# Daniel C. Drucker Medal

**Thomas C.T. Ting**
*Professor Emeritus, the University of Illinois at Chicago*
*and Consulting Professor, Stanford University*

*For significant contributions*
*to the development of the Stroh formalism of anisotropic elasticity,*
*and to the analyses of several fundamental inelastic and wave propagation problems*

**Professor Thomas C.T. Ting** received B.S. in Civil Engineering from National Taiwan University in 1956, and Ph.D. in Applied Mathematics from Brown University in 1962. He was appointed as Assistant Professor at Brown University between 1963 and 1965. He then joined the faculty of the University of Illinois at Chicago, where he was promoted through the academic ranks to Professor in 1970. He has been Professor Emeritus since 2001. He has received visiting appointments at a number of universities, including National Taiwan University, The University of East Anglia, University of Science and Technology of China in Anhui, Tongji University, Harbin Institute of Technology, and Sanford University.

Professor Ting has made significant contributions to several areas of mechanics where analytical insight is crucial. Perhaps his best known contribution is in the area of anisotropic elasticity. He wrote the definitive text, *Anisotropic Elasticity: Theory and Applications*. It is not only a wonderful source of the Stroh formalism and solutions, but it is also truly amazing in that a large number of the results were developed by him as he was drafting the book. His work has made lasting impact in the field of composite materials and structures. Delamination in composite laminates is a major mode of failure and must be taken into consideration in the design of composite structures. Delamination can be modeled as an interfacial crack between two different orthotropic materials with different principal directions. His results have formed the basis of the work of a large number of researchers in the field.

Professor Ting is also recognized for his contributions to the analyses of several fundamental inelastic and wave propagation problems. In the early days of his career, he made contributions to the understanding of large deformation of materials that are strain rate sensitive. The analysis of a cantilever beam with an attached tip mass subject to an impact loading at the tip predicts very well with the experimental observations, and has been widely used by the construction industry. Another well known contribution is his work on the contact problem for viscoelastic materials. He solved the problem in which the contact region can increase or decrease as many times as one wishes. He also studied wave propagation in rate-independent elastic-plastic materials. In the space-time plane, there are elastic regions and plastic regions. The elastic-plastic boundary that separates an elastic region from a plastic region has to be determined as a part of the solution. He presented the initial speed of the elastic-plastic boundary analytically for all possible continuous or discontinuous boundary conditions. His more recent work in wave propagation is related to surface waves in anisotropic elastic solids.

Professor Ting is Fellow of ASME and American Association for the Advancement of Science. He is an honorary member and Fellow of the Society of Theoretical and Applied Mechanics of Taiwan. He has received the Award of Distinguished Service from the College of Engineering, of the University of Illinois at Chicago.

**The Daniel C. Drucker Medal was established in 1997 and is conferred in recognition of distinguished contributions to the field of applied mechanics and mechanical engineering through research, teaching and service to the community over a substantial period of time.**