



**Professor Dimitris A. Saravanos**

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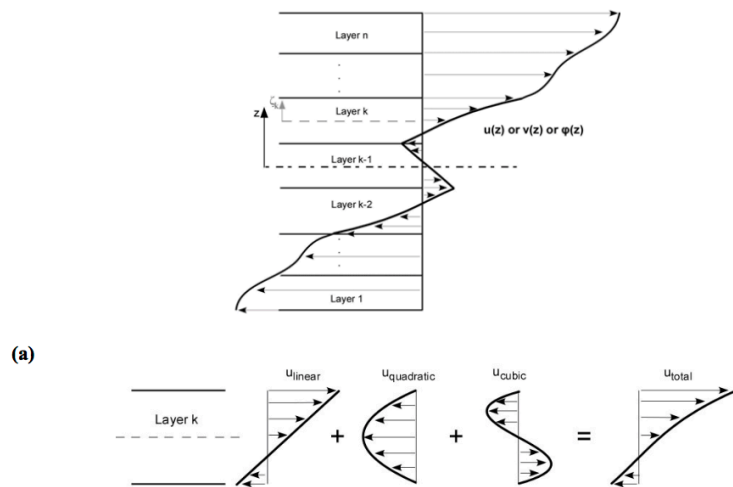
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**Biography:**

He received a Ph.D. in Mechanical Engineering from the Pennsylvania State University (1988), a Masters in Engineering from Stevens Institute of Technology and a B.S. in Mechanical Engineering from National Technical University of Athens.

Currently a Professor at the Department of Mechanical Engineering and Aeronautics at the University of Patras, Greece (1999-date) where he teaches courses in the area of Structural Analysis, Finite Elements, Structural Dynamics and Composite Mechanics. He also heads the research group of Structural Analysis and Smart Materials. Prior to that, he worked for 10 years as a Researcher with the Structures Division at NASA Glenn Research Center in Cleveland, Ohio (1988-1999).

He has published over 150 articles and conference papers in the areas of smart composites and adaptive structures, SHM, composite structural mechanics and structural dynamics. His current research interests are in the areas of computational structural mechanics and dynamics, smart materials and structures, structural health monitoring, mechanics of composite materials and structures, nanomechanics and nanocomposites. He has received research support from national programs, EU (FP 5, 6, 7), and international sources (NASA, NSF) for projects in the fields of aeronautics, aerospace and wind energy.



**(b)** **Figure 1.** Schematic representation of the high-order layerwise laminate theory in a typical laminate configuration analyzed with  $n$ -discrete layers. a) Kinematic approximation through the thickness for the in-plane displacements and electric potential, b) Assumed field components through the thickness of a discrete layer; the linear component corresponds to a linear layerwise model.

From: Theofanis S. Plagianakos and Dimitris A. Saravanos, "Coupled high-order layerwise laminate theory for sandwich composite plates with piezoelectric actuators and sensors", 19<sup>th</sup> International Conference on Adaptive Structures and Technologies, October 6-9, 2008, Ascona, Switzerland

He is Associate Editor of the Journals of Wind Energy and Aerospace Science and Technology, an Associate Fellow of AIAA, member of the AIAA Adaptive Structures Committee, member of the scientific committees of the international conferences Adaptive Structures Conference, European Workshop of SHM (EWSHM) and International Conf. of Adaptive Structures Technology (ICAST).

### **Selected Publications:**

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- Heyliger P.R., Saravanos D.A.: Coupled discrete-layer finite elements for laminated piezoelectric plates. *Commun. Numer. Methods Eng.* 10(12), 971–981 (1994)
- D.A. Saravanos and P.R. Heyliger 1995 *Journal of Intelligent Material Systems and Structures* 6, 350-363.
- Coupled layerwise analysis of composite beams with embedded piezoelectric sensors and actuators. Heyliger P, Saravanos DA. *Exact free-vibration analysis of laminated plates with embedded piezoelectric layers. Journal of the Acoustical Society of America* 1995; 98:1547-1557.
- D. A. Saravanos and D. A. Hopkins, "Effects of delaminations on the damped dynamic characteristics of composite laminates: analysis and experiments," *Journal of Sound and Vibration*, vol. 192, no. 5, pp. 977–993, 1996.
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- I. Kaljević and D. Saravanos, Steady-state response of acoustic cavities bounded by piezoelectric composite shell structures, *J. Sound Vib.* 204 (3) (1997) 459–476
- D. A. Saravanos. Mixed laminate theory and finite element for smart piezoelectric composite shell structures. *AIAA Journal*, 35:1327–1333, 1997.
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- Dimitris Varelis and Dimitris A Saravanos, "Nonlinear coupled mechanics and initial buckling of composite plates with piezoelectric actuators and sensors", *Smart Mater. Struct.* Vol. 11, 2001, p. 330
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- N. A. Chrysochoidis and D. A. Saravanos, "Assessing the effects of delamination on the damped dynamic response of composite beams with piezoelectric actuators and sensors," *Smart Materials and Structures*, vol. 13, no. 4, pp. 733–742, 2004.
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