

Warner T. Koiter Medal



Professor Pierre Suquet
Ecole Polytechnique

Received his PhD (These 3eme cycle) in mechanics from the Université Paris 6 in 1976 and his Habilitation (Docteur d'Etat) in 1982. He was a researcher at CNRS from 1976 to 1983, Professor at the Université de Montpellier 1983-88, Associate Professor Université Paris 6 1988-1994, Head of the Laboratoire de Mécanique et d'Acoustique (Marseille), 1993-2000, and Professor at Ecole Polytechnique, 2001 to present. From 2004 he is also Director of the Graduate School (Engineering) at Marseille.

Professor Suquet's impact in the field of solid mechanics is multifaceted and is characterized by exceptional rigor and quality. His initial contributions are in the theory of elastic-perfectly plastic solids, where he was the first to present a proper mathematical framework. His next significant contributions came in the area of homogenization theories for nonlinear solids, both periodic and random. He introduced "dual methods" in homogenizations which involve the stress fields (instead of displacements) and which are particularly useful in **10** plasticity. Professor Suquet was among the first to establish rigorous bounds for the overall behavior of inhomogeneous nonlinear elastic, elastoplastic and viscoplastic solids. In addition to his theoretical contributions, Dr. Suquet has introduced novel and efficient methods for the numerical analysis of periodic composites. His iterative approach to solve a Lippman-Schwinger integral equation uses fast Fourier transforms and speeds-up calculations by two or three orders of magnitude, compared to classical finite element techniques.

His scientific contributions and technical leadership have been recognized internationally. In addition to the 1982 Henri de Parville prize for his early work in Mechanics, and his election at a very young age as an Associate Member of the French Academy of Sciences, he has been awarded in 2000 the Grand Prix Ampère for his scientific contributions. In 2004 he was elected as a full member of the French Academy of Sciences, one of the youngest members of that distinguished body at the time of his election. He was the Millikan Visiting Professor at Caltech in 2000 – 2001. He has been very active in the IUTAM, serving on the Congress Committee and as the French delegate to the General Assembly). He is on the editorial board of the Journal of Mechanics and Physics of Solids, Comptes-Rendus de l'Académie de Sciences (Proceedings of the French Academy of Sciences) and European Journal of Mechanics.

The Warner T. Koiter Medal, established in 1996, is bestowed in recognition of distinguished contributions to the field of solid mechanics with special emphasis on the effective blending of theoretical and applied elements of the discipline, and on a high degree of leadership in the international solid mechanics community.