am delighted to honor him with it. Of course, I would have preferred to do it directly and in person. Congratulations and congratulations from the bottom of my heart.