

LAUDATION

Dear Mrs. President of the Czech Academy of Sciences, dear Sláva, dear Mrs. Feistauer, dear colleagues and guests. Allow me to say a few words about the Bolzano Prize Laureate Prof. Miloslav Feistauer, dr. h. c.

Miloslav Feistauer was born in Náchod on February 8, 1943 into a family of teachers. From his early age he was interested in mathematics and physics, and also devoted himself to music. His dream was also to become a constructor of Gothic cathedrals. Nevertheless, after eleven years at elementary and high school, in 1960 he decided to study at the Faculty of Mathematics and Physics, Charles University. There he has spent all his professional life. After graduating in Applied Mathematics in 1965, he joined the Department of Applied Mathematics. In 1972 he defended the scientific degree of Candidate of Sciences (Ph.D.) and in 1982 took a habilitation in mathematics. However, since Prof. Feistauer had never been politically active, his appointment to the position of associate professor was held up till 1988. In 1990 he was granted the degree of Doctor of Sciences (DrSc.) and shortly thereafter in 1991 was appointed full professor of mathematics in the field of approximate and numerical methods.

Professionally, Prof. Feistauer has been dealing with the development and analysis of numerical methods for solving partial differential equations. In 1987–1988 he published together with Prof. Alexander Ženíšek (Technical University, Brno) two papers on the numerical solution of second order nonlinear elliptic problems using the finite element methods in the prestigious journal *Numerische Mathematik*. In both the papers they investigate the influence of numerical integration and approximation of curved boundaries (the so-called variational crimes) on the error of the resulting approximate solution. This pioneering work was highly recognized by the finite element community. Since early nineties, Prof. Feistauer together with his colleagues worked on the development and analysis of modern efficient methods for solving Euler and Navier-Stokes equations describing compressible flow and nonlinear convection-diffusion problems. In addition, he focused on the theory of finite volume methods and some problems in the field of nonlinear partial differential equations. During the last years, Prof. Feistauer has significantly contributed to the theory and applications of the discontinuous Galerkin method, which combines the advantages of finite volume and finite element techniques. The results of Prof. Feistauer were used in industry, thanks to long-term cooperation with Škoda Plzeň in the development of steam turbines. An attractive research area of Prof. Feistauer has been the interaction of flowing fluid and elastic structures, which has many important applications.

According to the database *Mathematical Reviews* he is the author of more than 120 scientific publications. He also published three monographs on mathematical and numerical methods for compressible and incompressible flow in prestigious publishing houses Longman Scientific & Technical, Oxford University Press, and Springer-Verlag.

In 1997 he has been member of the program committee of major international conferences ENUMATH devoted to numerical mathematics, regularly organized every two years in European cities.

Teaching activities of Prof. Feistauer are in accord with his successful research activities. In addition to courses on numerical mathematics he presents lectures on mathematical methods in fluid mechanics and mathematical modelling and supervises seminars on continuum mechanics and numerical mathematics. He has significantly

contributed to the development of numerical analysis and mathematical modelling at the Faculty of Mathematics and Physics of Charles University. His lectures are highly evaluated by students. Prof. Feistauer was the supervisor of about 20 students who successfully defended their PhD. or CSc. thesis and he supervised about 50 master thesis.

He was member of the editorial boards of five international journals, in particular, in *Applications of Mathematics* since 1993. His research and teaching activities were awarded by the medal of the Faculty of Mathematics and Physics of Charles University and by the silver medal of Charles University. In 2004 he was elected member of the Learned Society of the Czech Republic. In 2006 Prof. Feistauer was awarded the title of Honorary Doctor of the Technical University of Dresden.

For 48 years Prof. Feistauer has been married to his wife Jaroslava, also a mathematician, and they have two daughters and five grandchildren. Prof. Feistauer is undoubtedly one of the most outstanding personalities of Czech mathematics.