

A special issue dedicated to Professor Sándor Kaliszky on the occasion of his 80th birthday

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It is a great privilege for me to organize a special issue of Periodica Polytechnica Civil Engineering in honour of Professor Sándor Kaliszky. The papers published in this issue are dedicated by friends, colleagues and former students to him on the occasion his 80th birthday. These papers reflect Sándor's wide scientific interests, and many of them were motivated by his valuable contributions to the fields of structural plasticity and optimization. It is an honor that I can contribute to this issue all in my role as journal editor, a co-author and a friend.

Sándor has had a long and influential career at the Budapest University of Technology and Economics. He has also contributed to the scientific community in a number of administrative roles, including being the rector of the International Centre for Mechanical Sciences (CISM) at Udine. As a result, Sándor is well known both in his home institution and in the broader academic world. We truly hope that he will continue what he has done in an excellent way so far: he is always a help to others and a source of knowledge from where you can obtain encouragements, recommendations and what is perhaps more important, ideas to your work.

Brief Curriculum vitae of Sándor Kaliszky

Born: Diósgyőr, Hungary, 1927

Sándor Kaliszky graduated from the Technical University of Budapest in Civil Engineering in 1950. He started his university and research carrier in 1950 at the Department of Mechanics of the Technical University of Budapest. He received a PhD degree from the Hungarian Academy of Sciences in 1961. In the years 1964-1965 he performed postdoctoral studies at the University of Southampton, Great Britain. In 1967 the Committee of Scientific Qualifications at the Hungarian Academy of Sciences awarded him the degree Doctor of Science (DSc). In 1969 he became a full professor and in 1971 the head of the Department of Mechanics until 1993. He was elected a corresponding

member of the Hungarian Academy of Sciences in 1990 and a regular member in 1995. After his retirement in 1997 he was appointed professor emeritus.



Sándor Kaliszky was a visiting professor at the Monash University, Melbourne in 1973 and at the University of Wisconsin, Milwaukee in 1980-1981 and 1984-1985. He was also a member of the governing boards of IUTAM, GAMM and EUROROMECH. Beside these institutions, he has been a member of IACM and IABSE. He received the Copernicus Award from the Polish Academy of Sciences in 1984 and some other national and international prizes and medals from various universities and academies.

He was the resident rector of CISM during the period 1986-2001. From 2001 till present he is active member of the governing body of CISM.

Sándor Kaliszky's research work is concerned with plasticity and its engineering applications: limit, shakedown and dynamic analysis and optimal design of plates, shells and other structures. He has also studied and solved several elastic structural problems. He published some books and a number of scientific papers and presented lectures in different regions of the world.

Besides the fact that he has contributed to a successful development of CISM, Sándor Kaliszky was very active in creating new international relations. During the period he was the resident rector of CISM, numerous European universities and academic institutions became associate members of CISM and signed cooperative agreements.

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Selected publication in the last 20 years

- 1 **Kaluszky S**, *Plasticity, Theory and Engineering Application*, Elsevier Science, Amsterdam, 1989.
- 2 **Kaluszky S, Vásárhelyi A, Lógó J**, *The Time History Analysis of Viscoelastic Structures by Mathematical Programming*, In: *Advances in Continuum Mechanics* (Brüller O, Mannl V, Najár J, eds.), Springer-Verlag, 1991, pp. 488-499.
- 3 **Kaluszky S, Lógó J**, *Optimal Design of Elasto-plastic Structures under Various Loading Conditions and Displacement Constraints*, *ZAMM Z. angew. Math. Mech* **70(4)** (1990), T283- T284.
- 4 ———, *Optimal Design of Elasto-Plastic Structures under Displacement Constraints*, *Technische Mechanik* **11(4)** (1990), 224- 228.
- 5 ———, *Optimal Design of Dynamically Loaded Reinforced Concrete Frames under Displacement and Rotation Constraints*, *Structural Optimization* **3** (1991), 121- 131.
- 6 ———, *Extremum Principles for the Analysis and Optimal Design of Structures Composed of Bilinear , One-Dimensional Elements*, *Mechanics Research Communications* **21(1)** (1994), 25- 30.
- 7 ———, *Mixed Extremum Principles for the Analysis of Trusses with Bilinear Force-Deformation Characteristics*, *Mechanics of Structures and Machines* **22(4)** (1994), 429- 456.
- 8 **Kaluszky S**, *Elasto-plastic Analysis with Limited Plastic Deformations and Displacements*, *Mechanics of Structures and Machines* **24(1)** (1996), 39- 50.
- 9 **Kaluszky S, Lógó J**, *Optimal Plastic Limit and Shakedown Design of Bar Structures with Constraints on Plastic Deformation*, *Engineering Structures* **19(1)** (1997), 19- 27.
- 10 ———, *Discrete Optimal Design of Elasto-Plastic Trusses Using Compliance and Stability Constraints*, *Structural and Multidisciplinary Optimization* **15(2-3)** (1998), 261-268.
- 11 ———, *Optimal Strengthening of Elasto-Plastic Trusses with Plastic Deformation and Stability Constraints*, *Structural and Multidisciplinary Optimization* **18(4)** (1999), 296-299.
- 12 ———, *Layout Optimization of Disks by the Use of Rigid-plastic Elements*, *Computer Assisted Mechanics and Engineering Sciences* **9** (2002), 183-189.
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- 14 ———, *Plastic Behaviour and Stability Constraints in the Shakedown Analysis and Optimal Design of Trusses*, *Structural and Multidisciplinary Optimization* **24(2)** (2002), 118-124.
- 15 ———, *Layout Optimization of Rigid-Plastic Structures under High Intensity Short Time Dynamic Pressure*, *Mechanics Based Design of Structures and Machines* **31(2)** (2003), 131-149.
- 16 ———, *Application of Multicriteria Optimization in Layout Optimization of Structures*. In: *Metal Structures, Design, Fabrication, Economy* (Jármai K, Farkas J, eds.), Millpress Science, Rotterdam, Netherlands, 2003, pp. 271-276.
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- 18 ———, *A Unified Model for the Elasto-plastic Optimal Design of Structures with Compliance Constraints*, Proc. The 5th World Congress of Structural and Multidisciplinary Optimization (2005), CD paper.
- 19 ———, *Optimal Design of Elasto-plastic Structures Subjected to Normal and Extreme Loads*, *Computers and Structures* **84** (2006), 1770-1779.