

2002 Koiter Medal

Presented to

JAMES K. KNOWLES

In recognition of

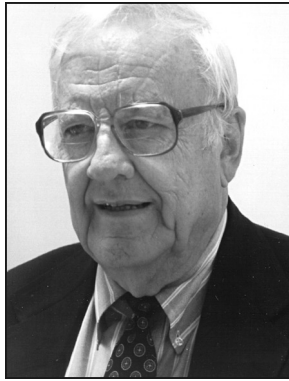
Seminal contributions in nonlinear solid mechanics,
which are described in a plethora of publications in
archival journals

Presented at

**The 2002 International Mechanical
Engineering Congress & Exposition
New Orleans, LA**



ASME International



JAMES K. KNOWLES

Conferral at the Koiter Lecture
2002 International Mechanical Engineering
Congress and Exposition

JAMES K. KNOWLES, Ph.D., William R. Kenan Professor of Applied Mechanics, Emeritus, California Institute of Technology, Pasadena, for seminal contributions in nonlinear solid mechanics, which are described in a plethora of publications in archival journals.

Dr. Knowles began his teaching career as a graduate student at the Massachusetts Institute of Technology (MIT), Cambridge, where he started his research with a thesis in the theory of thin elastic shells. After a post-doctoral year of teaching and research at MIT, Knowles accepted an Assistant Professorship in Applied Mechanics at the California Institute of Technology, where he has remained since 1958. Since 1996, he is the William R. Kenan Professor of Applied Mechanics, Emeritus.

His research has been primarily focused on the mechanics of solids, including finite-amplitude vibrations of elastic bodies, issues surrounding Saint-Venant's principle; finite-strain effects in crack problems; breakdown of ellipticity in severely deformed elastic materials, such as those of Blatz-Ko type; and the modeling of solid-solid phase transformations using non-elliptic elastic materials. He has worked with

an extraordinary sequence of nearly 30 doctoral students; most of them hold distinguished positions in academia and industry.

Knowles' contributions are described in more than 110 journal publications. He is also the author of a textbook for graduate students, "Linear Vector Spaces and Cartesian Tensors" (Oxford University Press, 1998).

His awards include MIT's Goodwin Medal (1955), Caltech's Teaching Awards (1984, 1985, 1993) and the Society of Engineering Science's (SES) Eringen Medal (1991).

A Fellow of ASME, Knowles was an Associate Editor for the Journal of Applied Mechanics and was on the organizing committees for several Applied Mechanics Division meetings. He is also a Fellow of the American Academy of Mechanics, where he served as president (1985-86), and of the American Association for the Advancement of Science; and a member of the SES, and of the Society for Industrial and Applied Mathematics.

Knowles earned his bachelor's and doctoral degrees in mathematics at MIT in 1952 and 1957, respectively. In 1985 he was awarded the degree of Doctor of Science, honoris causa, by the National University of Ireland.

Warner T. Koiter Medal Committee

2001 - 2002

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Koiter Medal

Past Honorees

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| 1997 | Warner T. Koiter |
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THE WARNER T. KOITER MEDAL was established in 1996 to recognize distinguished contributions to the field of solid mechanics with emphasis on the effective blending of theoretical and applied elements, and on a high degree of leadership in the international solid mechanics community.

The medal honors the late Dr. Warner T. Koiter (1914-1997), world-renowned authority in the field of solid mechanics, and it commemorates his vast contributions as a research engineer and teacher.