



Distinguished Ladies and Gentlemen!

Eminent Conference Participants!

Dear Colleagues!

I would like to sincerely greet you the participants of the next conference with the series "International Conference on Materials Research and Development" organising by the Meetings International on October 29th-30th, 2018 at Prague, Czechia.

Prague is one of the actual capitals of Europe and one of the most visited cities by tourists. The Vltava River and numerous historic monuments remembering the Middle Ages make the town's charming atmosphere, including Hradčany with the Castle and the Cathedral, the Old Town, the Charles Bridge, the Market Square with a beautiful sunny clock and the Golden Small Street, as well as the Visegrád hill with a little distance from the Center. On November 17th, 1989, after the great manifestation in Vaclav Square, a Velvet Revolution took place in at the time Czechoslovakia, which after the changes in Poland, Hungary and at the time the German Democratic Republic led to the overthrow of the communist system and political transformation in Czechoslovakia. Prague is the city of many famous people. One breath can be mentioned Vaclav Havel, writer, laborer during communism and the first President of free Czech Republic. Jaroslav Hašek described the adventures of a good soldier Švejk, many of whom are happening in Prague, and the "U Kalicha" inn still exists today. Among the people of culture, I will also mention Bronislav Poloczek, an excellent actor of the historical National Theater in Prague, whom I knew personally because this was my brother-in-law's cousin. Prague is a city of science. Carolinum - today Charles University in Prague is the first university in Central Europe founded in 1348. This is the place of many years of scientific activity of my great Friends: Prof. Zuzanka Trojanová and Prof. Pavel Lukáč, creators and leaders of the Scientific Prague School of the Physics of Materials.

The theme of the Conference is "Accelerating Novel Research in Materials Science". On this occasion, it is impossible not to share a reflection on the contemporary meaning of this scientific discipline. For all of us, it is obvious that each of us is a consumer of numerous goods produced in industrial processes and available on the market. This applies, for example, to a cookie plate, teaspoons, household appliances, a car, a train or an airplane used to move, prostheses or implants necessary for the treatment of serious illnesses, the entire equipment in production facilities, musical instruments to meet cultural needs and thousands of other products. It is obvious that the manufacture of any of these products requires the use of materials. However, consumers are completely uninterested in what the product was made of. They are interested only in functionality, durability, reliability, the safety of use, aesthetics and other product features. The manufacturer must optimise the multi-criteria applied material in a complex manufacturing process, preceded by engineering design. Therefore, engineering design is three inseparable processes of designing: materials, construction, and technology. Progress in material engineering and material technology is

an important determinant of how to satisfy complex human needs and of the overall civilisation development.

Knowledge about materials has such a long history as a human civilization, starting from the time when the first ancient man took a stone or piece of wood, to adapt it to his needs and make the first tool. The official development of this scientific discipline began in the 1950s. It is impossible to conclude material engineering achievements in a very short speech. Maybe it's enough to remind the long list of Nobel Prize winners in physics and chemistry to be aware of the made progress in the materials we are witnessing. Examples include Albert Einstein and photovoltaic effect, Alan J. Heeger, Alan MacDiarmid and Hideki Shirakawa, and conductive polymers, J. Georg Bednorz and K. Alex Müller, and high-temperature superconductors, Jack St. Clair Kilby and chip, Harry Kroto, whom I had the privilege to know in person, Robert Curl Jr. and Richard Smalley and fullerenes, Hiroshi Amano, whom I also know personally, Isamu Akasaki and Shūji Nakamura, and a blue light emitting diode. These are just examples of how important modern materials are in modern technology. One of the most modern trends in modern materials engineering is nanotechnology, for which Richard Feynman is widely recognized as Father, and his famous lecture in 1959, "There's plenty of room at the bottom" became the basis of this rapidly growing field of science and technology. In turn, the invention of Ernst Ruska, from 1931, ie transmission electron microscope, made it possible to interpret all phenomena occurring in engineering materials, during and as a result of various technological operations, although also in biology, medicine and other areas of knowledge.

When I started my academic career, half a century ago, I participated in the Scientific Conference, where Fryderyk Staub, an outstanding Polish physical metallurgy expert and founder of the great scientific school, stated on the occasion of his 70th Birthday Anniversary that the magnifier was enough to solve almost all scientific problems in his youth. Last year in Glasgow, when I turned 70 years, opening the Materials Science Conference, I constated that at present I can not imagine solving any scientific problem in the field of nanotechnology and material engineering without the use of a high-resolution transmission electron microscope, using of which we can easily observe projections of individual atoms.

I hope and sure that the Conference that is just beginning will make an important contribution to the development of this scientific discipline. I think that it is worth remembering the words of Albert Einstein "imagination is more important than knowledge". I wish, therefore, to all Conference Participants that imagination will not be lacking for them in acquiring new knowledge.

I wish a successful Conference to you All and nice days spent in hospitable Prague.



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