

In Memoriam: Professor Andrzej Neimitz (1947–2026)

Distinguished Scientist and Pioneer of Fracture Mechanics in Poland

Professor Andrzej Neimitz was a towering figure in the field of mechanical engineering, specializing in solid mechanics and fracture mechanics. As a scholar, educator, and academic leader, he played a pivotal role in establishing fracture mechanics as a major research discipline in Poland.

Academic Career and Leadership

Professor Neimitz's academic journey was marked by a steady rise through the ranks of Polish science:

- **Education:** Graduated from the AGH University of Science and Technology (1971) in Metallurgy.
- **Academic Degrees:** Earned his Doctorate (1976) at the Kielce University of Technology and his Habilitation (1986) at the Institute of Fundamental Technological Research of the Polish Academy of Sciences (IPPT PAN). He was awarded the title of **Professor of Technical Sciences** in 1995.
- **University Leadership:** He served as the **Rector of the Kielce University of Technology** for two terms (1990–1996) and Dean of the Faculty of Mechanical Engineering (1987–1990).

Scientific Legacy and Research

The Professor was a visionary who unified the Polish scientific community by bridging the gap between researchers of material fatigue and those focused on crack propagation. His most significant contributions include:

- **The Dugdale Model:** Extensive work on fast crack growth in elastic-plastic materials and generalizing the model for various specimen thicknesses.
- **Environmental Effects:** Pioneering research on hydrogen-assisted cracking and fracture processes under creep conditions.
- **Constraint Effects:** Investigating the impact of geometric constraints on the fracture toughness of structural components.
- **Ductile and Brittle Fracture:** Developing criteria and mechanisms for various types of material failure.

International Influence

A true global scholar, Professor Neimitz held prestigious positions and fellowships at world-renowned institutions:

- **USA:** Northwestern University (IREX Fellow) and Michigan Technological University (Visiting Professor).
- **Switzerland:** Swiss Federal Laboratories for Materials Science and Technology (EMPA).
- **UK:** Imperial College London.
- **Finland:** Rautaruukki Oyj (Visiting Research Professor).

Mentorship and Publications

Throughout his career, Professor Neimitz was a dedicated mentor and prolific author:

- Published over **180 peer-reviewed papers** and **5 major scientific books**.
 - Supervised **7 PhD candidates** and served as an evaluator for dozens of habilitation and professorship proceedings.
 - He was the long-standing Chairman of the **Polish Group of Fracture Mechanics**, organizing twelve National Conferences on Fracture Mechanics.
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Professor Andrzej Neimitz leaves behind a legacy of academic excellence and a generation of scientists who continue his work in the field of material integrity and structural safety. He will be remembered as a brilliant mind, a respected leader, and a dedicated teacher.