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Professor Meguid is Editor-in-Chief of the International Journal of Mechanics and Materials in Design

Research Interests:

Structural Mechanics; Advanced Design Analysis Tools; Nonlinear Finite Element Analysis and Design Evaluation; Nanoengineering; Fatigue, Fracture and Damage Mechanics; Electro-Thermo-Mechanically Coupled Problems; Smart Structures; Microelectronic Packaging Systems; Cellular and Composite Materials; Crashworthiness of foam filled structures; Residual Stress and Surface Engineering; Morphing Wing Design; Aircraft Design Using Ultralight Cellular Materials.

Selected Publications:

Y.L. Li, S.A. Meguid, Y.M. Fu, D.L. Xu, "Nonlinear Analysis of Thermally and Electrically Actuated Functionally Graded Material Microbeam", Proc. R. Soc. A, 470 (2162), 20130473, 2014.

P.F. Yang, S.A. Meguid and X. Zhang, "Accurate Modelling of the Crush Behaviour of Thin Tubular Columns using Material Point Method", Mechanics & Astronomy, 56 (6), pp.1209 - 1219, 2013.

M.S. Attia, S.A. Meguid and H. Nouraei, "Nonlinear FEA of the Crush Behaviour of Functionally Graded Foam-Filled Columns", *Finite Elem Anal Des*, 61, pp.50-59, 2012.

Z.H. Zhu, M.A. Post and S.A. Meguid, "The Potential of Ultrasonic Non-Destructive Measurement of Residual Stresses by Modal Frequency Spacing using Leaky Lamb Waves", *Exp Mech*, 52 (9), pp.1329 -1339, 2012.

F. Sabri and S.A. Meguid, "Flutter Boundary Prediction of an Adaptive Morphing Wing for Unmanned Aerial Vehicle", *Int J Mech Mater Des*, 7 (4), pp.307-312, 2011.

J.M. Wernik, and S.A. Meguid, "Recent Developments in Multifunctional Nanocomposites using Carbon Nanotubes", *Applied Mechanics Reviews*, 63 (5), 050801 (40pages), 2011.

A.Y.N. Sofia, S.A. Meguid, K.T. Tan and W.K. Yeo, "Shape morphing of aircraft wing: Status and challenges", *Materials & Design*, Vol. 31, No. 3, pp 1284-1292, 2010

J.M. Wernik and S.A. Meguid, "Recent developments in multifunctional nanocomposites using carbon nanotubes", *Applied Mechanics Reviews*, Vol. 63, No. 5, 050801, 2010

J. Woo, S.A. Meguid and L.S. Ong, "Nonlinear free vibration behavior of functionally graded plates", *Journal of Sound and Vibration*, Vol. 289, No. 3, pp 595 – 611, 2006

J. Woo, S.A. Meguid, J.C. Stranart and K.M. Liew, "Thermomechanical postbuckling analysis of moderately thick functionally graded plates and shallow shells", *International Journal of Mechanical Sciences*, Vol. 47, No. 8, pp 1147-1171, 2005

K.M. Liew, C.H. Wong, X.Q. He, M.J. Tan and S.A. Meguid, "Nanomechanics of single and multiwalled carbon nanotubes", *Physical Review B*, Vol. 69, No. 11, 115429, 2004

S.A. Meguid, M.S. Attia and A. Monfort, "On the crush behavior of ultralight foam-filled structures, *Materials & Design*, Vol. 25, No. 3, pp 183-189, 2004

J. Woo, S.A. Meguid and K.M Liew, "Thermomechanical postbuckling analysis of functionally graded plates and shallow cylindrical shells", *Acta Mechanica*, Vol. 165, Nos. 1-2, pp 99-115, 2003

J. Woo and S.A. Meguid, "Nonlinear analysis of functionally graded plates and shallow shells", *International Journal of Solids and Structures*, Vol. 38, No. 42, 7409 -7421, 2001

N. El-Abbasi and S.A. Meguid, "A new shell element accounting for through-thickness deformation", *Computer methods in Applied Mechanics and Engineering*, Vol. 189, No. 3, pp 841-862, 2000

N. El-Abbasi and S. A. Meguid, "Finite element modeling of the thermoelastic behavior of functionally graded plates and shells", *International Journal of Computational Engineering Science*, Vol. 1, Issue 1, June 2000