

Curriculum Vitae

A. Personal Data

Name: Jairan Nafar Dastgerdi

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Current position: Assistant Professor at Aerospace Engineering, Amirkabir University of Technology, Tehran, Iran.

B. Education

12/2012-09/2016 Aalto University, Finland
Ph.D. Degree in Mechanics of Material
Graduate Date: 28.09.2016
Dissertation Title:
“Mechanical modeling of particulate reinforced metal matrix composites”

09/2010- 03/2014 Isfahan University of Technology (IUT), Iran
Ph.D. Degree in Applied Mechanics
Graduate Date: 12.03.2014
Dissertation Title:
“The effects of nanotube waviness, agglomeration, and debonding on mechanical properties of polymer nanocomposites”

02/2008- 08/2010 University of Kashan, Iran
M.Sc. Degree in Applied Mechanics
Graduate Date: 17.08.2010
“Free transverse vibration of cracked nanobeams using a nonlocal elasticity model applied to Timoshenko beams”

09/2003-09/2007 University of Kashan, Iran
B.Sc. Degree in Mechanical Engineering
Graduate Date: 07.09.2007
“Studying the effect of reinforcing ring in order to increasing the strength of conical heads in pressure vessels using finite element method”

B.1. Linguistic skills

Mother tongue: Persian

Other languages: English (Excellent), TOEFL (pbt) 573, 01.01.2011

Finnish (Very Good), YKI (Official Finnish language test) 3, 27.08. 2016

C. Previous teaching and work experience

C.1. Work experience

10/2017 up to now	Post-doctoral researcher in Aerospace Engineering Department at Amirkabir University of Technology, Iran.
02/2018 to 09/2018	Researcher in the laboratory of Material Science, Tampere University of Technology, Finland (part time).
10/2017 to 10/2018	Post-doctoral researcher in Marine Technology Group (Mechanical engineering Department) at Aalto University, Finland (part time).
09/2016 to 09/2017	Post-doctoral researcher in Marine Technology Group (Mechanical engineering Department) at Aalto University, Finland.
09-12/2017	Researcher in the tentative industrial research project for Wärtsilä Company, Finland. Research project: Tomography utilization for analyzing of fatigue cracks and defect at weld root.
01/2013 to 09/2016	Doctoral candidate in the Department of Mechanical Engineering at Aalto University, Finland.
03-09/2015	Visiting researcher in the Department of Mechanical Engineering at National University of Singapore (NUS), Singapore.
06-12/2012	Postgraduate researcher in the Department of Mechanical Engineering at Aalto University.
01-05/2011	Industrial project researcher in Esfahan Steel Company (ESCo), Isfahan, Iran. Research project: Thermo-mechanical stress analysis of steel maker mixer with new refractory conditions implemented by the VESUVIUS Company.
2007	300 hours experimental work experience at Sahand Company (manufacturer of most kinds of gearboxes) as a technical apprentice, Isfahan, Iran.

C.2. Teaching experience

10-12/2018	Lecturer of the course Fatigue of Structures, Aalto University, Finland.
01/2018 up to now	Advanced teacher and lecturer in the project of digitalizing training process in Marine Technology group (Department of Mechanical Engineering) at Aalto University, Finland.
10-12/2017	Lecture of the course Fatigue of Structures, Aalto University, Finland.
2011-2012	Lecturer of the courses <i>Control</i> , <i>Metal Forming</i> , <i>Component Design I</i> , and <i>Measuring System</i> in the School of Engineering at Palayesh University, Isfahan, Iran.
2010-2011	Lecturer of developing scientific seminar on <i>applications of nanotechnology in science and engineering</i> in different universities of Iran by Iranian nanotechnology initiative council, Tehran, Iran. (More than 10 one day full lectures)
01-05/2009	Teaching Assistant of " <i>Linear Control</i> " and " <i>Vibration</i> " at the School of Engineering, University of Kashan, Iran.

2008-2009 Instructor the courses of *Continuum Mechanics, Advanced Math, Advanced Numerical Computations* and *Thermo elasticity* for Shahed and Isargar (devotees) students in reinforcing courses sessions, University of Kashan, Iran.

D. Professional activities and achievements

04/2018 up to now Teaching as the advisor of a master thesis at Amirkabir University of Technology, Tehran, Iran.

04/2019 up 12/2019 Teaching as the advisor of a master thesis at Aalto University, Finland.

D1. Prizes and awards

2017 Awarded for a full salary pay funding for a post-doctoral position by National Elites Foundation, Presidency of Islamic republic of Iran.

2016 Scholarship award from Aalto University for a doctoral degree completion less than eight full semesters.

2012 Awarded for a doctoral position by the Ministry of Education of Finland through the National Graduate Program of Engineering Mechanics to the period 1.1.2013-31.12.2015.

2010 **First ranked student in M.Sc.** with the highest GPA in School of Engineering at Kashan University, Iran.

2008 Ranked in the top 10 percent students as an **Exceptional talent** among graduated students at Kashan University. Admitted in the Master's program of Mechanical Engineering by the Council of Exceptional Talent without any academic entrance exam.

D2. Other academic merits

1. Referee in some journals such as Computational Material Science, Composites Science and Technology and Engineering fracture mechanics.
2. Invited keynote lecturer for scientific speech in Amirkabir University of Technology, Tehran, Iran (by Iranian National Elites Foundation).
Part I: Microstructural effects on mechanical properties of particulate reinforced composites, February 2018.
Part II: 3D X-ray tomography as a non-destructive method to characterize microstructure of material, May 2018.

D3. Citation statistics

1. Total publications: 18 (10 Journal papers and 8 conference papers)
2. h-index: 7 (Google Scholar)

D4. Other merits

1. Member of the Iranian National Elites Foundation, Iran, 2017-
 2. Third place in the Athletic Championships (shot put) Iranian student at university, 2012.
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List of publications

Journal Papers:

1. J. Nafar Dastgerdi, B. Anbarlooie, A. Miettinen, H. Remes, H. Hosseini-Toudeshky, **“Effect of particle clustering on the plastic deformation and damage initiation of particle reinforced composite utilizing X-ray data and finite element modeling”**, published in *Composite Part B*, 153c (2018) 57-69 (Category A1, IF: 6.86)
<http://doi.org/10.1016/j.compositesb.2018.07.027>

2. J. Nafar Dastgerdi, A. Miettinen, J. Parkkonen, H. Remes, **“Multiscale microstructural characterization of particulate-reinforced composite with non-destructive X-ray micro- and nanotomography”**, published in *Composite Structures*, 194 (2018) 292-301. (Category A1, IF: 4.83)
<https://doi.org/10.1016/j.compstruct.2018.04.022>
3. J. Nafar Dastgerdi, G. Marquis, S. Sankaranarayanan, M.Gupta, **“Fatigue crack growth behavior of amorphous particulate reinforced composites”**, published in *Composite Structures*, 153 (2016) 782-790. (Category A1, IF: 4.83)
<http://dx.doi.org/10.1016/j.compstruct.2016.06.071>
4. J. Nafar Dastgerdi, G. Marquis, B. Anbarlooie, S. Sankaranarayanan, M.Gupta, **“Microstructure-based modeling of the effects of particle clustering on the plastic deformation and damage initiation of amorphous particles reinforced composites”**, published in *Composite Structures* 142 (2016) 130-139. (Category A1, IF: 4.83)
<http://dx.doi.org/10.1016/j.compstruct.2016.01.075>
5. J. Nafar Dastgerdi, B. Anbarloei, S. Marzban, G. Marquis, **“Mechanical and real microstructure behavior analysis of particulate-reinforced nanocomposite considering debonding damage based on cohesive finite element method”**, published in *Composite Structures* 122 (2015) 518-525. (Category A1, IF: 4.83)
<http://dx.doi.org/10.1016/j.compstruct.2014.12.009>
6. J. Nafar Dastgerdi, G. Marquis, M. Salimi, **“Micromechanical modeling of nanocomposites considering debonding of reinforcements”**, published in *Composites Science and Technology* 93 (2014) 38–45. (Category A1, IF: 6.3)
<http://dx.doi.org/10.1016/j.compscitech.2013.12.020>
7. J. Nafar Dastgerdi, G. Marquis, M. Salimi, **“Micromechanical modeling of nanocomposites considering debonding and waviness of reinforcements”**, published in *Composite Structures* 110 (2014) 1–6. (Category A1, IF: 4.83)
<http://dx.doi.org/10.1016/j.compstruct.2013.11.017>
8. J. Nafar Dastgerdi, G. Marquis, M. Salimi, **“The effect of nanotubes waviness on mechanical properties of CNT/SMP composites”**, published in *Composites Science and Technology* 86 (2013) 164–169. (Category A1, IF: 6.3)
<http://dx.doi.org/10.1016/j.compscitech.2013.07.012>
9. K. Torabi, J. Nafar Dastgerdi, **“An analytical method for free vibration analysis of Timoshenko beam theory applied to cracked nanobeams using a nonlocal elasticity model”**, published in *Thin Solid Films* 520 (2012) 6595–6602. (Category A1, IF: 1.94)
<http://dx.doi.org/10.1016/j.tsf.2012.06.063>
10. K. Torabi, J. Nafar Dastgerdi, **“Solution of free vibration equation of cracked beam by using differential transformed method (DTM)”**, published in *Applied Mechanics and Materials* 110-116 (2012) 4532-4536. (Category A4)
<https://www.scientific.net/AMM.110-116.4532>

Conference Papers:

1. J. Nafar Dastgerdi, J. Virkajarvi, H. Remes, H. Hosseini-Toudeshky, **“Damage investigation of particulate reinforced composite from X-ray tomography in-situ fatigue test”**. Accepted in 7th international conference on fatigue of composites, July 4-6, 2018, Vicenza, Italy.

2. J. Nafar Dastgerdi, P. Lehto, H. Remes, **“Effect of particle clustering on fatigue behavior of Mg-amorphous alloy composite”**. Accepted in 21th international conference on composite materials, August 20-25, 2017, Xian, China.
3. J. Nafar Dastgerdi, G. Marquis, **“Mechanical behavior analysis of particulate-reinforced nanocomposite: The roles of interphase region and particle spacing on debonding phenomena”**. Accepted in 2nd international conference on mechanics of composites, July 11-14, 2016, Porto, Portugal.
4. J. Nafar Dastgerdi, G. Marquis, **“Thermomechanical behavior of CNF/ SMPU nanocomposites considering reinforcement damage”**. Accepted in the 16th international conference on the science and application of Nanotubes (NT 15), June 29- July 3, 2015, Nagoya, Japan.
5. J. Nafar Dastgerdi, G. Marquis, S. Marzban, **“Thermal elastic buckling of plates made of carbon nanotube-reinforced composite materials”**. Accepted in the 19th international conference on composites materials (ICCM 2013), July 28-2 August, 2013, Montreal, Canada.
6. J. Nafar Dastgerdi, K. Torabi, S. Marzban, **“Solution of free vibration equation of cracked beam by using differential transformed method (DTM)”**. Accepted in the International conference on mechanical and aerospace engineering (ICMAE 2011), July 29-31, 2011, Bangkok, Thailand. *This article has been selected as an excellent paper in this conference.*
7. J. Nafar Dastgerdi, K. Torabi, **“Free vibration of cracked nanobeams using Timoshenko beam theory”**. Accepted in 2th annual conference on applications of nanotechnology in science, engineering and medicine (NTc2011), Islamic Azad university Mashhad branch, May 16-17, 2011, Mashhad, Iran
8. K. Torabi., M. Vali, and J. Nafar Dastgerdi, **“Robust controller design of MEMS gyroscope using quantitative feedback theory (QFT)”**. Accepted in the 18th annual international conference on mechanical engineering (ISME 2010), school of mechanical engineering, Sharif University of technology, May 11-13, 2010, Tehran, Iran.

Unpublished paper:

1. J. Nafar Dastgerdi, J. Koivisto, K. Santaoja, O. Orell, M. Kanerva, M. Kellomaki, **“Characterization of compressive behavior of bioamine crosslinked gellan gum hydrogel”**. Under review in Soft Matter Journal (IF: 3.79), December 2019.

Technical reports:

1. J. Nafar Dastgerdi, **“Mechanical modeling of bioamine crosslinked gellan gum hydrogel”**, October 2018.
2. J. Nafar Dastgerdi, P. Kujala, H. Remes, J. Romanoff. **“Marin Technology Annual report 2017”**, December 2017.
3. J. Nafar Dastgerdi, **“Tomography utilization for analyzing of fatigue cracks and defect at weld root”**, December 2017.
4. J. Nafar Dastgerdi, **“Thermo-mechanical stress analysis of steel maker mixer with new refractory conditions implemented by the VESUVIUS”**, March 2012.

Doctoral thesis:

“Mechanical modeling of particulate reinforced metal matrix composites”

<http://urn.fi/URN:ISBN:978-952-60-6989-0>