

# Romanian School of Plasticity. Professor Teodosiu's Contribution to Its Development

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## Abstract :

*The paper gives a historical presentation of the progress followed by the theory of plasticity in Romania from the inter-war period until nowadays. Although the first attempts of using the theory of plasticity in the field of civil engineering can be dated before World War II, it is usually admitted that the Romanian School of Plasticity was created in the mid-1950s by Professor Nicolae Cristescu. His research on dynamic plasticity was the first significant contribution that got a worldwide recognition. The school created by Professor Cristescu is now considered one of the most prestigious schools of plasticity in Europe. After getting a valuable formation in that school, many Romanian researchers became well-known specialists throughout the world.*

*Another Romanian school founder in the field of plasticity was Professor Cristian Teodosiu. He graduated from both the Technical University of Civil Engineering Bucharest (1958) and the Faculty of Mathematics, University of Bucharest (1960). His double specialty in mathematics and engineering allowed Professor Teodosiu to use advanced mathematical tools in the development of micro-macro models for various engineering problems. Before leaving Romania, he was a researcher in the Institute of Applied Mechanics of the Romanian Academy, researcher in the Center of the Mechanics of Solids, and then research director in the Institute for the Physics and Technology of Materials. From 1985 until 2002, he worked at the National Polytechnic Institute of Grenoble and University Paris Nord, where he was the head of the Laboratory for the Mechanical and Thermodynamic Properties of Materials. In that period of time he coordinated several research projects in the fields of micro-macro modeling of metals and numerical simulation of sheet metal forming processes. Professor Teodosiu elaborated a hardening model that proved to be highly effective in the prediction of the mechanical response of sheet metals subjected to forming procedures. He also supervised numerous PhD students and postdoctoral associates both in Romania and France. In the last period of his scientific activity (2002-2011), Professor Teodosiu coordinated the laboratory "Volume-CAD System Research Program" of the RIKEN Institute (Japan). The significant contributions of Professor Teodosiu in the field of plasticity as well as their impact on the research in this domain will be presented in the paper.*

**Mots clefs: plasticité, modélisation, Teodosiu**