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Preface

by

Jan Sokolowski and John Taylor

Continuing the tradition of Professor Maksymilian Tytus Huber's research, considerable development of mechanical sciences has been achieved in Poland in the last fifty years. Among the scientists of the Polish school, Zenon Mroz is one of the leading contributors to this development.

Professor Zenon Mroz is the head of Research Division at the Institute of Fundamental Technological Research of the Polish Academy of Sciences in Warsaw. His research is mainly related to inelastic analysis of materials and structures with account for plasticity and damage, critical and post-critical states, sensitivity analysis, and optimal design of structures. He authored or co-authored more than 200 research papers published in international journals, and several monographs. In particular, he developed constitutive models for cyclic plasticity of metals and geomaterials, which have been widely used and extended by other researchers. His recent interest is concentrated on optimal shape and topology design of structures through the use of generalized sensitivities associated with shape or topology variation.

Professor Zenon Mroz is the member of editorial boards of 15 scientific journals and was a member of scientific committees of numerous international conferences. He obtained *honoris causa* doctorates from the University of Miskolc (Hungary, 1996), Polytechnique de Mons (Belgium, 1997) and Technical University of Cracow (1997).

Historically, optimization in mechanics has substantial tradition in Poland. In 1936 Professor Zbigniew Wasiutyri.ski formulated the optimality criterion for mean stiffness optimal design, using an elastic energy concept. Professor Zenon Mroz is well known in the world for his many research accomplishments that contribute to further developments in methods for structural optimization. The present issue of the journal contains papers dedicated to him, in particular in the domains of structural optimization and in modelling for plasticity theory.

We have the pleasure to be his friends, and we dedicate these contributions in honor of his 65th birthday.

Jan Sokolowski and John Taylor, Guest Editors