Medallion for Professor Jaroslav Haslinger's 80th birthday

Professor Jaroslav Haslinger was born on April 5, 1946, in Olomouc. He has devoted his entire professional life to numerical mathematics and its applications, particularly in the field of approximation and solution of partial differential equations and structural optimization. He has achieved significant international recognition in these fields. From 1970 to 2019, he was employed at the *Faculty of Mathematics and Physics of Charles University* (MFF CUNI), most recently at the *Department of Numerical Mathematics*, and since 2020 he has been a professor emeritus at Charles University. Since 1997, he has been working at the *VSB – Technical University of Ostrava* (VSB-TUO), where he initially worked at the *Department of Applied Mathematics of FEEC* and is now a member of the *Department of Mathematics and Descriptive Geometry of FME*. Between 2011 and 2023, he also worked at the *Institute of Geonics CAS* and at the *IT4Innovations National Supercomputing Center*, where he participated in several projects.

The supervisor of Jaroslav Haslinger's candidate of sciences thesis at the MFF CUNI was Prof. Jindřich Nečas, who had a significant influence on his scientific career. Together with Jindřich Nečas, Ivan Hlaváček, and Ján Lovíšek, he wrote his first book on solving variational inequalities in mechanics, which was published successively in Slovak (1982), Russian (1986), and English (1988). This book was written as a part of his collaboration with the *Mathematical Institute of CAS* in Prague, where he gave several lectures on this topic. Initially, he focused on approximation and numerical solutions to contact problems in rigid-body mechanics using the finite element method, particularly problems involving Coulomb friction. In the following period, he dealt with shape optimization, again with regard to contact problems. The shape optimization technique was subsequently used in material optimization problems and also as one of the possible methods for the numerical solution of free boundary problems. This area includes his two books written with Pekka Neittaanmäki (*Finite element approximation for optimal shape design: theory and applications*, 1988) and Raino Mäkinen (*Introduction to shape optimization: theory, approximation and computation*, 2003). Another subject of his interest is the numerical solution of problems using hemivariational inequalities. A book on this topic was written together with Markko Miettinen and Panagiotis Panagiotopoulos (*Finite element method for hemivariational inequalities: theory, methods and applications*, 1999). He is currently working on the numerical solution of fluid mechanics problems with threshold slip boundary conditions or the solution of elastoplastic problems and related limit load analysis.

The *Mathematical Reviews* (MathSciNet) and *Zentralblatt für Mathematik* databases both list 178 reviews of publications authored or co-authored by Jaroslav Haslinger. His h-index ranges from 20 to 35 and the number of citations is from 1892 to 4935, according to the

evaluation database. From 1995 to 2015, he was continuously a co-researcher or researcher on at least one grant project carried out within the framework of GACR or GA AS. In addition to domestic grants, he was appointed coordinator for the Czech Republic for the European ESF project *Breaking Complexity* in 2002–2006, in which the Czech Republic was included as the only non-EU member state at the time. He held the same position in 2008–2013 in the ESF project *Optimization with PDE Constraints*.

Jaroslav Haslinger's teaching activities are no less extensive. From 1973 to 2018, he taught the basic lecture *Finite element method for solving elliptic equations* at the MFF CUNI, along with a parallel seminar for fourth-year students. His textbook (*Finite element method for solving elliptic variational equations and inequalities*, 1980) is the first comprehensive Czech study text on this method, used not only at the MFF CUNI. In addition, he taught an elective course entitled *Fundamentals of mathematical theory of shape and material optimization* for fourth- and fifth-year students and doctoral students. Since 2002, he has been actively involved for more than two decades in organizing the *Seminar on continuum mechanics*, which was founded by professor Nečas and his colleagues in 1966 and later renamed the *Nečas seminar on continuum mechanics*. In his native Olomouc, where he always enjoyed returning, he led a course on *Modern variational methods in continuum mechanics* from 1976 to 1979 as part of the professional training for employees of the *SIGMA Research Institute in Olomouc*. Although the course was primarily aimed at engineers, it also included, for example, extensive passages from functional analysis. It ended with a detailed explanation of the finite element method and its use in mechanics problems. He prepared a set of six teaching texts for the participants. Later, at seminars organized by the *Department of Mathematical Analysis and Applications of Mathematics of FSc. UP Olomouc*, he gave a series of lectures on variational inequalities and contact problems. In Ostrava, at VSB-TUO, he continues to lead a series of lectures devoted to the analysis of mathematical models of solid phase and fluid mechanics and their approximation using the finite element method. During his teaching career, he has supervised at least 20 master's theses and 9 defended doctoral dissertations in Prague, Olomouc, and Ostrava. Many of his doctoral students work in academia, for example Tomáš Kozubek, Oldřich Vlach, Zuzana Morávková, Tomáš Ligurský, and Jan Stebel. An important part of his teaching activities has been his work abroad, where he has spent several years, including at least seven times as a visiting professor (Nice, Linköping, Jyväskylä, Toulouse, Erlangen, Caen).

Jaroslav Haslinger works or has worked on several editorial boards (*Advances in Mathematical Sciences and Applications*, Japan; *Applications of Mathematics*, CZ; *Advances in Design and Control*, SIAM, USA). He has also been a member of the organizing committees of many prestigious mathematical conferences. He has been a member of the *Learned Society of the Czech Republic* since 2011. Among the significant awards he has received are the *Medal of the Faculty of Mathematics and Physics of Charles University* (1996, 2006), the NATO scholarship (1998), the *Czech Minister of*

Education Award (2005), and the *Certificate of Honor* from the *Faculty of Information Technology at the University of Jyväskylä* (2009). His life's work represents a significant contribution to the Czech and international scientific community. He sets an example to all his colleagues and students with his helpfulness, hard work, and enthusiasm for science.