

In Memoriam
Juraj Lapin (1960 – 2023)



Ing. Juraj Lapin, DrSc., was born on February 9, 1960 in Lučenec. After graduating from secondary school at the Mechanical Engineering College in Zvolen, he started studying at the Mechanical Engineering Faculty of the STU in Bratislava, which he successfully completed in 1984. Since graduating from university, he has worked continuously at the Institute of Materials and Machine Mechanics of the Slovak Academy of Sciences (IMMM SAS). He started in 1984 with a two-year fellowship, later he continued with a scientific postgraduate course, which he finished with a successful defense in 1991.

As an independent researcher, he led the department of intermetallic phases (since 1995), later the Division of Properties of Materials and Structures (since 2001). In 2006, he received the title of DrSc. In the years 2009 – 2017 he was a member of the Presidium of the Academy of Sciences, of which in the years 2009 – 2015 he was the vice-chairman of the 1st Department of Sciences. Since 2015, he has been the head of the SAS Center for Applied Research focused on new materials and technologies. He was a member of the SAS Educated Society, in 2014-2018 a member of the Slovak research and Development Agency (SRDA) Council for Technical Sciences. He worked as an expert of the European Commission for the assessment of projects within framework programs and held the position of national delegate for Horizon 2020 - Space.

Professionally, from the beginning (since the university studies), he focused on research into the solidification processes of complex metal alloys and their influence on the microstructure and subsequently on the selected mechanical properties of the parts made from them. At first he devoted himself to the processes of directed crystallization of nickel alloys for the needs of aircraft engine blades, which were one of the supporting research topics of IMMM SAS, later after a long-term stay at the Université Catholique de Louvain in Belgium in collaboration with prof. F. Delannay created his own team focused on complex intermetallic alloys based on nickel, titanium or iron. At IMMM SAS, he managed to build a top scientific team (according to the evaluation of the independent agency ARRA in 2011) focused on solidification processes of complex intermetallic alloys, the goal of which is to significantly improve their mechanical properties at high temperatures, as well as increase their corrosion (oxidation) resistance. In 2013, he won the Prize of the Minister of Education, Science, Research and Sport of the Slovak Republic in the category of Scientific and Technical Team of the Year.

Ing. Juraj Lapin, DrSc., was one of the most historically significant authors of IMMM SAS, in terms of the number and quality of scientific papers published in respected scientific journals and his citation response, and was significantly visible in the international scientific community. Together with his collaborators, he has published a total of 126 scientific papers registered in the Web of Science Core Collection database since 1990, of which 83 were peer reviewed papers. A total of 1,300 citation responses were recorded for his works, which corresponds to a Hirsch index of 24.

For IMMM SAS was the responsible researcher in three SRDA projects, seven VEGA projects, two EU FP 6 and 7 projects, ESA project, Copernicus, COST 522 and COST 538, as well as four projects financed from structural funds.

He educated five doctoral students, three of whom are now employees of the IMMM SAS. Since 2007, he has continuously been the chairman of the Scientific Council of the IMMM SAS, as well as the referee of doctoral studies in the field of Materials Engineering. Since 2004, he has been the chief editor of the peer reviewed journal *Kovové materiály - Metallic materials*.

Within his focus, he has successfully ranked among the leading European experts. He was a member of several program committees of international congresses and a key reviewer of several scientific journals, e.g. *Intermetallics*, *Journal of Alloys and Compounds*, *Material Characterization*, *Acta Materialia*, *Letter of Philosophical Magazine*, *Journal of Material Science* and *Journal of Material Research*.

Thanks to the projects he initiated and led, the Institute has at its disposal practically all the necessary unique equipment for research in the field of solidification processes - from special furnaces enabling controlled solidification in different atmospheres or centrifugal casting to equipment for long-term measurement and evaluation of mechanical properties while hot. This makes it possible to demonstrate the acquired knowledge also in practical applications for components for high-temperature use, such as aircraft engine blades or turbochargers. Two such applications are currently patent pending.

He has been awarded several times for his scientific work, the most important awards include the inclusion of the team he leads among the top scientific teams of the SAS according to the evaluation of the independent agency ARRA in 2011 and the Award of the Minister of Education, Science, Research and Sports of the Slovak Republic in the category Scientific and Technical Team of the Year 2013. On the occasion of his life jubilee - his 60th birthday, the SAS Presidency awarded him the SAS Aurel Stodola Honorary Plaque for merits in technical sciences.

Ing. Juraj Lapin, DrSc., was one of the key scientific workers of the IMMM SAS who shaped its focus for a long time and substantially participated in the high quality of institutional basic research. As a member of the SAS Educated Society and former vice-president of the SAS, he belonged to the respected and opinion-forming scientific staff of the SAS, in which he worked throughout his professional life.

In the deceased colleague, we are losing a person who devoted his whole life to science, education and training, thereby contributing to the development of our entire society. We carry him in our hearts as a precious and faithful colleague who never avoided responsibility, always stood by the institute and the academy, effectively defended them and represented them in an exemplary manner. He was undemanding, modest and with good faith he went through everything good and bad with us.

Ing. Juraj Lapin, DrSc., passed away at the age of 63 on May 22, 2023, after a short serious illness.

Honor to his memory!

Text: Martin Nosko, Institute of Materials and Machine Mechanics SAS

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