

## Curriculum Vitae

**Mojtaba Lezgy-Nazargah, PhD**

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### **Personal Information**

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### **Professional Background**

**Visiting Associate Professor:** LEME, Universite Paris Nanterre, Paris, France (Sep 2018)  
**Associate Professor:** Civil Eng. Dep., Hakim Sabzevari University, Sabzevar, Iran (2016 to date)  
**Head of Civil Eng. Group:** Civil Eng. Dep., Hakim Sabzevari University, Sabzevar, Iran (2014-2016)  
**Assistant Professor:** Civil Eng. Dep., Hakim Sabzevari University, Sabzevar, Iran (2011-2016)  
**Lecturer:** P.N. University, Neyshabour Branch, Neyshabour, Iran (2010-2011)

### **Educational Background**

**Ph.D:** Civil and Structural Engineering, K. N. Toosi University of Technology, Tehran, Iran (2008-2011)  
**M.Sc:** Civil and Structural Engineering, K. N. Toosi University of Technology, Tehran, Iran (2006-2008)  
**B.Sc:** Civil Engineering, Shahrood University of Technology, Shahrood, Iran (2002-2006)  
**High School:** Iranian High School Diploma in Math. Branch, Ferdowsi High School, Neyshabour, Iran (1998-2002)

### **Thesis**

**PhD:** "Static and dynamic analysis of laminated composite and sandwich beams containing piezoelectric layers using a refined high-order theory" under supervision of Prof. S.B. Beheshti-Aval and in attendance of Prof. M. Shariyat.

**MS:** "Active vibration control of beams by piezoelectric materials" under supervision of Prof. S.B. Beheshti-Aval

### **Honors**

Word's top 2% scientist in 2020 (Scopus, Stanford University)  
Winner of the best researcher award of Hakim Sabzevari University in 2015  
Winner of the best researcher award of K. N. Toosi University of Technology in 2010

### **Technical Reviewer**

Thin-Walled Structures  
Engineering Structures  
Earthquakes and Structures  
Computers and Mathematics with Applications  
Applied Mathematical Modeling  
Acta Mechanica

Microporous and Mesoporous Materials  
Journal of Sound and Vibration  
Journal of Intelligent Material Systems and Structures  
Journal of Sandwich Structures and Materials  
Journal of Composite Materials  
Archive of Applied Mechanics  
Archive of Civil and Mechanical Engineering  
Mechanics of Advanced Materials and Structures  
Journal of Building Engineering  
Steel and Composite Structures  
Structural Engineering and Mechanics  
Scientia Iranica  
Advances in Mechanical Engineering  
Journal of Solid Mechanics  
Mechanics Based Design of Structures and Machines  
International Journal of Engineering, Science and Technology  
Multidiscipline Modeling in Materials and Structures  
Advances in Nano Research  
Coupled Systems Mechanics  
Mechanics of Advanced Composite Structures  
Numerical Methods in Civil Engineering Journal  
Advances in Solid and Fluid Mechanics  
Advances in Materials Science and Engineering  
Journal of Rehabilitation in Civil Engineering  
AUT Journal of Civil Engineering  
Tabriz Mechanical Engineering Journal (in Persian)  
Journal of Solid and Fluid Mechanics (in Persian)  
Sharif Journal of Civil Engineering (in Persian)  
Amirkabir Journal of Civil Engineering (in Persian)  
Computational Methods in Engineering (in Persian)

## **Research Interests**

Smart materials and structures  
Laminated composite structures  
Development of refined theories for plates and shell structures  
Computational Mechanics  
Active and Passive vibration control of structures  
Contact and frictional modeling  
Structural control and health monitoring  
Soil-Structure Interaction  
Nonlinear analysis of steel and reinforced concrete structures  
Finite element modeling of reinforced concrete structures

## **Lectured Courses**

**MS:** Theory of Elasticity, Finite Element Method, Theory of plates and shells, Advanced Reinforced Concrete Design

**BS:** Statics, Strength of Materials I, Design of Concrete Structures I & II, Dynamics, Fluid Mechanics I, Soil Mechanics I, Technical Drawing, Metering and Calculation of Projects, Structural Analysis I, Fundamentals of Architectural Design and Urbanization

## National Patents

Fabrication of a fiber-cement-piezoelectric sensor for measurement of stress in concrete structures

## Books

M. Lezgy-Nazargah, R. Shadnia, (2015) Principles of Reinforced Concrete Design (in Persian),

## International Journal papers

Shoja-Senobar, M., Etemadi, E. and M. Lezgy-Nazargah. An analytical investigation of elastic–plastic behaviors of 3D warp and wool auxetic structures. *Int J Mech Mater Des* (2021). <https://doi.org/10.1007/s10999-021-09546-w>

N. Einafshara, M. Lezgy-Nazargah, S.B. Beheshti-Aval, Buckling, post-buckling and geometrically nonlinear analysis of thin-walled beams using a hypothetical layered composite cross-sectional model, *Acta mechanica*, (2021), <https://doi.org/10.1007/s00707-021-02936-3>

S. Jueyendah, M. Lezgy-Nazargah, H. Eskandari-Naddaf, S.A. Emamian, Predicting the mechanical properties of cement mortar using the support vector machine approach, *Construction and Building Materials*, 291, (2021), 123396

M. Lezgy-Nazargah, P. Vidal, O. Polit, A quasi-3D finite element model for the analysis of thin-walled beams under axial–flexural–torsional loads, *Thin-Walled Structures*, 164, (2021), 107811, <https://doi.org/10.1016/j.tws.2021.107811>

M. Lezgy-Nazargah, A finite element model for static analysis of curved thin-walled beams based on the concept of equivalent layered composite cross-section, *Mechanics of Advanced Materials and Structures*, <https://doi.org/10.1080/15376494.2020.1804649>

M. Biarjemandi, E. Etemadi, M. Lezgy-Nazargah, "Evaluation of mechanical properties of fiber reinforced composites filled with hollow spheres: a micromechanics approach", *Journal of Composite Materials*, (2021) 55(3), 331-345, <https://doi.org/10.1177/0021998320949649>

M. Lezgy-Nazargah, A four-variable global–local shear deformation theory for the analysis of deep curved laminated composite beams, *Acta Mech*, (2020) 231,1403–1434, <https://doi.org/10.1007/s00707-019-02593-7>

M. Lezgy-Nazargah, Arezou Elahi, Mohammad Pakizeh Tali,  $H_\infty$  control method for seismically excited building structures with time-delay, *Journal of Vibration and Control*, 2020, 26(11-12): 865-884, DOI: 10.1177/1077546319890010

M. Lezgy-Nazargah, P. Vidal, O. Polit, A penalty-based multifiber finite element model for coupled bending and torsional-warping analysis of composite beams, *European Journal of Mechanics - A/Solids*, (2020) 80, 103915 <https://doi.org/10.1016/j.euromechsol.2019.103915>

M. Lezgy-Nazargah, S. Saeidi-Aminabadi, M.A. Yousefzadeh, Design and fabrication of a fiber-cement-piezoelectric composite sensor for measurement of stress in concrete structures, *Archive of Civil and Mechanical Engineering*, (2019), 19(2), 405–416

G.A. Farzi, M. Lezgy-Nazargah, A. Imani, M. Eydi, M. Darabi, Mechanical, thermal and microstructural properties of OAT powder-epoxy composites, *Construction and Building Materials*, 2019, 197(10): 12-20

M. Lezgy-Nazargah, P. Vidal, O. Polit, A 1D nonlinear finite element model for analysis of composite foam-insulated concrete sandwich panels, *Composite Structures*, 2019, 210(15): 663-675

M. Lezgy-Nazargah, P. Vidal, O. Polit, A sinus shear deformation model for static analysis of composite steel-concrete beams and twin-girder decks including shear lag and interfacial slip effects, *Thin Walled Structures*, 2019, 134:61–70

- H. Khosravi, M. Khosravi, **M. Lezgy-Nazargah**, Pseudo-spectral method for mechanical buckling analysis of circular plates with variable thickness made of bimorph FGMs, *Numerical Methods in Civil Engineering*, 2018, 3(2), 57-69.
- M. Lezgy-Nazargah**, S.A. Emamian, E. Aghasizadeh, M. Khani, Predicting the mechanical properties of ordinary concrete and nano-silica concrete using micromechanical methods, *Sadhana*, (2018), 43:196
- M. Lezgy-Nazargah**, E. Etemadi, Reduced modal state-space approach for low-velocity impact analysis of sandwich beams, *Composite Structures*, 2018, 206: 762–773
- M. Lezgy-Nazargah**, S. Salahshuran, A new mixed-field theory for bending and vibration analysis of multi-layered composite plate, *Archive of Civil and Mechanical Engineering*, 2018, 18(3): 818–832
- M. Lezgy-Nazargah**, Z. Meshkani, An efficient partial mixed finite element model for static and free vibration analyses of FGM plates rested on two-parameter elastic foundations, *Structural Engineering and Mechanics*, 2018, 66(5): 665-676
- M. Lezgy-Nazargah**, An efficient materially nonlinear finite element model for reinforced concrete beams based on layered global-local kinematics, *Acta Mechanica*, 2018, 229(3), 1429-1449
- M. Lezgy-Nazargah**, M. Dezhangah, S. Sepehrinia, The effects of different FRP/concrete bond–slip laws on the 3D FE modeling of retrofitted RC beams - A sensitivity analysis, *Steel and Composite Structures*, 2018, 26(3), 347-360
- M. Lezgy-Nazargah**, H. Eskandari-Naddaf, Effective coupled thermo-electro-mechanical properties of piezoelectric structural fiber composites: a micromechanical approach, *Journal of Intelligent Material Systems and Structures*, (2018) 29(4), 496-513
- M. Lezgy-Nazargah**, A generalized layered global-local beam theory for elasto-plastic analysis of thin-walled members, *Thin-Walled Structures* 115 (2017) 48–57.
- M. Lezgy-Nazargah**, Assessment of refined high-order global-local theory for progressive failure analysis of laminated composite beams, *Acta Mechanica*, 2017, 228(5) 1923–1940
- M. Lezgy-Nazargah**, S.M. Divandar, P. Vidal, O. Polit, Assessment of FGPM shunt damping for vibration reduction of laminated composite beams, *Journal of Sound and Vibration*, (2017), 389, 101–118.
- M. Lezgy-Nazargah**, N. Cheraghi, An exact Peano Series solution for bending analysis of imperfect layered FG neutral magneto-electro-elastic plates resting on elastic foundations, *Mechanics of Advanced Materials and Structures*, (2017), 24(3) 183-199
- H. Eskandari-Naddaf, **M. Lezgy-Nazargah**, H. Bakhshi, Optimal methods for retrofitting corrosion-damaged reinforced concrete columns (2016), *Procedia Computer Science*, 101, 262 – 271
- M. Lezgy-Nazargah**, A high-performance parametrized mixed finite element model for bending and vibration analyses of thick plates, *Acta Mechanica*, (2016), 227(12), 3429–3450
- M. Lezgy-Nazargah**, A three-dimensional Peano series solution for the vibration of functionally graded piezoelectric laminates in cylindrical bending, *Scientia Iranica* (2016), 23(3), 788-801
- M. Lezgy-Nazargah**, Efficient coupled refined finite element for dynamic analysis of sandwich beams containing embedded shear-mode piezoelectric layers, *Mechanics of Advanced Materials and Structures*, (2016), 23(3): 337-352
- M. Lezgy-Nazargah**, P. Vidal, O. Polit, NURBS-based isogeometric analysis of laminated composite beams using refined sinus model, *European Journal of Mechanics A/Solids*, (2015), 53, 34-47
- M. Lezgy-Nazargah**, Fully coupled thermo-mechanical analysis of bi-directional FGM beams using NURBS isogeometric finite element approach, *Aerospace Science and Technology*, (2015), 45, 154–164
- M. Lezgy-Nazargah**, A micromechanics model for effective coupled thermo-electro-elastic properties of Macro Fiber Composites with interdigitated electrodes, *Journal of Mechanics* (2015), 31(2), 183 – 199

- M. Lezgy-Nazargah**, A three-dimensional exact state-space solution for cylindrical bending of continuously non-homogenous piezoelectric laminated plates with arbitrary gradient composition, *Archives of Mechanics* (2015), 67(1), 25-51
- M. Lezgy-Nazargah**, L. Kafi, Analysis of composite steel-concrete beams using a refined high-order beam theory, *Steel and Composite Structures*, (2015), 18(6), 1353-1368
- M. Lezgy-Nazargah**, An isogeometric approach for the analysis of composite steel–concrete beams, *Thin-Walled Structures*, (2014), 84, 406–415
- M. Lezgy-Nazargah**, P. Vidal, O. Polit, “An efficient finite element model for static and dynamic analyses of functionally graded piezoelectric beams” *Composite Structures* (2013), 104, 71-84
- S.B. Beheshti-Aval, S. Shahvagher-Asl, **M. Lezgy-Nazargah**, M. Noori, “A finite element model based on coupled refined high-order global-local theory for static analysis of electromechanical embedded shear-mode piezoelectric sandwich composite beams with various widths” *Thin Walled Structures*, 2013, 72:139-163
- M. Lezgy-Nazargah**, Farahbakhsh, M., Optimum material gradient composition for the functionally graded piezoelectric beams, *International Journal of Engineering, Science and Technology*, 2013, 5(4), 80-99
- M. Lezgy-Nazargah**, S.B. Beheshti-Aval, “Coupled refined layerwise theory for dynamic free and forced responses of piezoelectric laminated composite and sandwich beams”, *Meccanica*, 2013, 48(6):1479–1500
- S.B. Beheshti-Aval, **M. Lezgy-Nazargah** “A new coupled refined high-order global-local theory and finite element model for electromechanical response of smart laminated /sandwich beams”, *Archive of Applied Mechanics*, 2012, 82(12), 1709-1752
- M. Lezgy-Nazargah**, M. Shariyat and S.B. Beheshti-Aval "A refined high-order global-local theory for finite element bending and vibration analyses of the laminated composite beams" , *Acta Mechanica*, 2011, 217:219-242
- M. Lezgy-Nazargah**, S.B. Beheshti-Aval and M. Shariyat "A refined mixed global-local finite element model for bending analysis of multi-layered rectangular composite beams with small widths", *Thin Walled Structures*, 2011, 49:351-362
- S.B. Beheshti-Aval, **M. Lezgy-Nazargah**, P. Vidal, O. Polit, “A Refined Sinus Finite Element Model for the Analysis of Piezoelectric-Laminated Beams”, *Journal of Intelligent Material Systems and Structures*, 2011, 22(3):203-219
- S.B. Beheshti-Aval, **M. Lezgy-Nazargah**, “Assessment of velocity-acceleration feedback in optimal control of smart piezoelectric beams”, *Smart Structures and Systems*, 2010, 6(8):921-938
- S.B. Beheshti-Aval, **M. Lezgy-Nazargah** “A finite element model for composite beams with piezoelectric layers using a sinus model”, *Journal of Mechanics*, 2010, 26(2):249-258

## International Conference papers

- P. Vidal, O. Polit, S.B. Beheshti-Aval, **M. Lezgy-Nazargah**, “Refined Sinus Finite Elements: Application to Thermal and Piezoelectric Coupling”, *Design, Modelling and Experiments of Advanced Structures and Systems, DEMEASS IV, Luxembourg, 2011*
- M. Lezgy-Nazargah**, M. Khani, S.A. Emamian, "Numerical Evaluation of Behavior of Excavations Stabilized by Cast-in-place Concrete Pile", *3rd International Conference on Applied Researches in Structural Engineering and Construction Management (secm2019)*, Sharif University of Technology, Tehran, Iran, June 26-27, 2019.

**M. Lezgy-Nazargah**, "Effect of Air-entraining Admixture and Micro-Silica on Corrosion Behavior of Reinforced Concretes", *10th Annual Conference on Corrosion, Protection Inheritance and Innovation*, Nanchang, Jiangxi, China, October 23-25, 2019

## Research Projects

- 2017- 2019 "The use of parametrized variational principles for the finite element analysis of thick plates" *for Hakim Sabzevari University, Iran*
- 2017- 2019 "Assessment of the effects of the interlayer slip on the behavior of anisotropic magneto-electro-elastic plates" *for Hakim Sabzevari University, Iran*

## M.Sc. Students

- |      |                      |   |
|------|----------------------|---|
| 2019 | Mahdi Fahimi-Aliabad | Fabrication of a wireless piezoelectric sensors for vibrational monitoring of steel structures: An experimental study   |
| 2019 | Sebhatalah Juyandeh  | Prediction of mechanical properties of mortar containing nano and micro silica using support vector machine for cement 525 ( <i>in collaboration with Dr. H. Eskandari-Naddaf</i> ) |
| 2019 | S. Sadegh Saghravani | Flexural-torsional analysis of reinforced concrete beams by using an efficient finite element model   |
| 2019 | Mojdeh Biarjmandi    | Evaluation of mechanical properties of fiber reinforced composites filled with hollow spheres layers ( <i>in collaboration with Dr. E. Etemadi</i> )                                |
| 2018 | Morteza Khani        | A finite element model for analysis of thin-walled steel beams with considering torsion effects   |
| 2018 | Sariya Hashemi       | Finding optimal shape of greenhouse truss structures: Case study of Sabzevar's available greenhouse structures  |
| 2018 | Rahele Sadeghi       | Evaluating the feasibility of using ETFE foils for designing of lightweight industrial structures   |
| 2018 | Hassan Kooshki       | Seismic evaluation of reinforced concrete beam-column joints designed according to ABA code   |
| 2017 | Sima Salahshuran     | Parametrized mixed theory for static analysis of laminated composite plates   |
| 2017 | Sara Meshkani        | Static analysis of FGM plates using a parametrized Mixed theory   |
| 2017 | Hassan Fadavi        | The effect of groundwater levels on seismic response of structures, including soil-structure interaction  |
| 2017 | Hossein Divandar     | Seismic analysis of steel moment frames under vertical component of earthquake with considering soil-structure interaction effects  |
| 2017 | Vahid Tadayonfar     | Seismic analysis of steel moment frames with considering soil-structure interaction: comparison of 2D and 3D finite element modeling  |

2017	Nasim Ekrami	Evaluation of the effects of different bond-slip laws on the flexural response of FRP reinforced concrete beams
2017	Hassan Koshki	Seismic evaluation of reinforced concrete beam-column joints designed according to ABA code
2017	Vahid Khalooyi	Effects of soil-structure interaction on the seismic response of reinforced concrete frames
2016	Hadi Keykhosravi	Assessment of buckling behavior of concrete filled double skin steel tubes (CFDST)
2016	S. Ali Movlavipour	Seismic analysis of concrete frames on slope lands with considering soil-structure interaction effects
2016	S. Ali Hejazian	Seismic assessment of reinforced concrete beam-column joints strengthened with fibers
2016	Mohammad Hajjar	Evaluation of seismic and buckling behaviors of steel shell structures
2016	Ehsan Hajjar	Determination of parameters affecting the ultimate load capacity of plate girder made of deep corrugated webs
2016	Ali Dovlatabadi	Evaluation of the effects of boundary elements of reinforced concrete shear walls on the global ductility of steel frames
2016	Abbas Azimifard	Seismic performance of steel frames with reduced beam section connections considering soil-structure interaction
2015	Hossein Nabavifard	The effects of steel beams embedded in the concrete shear walls on the lateral resistance of moment frames
2015	Mahdi Dezhangah	Finite element modeling of FRP reinforced concrete beams with considering interlayer slip effects
2015	Hossein Nabavi-fard	The effects of steel beams embedded in the concrete shear walls on the lateral resistance of moment frames
2015	Samaneh Mesgar	Prediction of mechanical properties of masonry materials using micromechanical and homogenization methods
2015	Mohsen Divadari	Vibration reduction of beam structures using shunted piezoelectric damping
2015	Ali Nejatipur	Progressive damage analysis of laminated composite beams using a high order theory
2015	Amir Tazarghi	Pushover analysis of steel frames containing double skin composite shear wall system
2014	Ramin Soozani	Finite element analysis of curved beams with considering the effects of the transverse shear stresses

2014	Jaber Ramshini	Evaluation of Bending and Shear Behavior of Bubble Deck Floor System using Finite Element Method
2014	Mohsen Abgol	Analysis of thick plates using a refined high order theory
2014	Leyla Kafi-Sani	Analysis of composite steel-concrete beams using a higher order theory
2014	Naser Cheraghi	Static analysis of composite plates including anisotropic functionally graded magneto-electro-elastic layers
2014	Hadi Hosseini-Nasab	Seismic Analysis of Steel Frames with Considering Soil-Structure Interaction Effects
2014	Mostafa Estaji	Prediction of the properties of concrete via micromechanic methods
2014	Mahmood Ehsani-Asl	Numerical evaluation of vertical cut slopes stabilized using cast-in-situ piles
2013	Mehrzad Sarhangzadeh	Optimum seismic design of cold-formed steel structures
2013	Ali Abbasi	Retrofit of reinforced concrete shear walls with FRP
2013	Mohammad Nashveh	Assessment of the concrete slabs reinforced with FRP textile
2012	Hamid Rayati	Optimization of composite laminated structures using genetic algorithms and finite element analysis ( <i>in collaboration with Prof. S.B. Beheshti-Aval</i> )
2012	Selda Shahveghar	Static analysis of laminated composite beams with embedded shear piezoelectric layers ( <i>in collaboration with Prof. S.B. Beheshti-Aval</i> )