CURRICULUM VITAE

Personal data:

Name & Surname: MAHDI BODAGHI

Date of Birth: 14th Jan 1984

Place of Birth: Tehran, Iran

Gender: Male

Spoken Language: English & Persian

Address: Room 113, Department of Mechanical and Automation Engineering, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong

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Education:

Ph.D.: Mechanical Engineering,

Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran, Feb 2011-May 2015

Won the Outstanding Ph.D. Thesis Award

M.Sc.: Mechanical Engineering,

S. Bahonar University of Kerman, Kerman, Iran, Sep 2008-Jun 2010

B.Sc.: Mechanical Engineering,

IA University, South Tehran Branch, Tehran, Iran, Feb 2003-Jul 2007

Research Interests:

Modeling and analysis of materials and structures including:

- ✓ Functionally graded metal-ceramics
- ✓ Functionally graded steels
- ✓ Composite materials
- ✓ Piezoelectric materials
- ✓ Shape memory materials

Experimental mechanics:

- ✓ Impact analysis

4D Printing

- ✓ Design and Modeling

Publications:

33 Journal Papers (ISI)[1]:

Filed of functionally graded metal-ceramics (8 papers):

1. **Bodaghi, M.** and Saidi, A.R. (2010) Levy-type solution for buckling analysis of thick functionally graded rectangular plates based on the higher-order shear deformation plate theory. Applied Mathematical Modelling, Volume 34, Pages 3659-3673.

2. **Bodaghi, M.** and Saidi, A.R. (2011) Stability analysis of functionally graded rectangular plates under nonlinearly varying in-plane loading resting on elastic foundation. Archive of Applied Mechanics, Volume 81, Pages 765-780.

3. **Bodaghi, M.** and Saidi, A.R. (2011) Buckling behavior of standing laminated Mindlin plates subjected to body force and vertical loading. Composite Structures, Volume 93, Pages 538-547.

4. **Bodaghi, M.** and Saidi, A.R. (2011) Thermoelastic buckling behavior of thick functionally graded rectangular plates. Archive of Applied Mechanics, Volume 81, Pages 1555-1572.

5. **Bodaghi, M.** and Saidi, A.R. (2012) Buckling analysis of functionally graded Mindlin plates subjected to linearly varying in-plane loading using power series method of Frobenius. International Journal of Engineering Transactions B: Applications, Volume 25, Pages 89-106.

6. Saidi, A.R., **Bodaghi**, **M.** and Atashipour S.R. (2012) Levy-type solution for bending-stretching of thick functionally graded rectangular plates based on third-order shear deformation theory. Mechanics of Advanced Materials and Structures, 2012, Volume 19, Pages 577-589.

7. Damanpack, A.R., **Bodaghi, M.** and Ghassemi, H. (2013) Boundary element method applied to the bending analysis of thin functionally graded plates. Latin American Journal of Solids and Structures, Volume 10, Pages 549-570.

8. Kamarian, S., Shakeri, M., Yas, M.H., **Bodaghi, M.** and Pourasghar, A. (2015) Free vibration analysis of functionally graded nanocomposite sandwich beams resting on Pasternak foundation by considering the agglomeration effect of CNTs. Journal of Sandwich Structures and Materials, DOI: 10.1177/1099636215590280.

Field of functionally graded steels (2 papers):

9. Talebizad, A., Isavand, S., **Bodaghi, M.,** Shakeri, M. and Aghazadeh Mohandesi, J. (2013) Thermo-mechanical behavior of cylindrical pressure vessels made of functionally graded austenitic/ferritic steels. International Journal of Mechanical Sciences, Volume 77, Pages 171-183.

[1] *h*index=11

10. Isavand, S., **Bodaghi, M.,** Shakeri, M. and Aghazadeh Mohandesi, J. (2015) Dynamic response of functionally gradient austenitic-ferritic steel composite panels under thermo-mechanical loadings. Steel and Composite Structures, Volume 18, Pages 1-28.

Filed of composite materials (1 paper):

11. Zamani, H.A. **Bodaghi, M.,** Aghdam, M.M. and Salehi, (2014) M. Accurate damping analysis of viscoelastic composite beams and plates on suppressive foundation. Journal of Composite Materials, Article in Press, DOI: 10.1177/0021998314544070.

Filed of piezoelectric materials (5 papers):

12. **Bodaghi, M.** and Shakeri, M. (2012) An analytical approach for free vibration and transient response of functionally graded piezoelectric cylindrical panels subjected to impulsive loads. Composite Structures, Volume 94, Pages 1721-1735.

13. **Bodaghi, M.,** Damanpack, A.R., Aghdam, M.M. and Shakeri, M. (2012) Non-linear active control of FG beams in thermal environments subjected to blast loads with integrated FGP sensor/actuator layers. Composite Structures, Volume 94, Pages 3612-3623.

14. Damanpack, A.R., **Bodaghi**, **M.** Aghdam, M.M. and Shakeri, M. (2013) Active control of geometrically non-linear transient response of sandwich beams with a flexible core using piezoelectric patches. Composite Structures, Volume 100, Pages 517-531.

15. **Bodaghi, M.**, Damanpack, A.R., Aghdam M.M. and Shakeri, M. (2014) Geometrically non-linear transient thermo-elastic response of FG beams integrated with a pair of FG piezoelectric sensors. Composite Structures, 2014, Volume 107, Pages 48-59.

16. Kamarian, S., **Bodaghi, M.**, Pourasghar, A. and Talebi, S. (2016) Vibrational behavior of non-Uniform piezoelectric sandwich beams made of CNT-reinforced polymer nanocomposite by considering the agglomeration effect of CNTs. Polymer Composites, Article in Press, DOI: 10.1002/pc.23933.

Filed of shape memory alloys (16 papers):

17. **Bodaghi, M.,** Damanpack, A.R. Aghdam, M.M. and Shakeri, M. (2013) A phenomenological SMA model for combined axial-torsional proportional/non-proportional loading conditions. Materials Science & Engineering A, Volume 587, Pages 12-26.

18. Asadi, H. **Bodaghi, M.,** Shakeri, M. and Aghdam, M.M. (2013) An analytical approach for nonlinear vibration and thermal stability of shape memory alloy hybrid laminated composite beams. European Journal of Mechanics / A Solids, Volume 42, Pages 454-468.

19. Asadi, H. **Bodaghi, M.,** Shakeri, M. and Aghdam, M.M. (2013) On the free vibration of thermally pre/post-buckled shear deformable SMA hybrid composite beams. Aerospace Science and Technology, Volume 31, Pages 73-86.

20. **Bodaghi, M.,** Damanpack, A.R., Aghdam, M.M. and Shakeri, M. (2014) Active shape/stress control of shape memory alloy laminated beams. Composites Part B, Volume 56, Pages 889-899.

21. Damanpack, A.R., **Bodaghi, M.,** Aghdam, M.M. and Shakeri, M. (2014) On the vibration control capability of shape memory alloy composite beams. Composite Structures, 2014, Volume 110, Pages 325-334.

22. **Bodaghi, M.,** Damanpack, A.R., Aghdam, M.M. and Shakeri, M. (2014) A robust three-dimensional phenomenological model for polycrystalline SMAs: Analytical closed-form solutions. International Journal of Engineering Science, Volume 82, Pages 1-21.

23. Asadi, H., **Bodaghi, M.,** Shakeri, M. and Aghdam, M.M. (2014) Nonlinear dynamics of SMA-fiber-reinforced composite beams subjected to a primary/secondary-resonance excitation. Acta Mechanica, Article In Press, DOI 10.1007/s00707-014-1191-4.

24. Damanpack, A.R., **Bodaghi, M.,** Aghdam, M.M. and Shakeri, M. (2014) Shape control of shape memory alloy composite beams in the post-buckling regime. Aerospace Science and Technology, Volume 39, Pages 575-587.

25. **Bodaghi, M.,** Shakeri, M. and Aghdam, M.M. (2015) Thermo-mechanical behavior of shape adaptive composite plates with surface-bonded shape memory alloy ribbons. Composite Structures, Volume 119, Pages 115-133.

26. **Bodaghi, M.,** Shakeri, M. and Aghdam, M.M. (2015) Passive vibration control of plate structures using shape memory alloy ribbons. Journal of Vibration and Control, Article in Press, DOI: 10.1177/0123456789123456.

27. Damanpack, A.R., **Bodaghi, M.,** Liao, W.H., Aghdam, M.M. and Shakeri, M. (2015) A simple and efficient 1-D macroscopic model for shape memory alloys considering ferro-elasticity effect. Smart Structures and Systems, Volume 16, Pages 641-665.

28. Damanpack, A.R., **Bodaghi, M.,** Liao, W.H. (2015) SMA bellows as reversible thermal sensors actuators. Smart Materials and Structures, Volume 24, Code 065013.

29. Damanpack, A.R., Liao, W.H., Aghdam, M.M., Shakeri, M. **Bodaghi, M.,** (2015) Micro–macro thermo-mechanical analysis of axisymmetric shape memory alloy composite cylinders. Composite Structures, Volume 131, Pages 1001–1016.

30. **Bodaghi, M.,** Damanpack, A.R., Liao, W.H., Aghdam, M.M. and Shakeri, M. (2016) Modeling and analysis of reversible shape memory adaptive panels. Journal of Intelligent Material Systems and Structures, Volume 27(12), 1624-1649.

31. **Bodaghi, M.,** Damanpack, A.R. and Liao, W.H. (2016) A robust macroscopic model for normal–shear coupling, asymmetric and anisotropic behaviors of polycrystalline SMAs. Smart Materials and Structures, Volume 25, Code 075019.

Filed of experimental impact analysis (1 paper):

32. Sharifi, S., Shakeri, M., Ebrahimi Fakhari, H. and **Bodaghi, M.** (2015) Experimental investigation of bitubal circular energy absorbers under quasi-static axial load. Thin-Walled Structures, Volume 89, Pages 42-53.

Filed of 4D printing (1 paper):

33. **Bodaghi, M.,** Damanpack, A.R. and Liao, W.H. (2016) Self-expanding/shrinking structures by 4D printing. Smart Materials and Structures, Volume 25, Code 105034.

1 Book Chapter:

1. Baz, A. and **Bodaghi, M.** (2016) Shape Control of Composites. In: Saleem Hashmi (editor-in-chief), Reference Module in Materials Science and Materials Engineering. Oxford: Elsevier; Pages. 1-13.

Research Experience

Post-Doctoral Fellow, Smart Materials and Structures Laboratory, Mechanical and Automation Engineering Department, The Chinese University of Hong Kong, Jul 2015-Present

Research Assistant, Smart Materials and Structures Laboratory, Mechanical and Automation Engineering Department, The Chinese University of Hong Kong, Jul 2014-Jan 2015.

Research Assistant, Thermo-elasticity Center of Excellence, Mechanical Engineering Department, Amirkabir University of Technology, Feb 2011-Apr 2015.

Research Assistant, Mechanical Engineering Department, S. Bahonar University of Kerman, Sep. 2008-Jun. 2010.

Teaching Experience

Teaching Assistant: Strengths of Materials *II*

Mechanical Engineering Department, Amirkabir University of Technology, Spring 2013

Teaching Assistant: Strengths of Materials *III*

Mechanical Engineering Department, Amirkabir University of Technology, Fall 2013

Lecturer: Manufacturing Processes

Mechanical Engineering Department, IA University, Damavand Branch, Fall 2013, Spring 2014

Lecturer: Theory of Plasticity

Mechanical Engineering Department, IA University, Damavand Branch, Spring 2014

Services:

Editorial Activity:

- Editorial Board of International Journal of Engineering, *stablished in 1988*

- Co-organizer in industrial sessions of the 23rd Annual International Mechanical Engineering Conference, Amirkabir University of Technology, May 2015.

Reviewer for:

-Journal of Intelligent Material Systems and Structures
-Steel and Composite Structures, *An International Journal*
-International Journal of Engineering
-Advances in Materials Science and Applications
-Composite Structures
-Composites Part B
-Materials Science & Engineering A
-European Journal of Mechanics - A/Solids
-Aerospace Science and Technology