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To whom it may concern

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## **Recommendation for Associate Professor Dr. Vitezslav Stranak (U of South Bohemia, Ceske Budejovice) regarding his application for Professorship in Applied Physics**

I know Dr. Vit Stranak since many years by interesting discussions at international conferences on basic plasma physics and plasma technology as well as by his excellent papers published in related journals. For example, during the intense discussions and joint meetings in Greifswald / Germany (where Dr. Stranak was a research assistant for several years, 2007-2013) and at conferences I recognized Dr. Stranak by his solid knowledge and exciting ideas in research of process plasmas for basic studies, diagnostics as well as for innovative technological applications (e.g. in HiPIMS sputtering and plasma medicine) as a distinguished scientist. During the last years we had regularly contacts related to plasma-based modification of nanostructures.

The main research activities of Vit Stranak and his laboratory group are in the experimental and theoretical study of process plasmas. Current application areas include plasma medicine and plasma-based nanotechnology. These fields seem to be quite different, but the fundamental aspects are very similar and Dr. Stranak covers them in a very active and straight forward way. His published papers emphasize his broad experience and effort. Indeed, the broad range of different research areas which Vit Stranak and his co-workers investigate and his great success as rather unique lifts him out compared to other scientists.

The colleagues of the international community in plasma technology recognize and appreciate, especially, his interesting experimental work focused on the research of new materials and functional surfaces. He really aims at interdisciplinary research on the border of applied plasma physics, surface (nano)engineering and biochemistry to develop nanostructured surfaces namely with bio-functional properties acting as active sensor structures, cell-interacting surfaces, doped thin films etc. Besides this, he is active in fundamental plasma research including plasma diagnostics and the development of plasma-assisted deposition systems. Since his engagement with the University of South Bohemia Dr. V. Stranak founded the Laboratory of Plasma Physics and Nanostructures and started to develop a new research direction of plasma-assisted deposition which did not exist at the faculty before. In this context, he was successful in research-funding competitions (projects supported by Czech Science Foundation Agency, NATO, grants by the Czech Ministry of Industry, etc.) and the laboratory significantly expanded personally as well as instrumentally. Vit Stranak is the principal investigator of several scientific projects in the field of fundamental (GACR projects) as well as applied (TA CR, MIT, NCC projects) research projects. He also participates in international projects, where he works closely with institutions in Poland (TU Warsaw, TU Gdansk), Germany (Uni Greifswald) and the USA.

Dr. Stranak is author or co-author, respectively, of about 80 (peer-reviewed) significant publications in international journals since 2002 and of a large number of communications, contributions and invited talks in related conferences. The papers are published in important journals of plasma physics, diagnostics and (bio)technological applications. Vit Stranak has experience in teaching exercises and laboratory classes as well. As academic employee, Vit Stranak is a long-term teacher of basic courses in Electromagnetism and Fundamentals of Experimental Physics. In recent years, he developed a new study profile that corresponds well to his professional focus. For example, he established the courses Plasma Physics, Plasma and Vacuum Technologies and Plasma in Biomedicine and Nanotechnologies, which he guarantees and fully teaches. This was also a stimulus for him to apply for accreditation for the new doctoral program which was approved by the University and by National Accreditation Bureau for Higher Education. In 2021 Vit Stranak became a chair of the Ph.D. program in Applied Physics within the University, in which frame he wants to further develop thematically integrated blocks focusing on low-temperature plasma and its application for the preparation of thin, functional layers. During the last years he supervised several students during laboratory projects, Master and PhD studies.

To my best knowledge and for my honest opinion Dr. Stranak has a very high qualification in a broad research field of different areas in plasma physics / engineering at the border

between basics and application. I am convinced that he will essentially contribute to the increase of knowledge and technology in this innovative topic in the future. He is very reliable and consistently able to deliver high quality and quantity of scientific work, teaching and science organization. Most certainly, Dr. Vitezslav Stranak is an excellent candidate for the position of a full professor in Applied Physics at University of South Bohemia – and I would congratulate you for such candidate.

Yours sincerely

Prof. Dr. Holger Kersten