



Professor Ashraf M. Zenkour

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Applied Mathematics, Continuum Mechanics

Department of Mathematics, King Abdulaziz University, Jeddah, Saudia Arabia

Department of Mathematics, Kafrelsheikh University, Kafr El-Sheikh 3516, Egypt

Biography:

A.M. Zenkour is a Professor of Applied Mathematics at Kafrelsheikh University (Egypt). He graduated from Mansoura University (Egypt) in Mathematics in 1985 and was awarded a M.Sc. and a Ph.D. degree from the same university in 1990 and 1995, respectively.

- M.Sc. thesis title: Mixed Hamilton's principle for anisotropic elastic bodies and its applications on cylindrical shell.
- Ph.D. thesis title: On the mixed variational principle for the dynamics of nonlinear elastic bodies.

His research interests are in the areas of structural stability, vibration, plated structures and shells. He is the author or co-author of over 150 scientific publications, reviewer of many international journals in solid mechanics and applied mathematics, and an editorial member of some Journals. In addition, he delivered various lectures at national and international conferences. Professor Zenkour research papers have been cited in many articles and textbooks.

Professor Zenkour has contributed to the development and application of continuum mechanics for predicting the bending, vibration and buckling behaviour of hygrothermal structures. Presently he is doing research on refining the Two-dimensional plate theory for better prediction of the mechanical responses of FGM plates. He supervised to date 7 PhD students and 6 MSc students. He also refereed many MSc and PhD theses.

Awards:

- Tanta University Encouragement Award in Fundamental Sciences (Mathematics), Tanta University, Egypt 2001-2002.
- Amin Lotfy's Award in Mathematical Sciences (Mathematics), Academy of Scientific Research and Technology, Egypt 2003.

- The Best Article of Applied Mathematics' Award, Academy of Scientific Research and Technology, Egypt 2006.
- Professor Dr Fayza Al-Kharafi's Award in Mathematics, Academy of Scientific Research and Technology, Egypt 2009.

Research Interests:

Structural stability and vibration; Computational mechanics; Functionally graded and piezoelectric materials

Selected Publications:

K Swaminathan, D T Naveenkumar, A M Zenkour, E Carrera (2015) Stress, vibration and buckling analyses of FGM plates—A state-of-the-art review. *Composite Structures* 120: 10-31 February.

D S Mashat, E Carrera, A M Zenkour, S A Al Khateeb, A Lamberti (2014) Evaluation of refined theories for multilayered shells via Axiomatic/Asymptotic method. *Journal of Mechanical Science and Technology* 28(11): 4663-4672 November.

A M Zenkour, I A Abbas (2014) Nonlinear transient thermal stress analysis of temperature-dependent hollow cylinders using a finite element model. *International Journal of Structural Stability and Dynamics* 14(6) 1450025: 1–17 December.

A M Zenkour, M Sobhy (2013) Nonlocal elasticity theory for thermal buckling of nanoplates lying on Winkler-Pasternak elastic substrate medium *Physica E* 53: 251–259 September.

A M Zenkour, M Sobhy (2011) Thermal buckling of functionally graded plates resting on elastic foundations using the trigonometric theory. *Journal of Thermal Stresses* 34: (11). 1119–1138.

A M Zenkour, D S Mashat (2010) Thermal buckling analysis of ceramic-metal functionally graded plates. *Natural Science* 2: (9). 968–978.

A M Zenkour, M Sobhy (2010) Thermal buckling of various types of FGM sandwich plates. *Composite Structures* 93: (1). 93–102.

A M Zenkour (2004) Buckling of fiber-reinforced viscoelastic composite plates using various plate theories *Journal of Engineering Mathematics* Volume 50, Issue 1, 2004, Pages 75-93.

A M Zenkour, M E Fares (2001) Bending, buckling and free vibration of non-homogeneous composite laminated cylindrical shells using a refined first-order theory *Composites Part B:Engineering* 32: 3. 237-247.

A M Zenkour (2001) Buckling and free vibration of elastic plates using simple and mixed shear deformation theories *Acta Mechanica* 146: 3-4. 183-197.

M E Fares, A M Zenkour (1999) Buckling and free vibration of non-homogeneous composite cross-ply laminated plates with various plate theories *Composite Structures* 44: 4. 279-287 April.

A M Zenkour, M E Fares (1999) Bending, buckling and free vibration of non-homogeneous composite laminated cylindrical shells using a first-order consistence theory. In: *ASME Mechanics and Materials*

Conference, Blacksburg, Virginia, USA, June 27–30.