Short Bio

Name Dongming Wei

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Education Michigan State University, Ph.D. in Applied Math, 1988
Guangxi University, B.S. in Mathematics, 1982

Experience Professor, Nazarbayev University (NU), 2014-Present
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Professor, University of New Orleans (UNO), 2002-2014
Associate Professor, UNO, 1994 – 2001
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Research Interests

Nonlinear differential equations with industrial applications; Modeling, numerical simulations, finite element analysis, symbolic computation, application of simulation software; Stability and integrity of structures of advanced materials with applications in energy and bio-medical engineering, MEMS and NEMS; Non-Newtonian flows and polymer extrusion; Glaucoma and Mechanics of Eye; Modelling Micro-bubbles for drug delivery; Actuarial mathematics.

Research Grants

[1] D. Wei(PI), et al., Development and Prototyping of Extrusion Dies for Advanced Plastic Sheets and Thin Film Production, Kazakhstan Ministry of Education Grant (MES), 2018-2020.
Team: (CO-PIs) Three NU SEng Professors and 1 Texas A & M- Qatar Professor.
[2] D. Wei (PI) et al, Modeling and Simulation of Nonlinear Material Structures for Mechanical Pressure Sensing and Actuation Applications, ORAU grant, 2016-2018.

Team: (CO-PIs) Three NU SEng Professors and one Texas A & M- Qatar Professor. Two Post-Doc. Assistants.
[3] M. W. L. Ko (PI) and D. Wei (CO-PI) et al, Three-dimensional Patient-specific Reconstruction of Optic Nerve Head Morphology for Risk Assessment of Glaucoma Development and Progression, ORAU grant, 2016-2018.

Selected Publications

[1] D. Wei and X. Li, Finite Element Solutions of Cantilever and Fixed Actuator Beams using Augmented Lagrangian Methods, J. Appl. Comput. Mech., DOI: 10.22055/JACM, (2017) 22700.1139.
[2] D.Wei, P. Skrzypacz,and X. Yu, Nonlinear Waves in Rods and Beams of Power-Law Materials, Journal of Applied Mathematics,Vol. 2017 (2017), Article ID 2095425.
[3] P. Skrzypacza, S. Kadyrov, D. Nurakhmetov, and D. Wei, Analysis of Dynamic Pull-in Voltage of a Nonlinear Material NEMS Model, Materials Today: Proceedings 00, (2017) pp.1–8.
[4] P. Skrzypacz, and D. Wei, Solvability of the Brinkman-Forchheimer-Darcy Equation, *Journal of Applied Mathematics*, Volume 2017 (2017), Article ID 7305230.
[5] D. Wei, S. Kadyrov, and Z. Kazbek, Periodic Solutions of a Graphene Based Model in Micro-Electro-Mechanical Pull-in Device, *Applied and Computational Mechanics* 11 (2017), pp.81–90.
[6] P. Skrzypacz, and D. Wei, On the Discrete Maximum Principle for the Local Projection Scheme with Shock Capturing, Journal of *Computational Mathematics* Vol.35, No.5 (2017), pp.547–568.
[7] M. B. M. Elgindi, D. Wei and Y. Liu, Buckling and Post-Buckling of Graphene Tubes, *Mechanics of Advanced Materials and Structures*, Vol. 23, Issue 4 (2016) pp.402-406.
[8] D. Wei, Yu Liu, D. Zhang, M. W. L. Ko, and J. R. Kim, Numerical Analysis for Retaining Walls Subjected to Swelling Pressure, Proceedings of 2016 International Conference on Architecture, Structure and Civil Engineering (ICASCE'16), London (UK) March. 26-27, 2016.
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[10] M. W.L. Ko, D. Wei, C.K.S. Leung, Characterization of Corneal Indentation Hysteresis, *Engineering in Medicine and Biology Society* (EMBC), 37th Annual International Conference of the IEEE, (2015) pp.7784-7787.
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[12] M. B. M. Elgindi, D. Wei, Y. Soukiassian, and Y. Liu, On the Buckling of Euler Graphene Beams Subject to Axial Compressive Load, *World Journal of Engineering and Technology*, 2, (2014) pp.135-144.

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[15*] D. Wei, M. B. M. Elgindi, and A. Sarria , Critical Buckling Loads of the Perfect Hollomon's Power-law Columns, *Mechanics Research Communications*, Vol. 47 (2013) pp. 69-76.
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