

## Ali Maghami, Ph.D.

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Online profiles:  Google Scholar  LinkedIn  GitHub

University profiles:  Poliba  TU-Berlin

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## Education and Academic Experiences

- **Research Scholar** (July 2025 - Current)  
Universität Stuttgart, Germany  
Supervisor: Prof. Malte Krack.
  - **Research Scholar** (July 2024 - Current)  
Cyber-Physical Systems in Mechanical Engineering,  
Technische Universität Berlin, Germany  
Supervisor: Prof. Merten Stender.
  - **2nd, Doctor of Philosophy in Mechanical Engineering** (April 2023 - Current)  
Politecnico di Bari, Italy  
Supervisors: Prof. Antonio Papangelo, Prof. Michele Ciavarella.
  - **Postdoctoral Researcher** (Sep 2019 - March 2023)  
Ferdowsi University of Mashhad, Iran  
Supervisor: Prof. S.M. Hosseini.
  - **Research Scholar** (July 2018 - Jan 2019)  
Department of Civil, Environmental, and Geo-Engineering,  
University of Minnesota, Twin Cities, USA  
Supervisor: Prof. Dominik Schillinger.
  - **1st, Doctor of Philosophy in Civil Engineering - Structural** (Sep 2014 - Sep 2019)  
Ferdowsi University of Mashhad, Iran  
Thesis rated as Excellent. Supervisors: Prof. F. Shahabian, Prof. S.M. Hosseini.
  - **Master of Science in Civil Engineering - Structural** (Sep 2011 - Sep 2013)  
Shahid Bahonar University of Kerman, Iran  
Thesis rated as Excellent. Supervisor: Prof. Hamed Saffari.
  - **Bachelor of Science in Civil Engineering** (Sep 2006 - Feb 2011)  
Azad University of Mashhad, Iran.
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## Scholarships, Honors, and Awards

- Awarded the **ERC–SURFACE** scholarship for pursuing a PhD in Italy and participating in a research abroad program as a research scholar at TU-Berlin, Germany.  
Supported by the EU Commission through funding from the **European Research Council (ERC)**, confirmed by Polytechnic University of Bari, Italy.

- Research Scholar Grant.  
Ministry of Science and Technology of Iran for supporting living expenses and travel to the United States as a research scholar, with confirmation from the University of Minnesota, USA.
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## Editorial Role

Review Editor in Frontiers in Built Environment - Computational Methods in Structural Engineering Link.






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








## Technical Peer Reviews









Verified peer-reviews at Web of Science : 84 reviews.

- Engineering Applications of Artificial Intelligence, (Elsevier) IF=7.5 Q1 Link , 9 reviews.
  - Journal of Vibration Engineering & Technologies, Q2 Link (Springer), 45 reviews.
  - Results in Engineering (Elsevier) IF=6.0, Q1 Link 7 reviews.
  - Journal of Applied Physics (American Institute of Physics), Q2 Link, 2 reviews.
  - Applied Physics Letters (American Institute of Physics), Q2 Link, 2 reviews.
  - Signal, Image, and Video Processing (Springer) Q2 Link , 1 review.
  - Journal of Soft Computing in Civil Engineering Q1 Link, 12 reviews.
  - Journal of Rehabilitation in Civil Engineering, Q3 Link 2 reviews.
  - 5th International Conference on Material Strength and Applied Mechanics (MSAM 2022).
  - 3rd International Conference on Numerical Modelling in Engineering (NME 2020).
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## Publications


- **A. Maghami**, M. Stender, and A. Papangelo (2025). "Pull-off force prediction in viscoelastic adhesive Hertzian contact by physics-augmented machine learning". *arXiv preprint*, arXiv:2505.11685.
- **A. Maghami**, Q. Wang, M. Tricarico, M. Ciavarella, Q. Li, A. Papangelo (2024), "Bulk and fracture process zone contribution to the rate-dependent adhesion amplification in viscoelastic broad-band materials", *Journal of the Mechanics and Physics of Solids*, 193, 105844. doi: j.jmps.2024.105844,  Q1 in SJR ranking, **Ranked #5** in Mechanical Engineering journals by Google , **Ranked #104** in Physics and Astronomy by Scimago 
- **A. Maghami**, M. Tricarico, M. Ciavarella, A. Papangelo (2024), "Viscoelastic amplification of the pull-off stress in the detachment of a rigid flat punch from an adhesive soft viscoelastic layer", *Engineering Fracture Mechanics*, 298, 109898. doi: j.engfracmech.2024.109898,  Q1 in SJR ranking, **Ranked #42** in Mechanics of Materials by Scimago 

- **A. Maghami**, F. Shahabian, S. M. Hosseini (2018), "Path following techniques for geometrically nonlinear structures based on Multi-point methods", *Computers & Structures*, 208, 130-142.  
doi: 10.1016/j.compstruc.2018.07.005,  Q1 in SJR ranking, **Ranked #14** in Structural Engineering by Google , **Ranked #191** in Materials Science by Scimago 
- M. S. Ahmad-Abad, **A. Maghami**, M. Ghalishooyan, A. Shooshtari (2024), "A family of minimum residual displacement methods as nonlinear solution schemes for equilibrium path-following in structural mechanics", *Computers & Structures*, 300, 107407.  
doi: j.compstruc.2024.107407,  Q1 in SJR ranking, **Ranked #14** in Structural Engineering by Google , **Ranked #191** in Materials Science by Scimago 
- **A. Maghami**, S. M. Hosseini (2022), "Automated design of phononic crystals under thermoelastic wave propagation through deep reinforcement learning", *Engineering Structures*, 263, 114385.  
doi: j.engstruct.2022.114385,  Q1 in SJR ranking, **Ranked #3** in Structural Engineering journals by Google , Top 10% most cited in Engineering (more than 9 citations in 2023 and 2024) by Google 
- **A. Maghami**, S.M. Hosseini (2024), "Initial load factor adjustment through genetic algorithm for the generalized displacement control method: Implementation on non-rigid origami analysis", *Thin-Walled Structures*, 111972.  
doi: j.tws.2024.111972,  Q1 in SJR ranking, **Ranked #4** in Structural Engineering journals by Google 
- S. Javadi, **A. Maghami**, S. M. Hosseini (2021), "A deep learning approach based on a data-driven tool for classification and prediction of thermoelastic wave's band structures for phononic crystals", *Mechanics of Advanced Materials and Structures*, 29(27), 6612-6625.  
doi: 10.1080/15376494.2021.1983088,  Q2 in SJR ranking, **Ranked #7** in Composite Materials journals by Google , Top 10% most cited in Engineering (more than 9 citations in 2023 and 2024) by Google 
- **A. Maghami**, S. M. Hosseini (2022), "Intelligent step-length adjustment for adaptive path-following in nonlinear structural mechanics based on group method of data handling neural network", *Mechanics of Advanced Materials and Structures*, 29(20), 2895-2912.  
doi: 10.1080/15376494.2021.1880677,  Q2 in SJR ranking, **Ranked #7** in Composite Materials journals by Google , Top 10% most cited in Engineering (more than 9 citations in 2023 and 2024) by Google 
- **A. Maghami**, D. Schillinger (2020), "A stiffness parameter and truncation error criterion for adaptive path following in structural mechanics", *International Journal for Numerical Methods in Engineering*, 121(5), 967-989.  
doi: 10.1002/nme.6253,  Q1 in SJR ranking, **Ranked #14** in Numerical Analysis by Scimago 
- M. Shahraki, F. Shahabian, **A. Maghami** (2023), "Combination of optimal three-step composite time integration method with multi-point iterative methods for geometric nonlinear structural dynamics", *International Journal of Structural Stability and Dynamics*, 24(14).  
doi: 10.1142/S0219455424501566,  Q1 in SJR ranking, **Ranked #38** in Aerospace Engineering by Scimago 


- M. Shahraki, F. Shahabian, **A. Maghami** (2022), "A unified scheme for nonlinear dynamic direct time integration methods: a comparative study on the application of multi-point methods", *Engineering with Computers*, 39(5), 3229-3248.  
doi: 10.1007/s00366-022-01743-1,  Q1 in SJR ranking, **Ranked #46** in Modeling and Simulation by Scimago 
  - M. Shahraki, F. Shahabian, **A. Maghami** (2024), "Hybrid methods for solving structural geometric nonlinear dynamic equations: Implementation of fifth-order iterative procedures within composite time integration methods", *Results in Engineering*, 21, 101989.  
doi: j.rineng.2024.101989,  Q1 in SJR ranking, **Ranked #88** in Engineering by Scimago 
  - **A. Maghami**, F. Shahabian, S. M. Hosseini (2022), "Multipoint variable generalized displacement methods: novel nonlinear solution schemes in structural mechanics", *Structural Engineering and Mechanics*, 83 (2), 135-151.  
doi: sem.2022.83.2.135,  Q3 in SJR ranking, **Ranked #188** in Civil and Structural Engineering by Scimago 
  - **A Maghami**, F Shahabian, S.M. Hosseini (2019), "Geometrically Nonlinear Analysis of Structures Using Various Higher Order Solution Methods: A Comparative Analysis for Large Deformation", *Computer Modeling in Engineering & Sciences*, 121 (3), 877-907.  
doi: 10.32604/cmcs.2019.08019,  Q3 in SJR ranking, **Ranked #188** in Modeling and Simulation by Scimago 
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## Advising and Mentorship

### PhD Students

- **Mojtaba Shahraki, Ph.D.**  (2024), Dissertation: *Geometric Nonlinear Dynamic Analysis of Structures Based on Time Integration Methods and Multipoint Methods*, Department of Civil Engineering, Ferdowsi University of Mashhad.  
(Results published across three papers in Q1-ranked journals.)

### Master's Students

- **Shirin Javadi**  (2021), Thesis: *Application of Deep Learning Methods Based on Neural Networks in Mechanical Analysis*, Department of Industrial Engineering, Ferdowsi University of Mashhad  
(Results published in a journal that held a Q1 ranking at the time of publication. She is currently pursuing a PhD at Worcester Polytechnic Institute, Boston, USA)

### Bachelor's Students

- **Francesco Vincenzo Vitulano** (2023), Project: *Numerical Modelling of the Detachment of a Flat Punch from a Viscoelastic Adhesive Layer*, Department of Mechanics, Mathematics, and Management, Politecnico di Bari
  - **Petrosillo Domenico** (2024), Project: *Adhesive Contact Analysis Between a Hertzian Indenter and a Viscoelastic Substrate*, Department of Mechanics, Mathematics, and Management, Politecnico di Bari
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## Teaching Experiences

- **Assistant, Elements of Mechanics of Materials** (March 2024 to June 2024)  
Department of Mechanics, Mathematics and Management, Politecnico di Bari, Italy  
Prepared and solved exercises for students, creating exercise sheets in LaTeX.
  - **Assistant, Mechanical behavior of aerospace materials** (October 2023-January 2024)  
Faculty of Engineering, Politecnico di Bari-Taranto Campus, Italy  
Prepared and solved exercises for students, creating exercise sheets in LaTeX.
  - **Assistant, Reliability of Structures** (Sep 2015-Jan 2018)  
Department of Civil Engineering, Ferdowsi University of Mashhad, Iran  
Contributed to curriculum design, graded papers, and exams of over 30 PhD students.
  - **Assistant, Mechanics of Material** (Sep 2016-Jan 2017)  
Department of Industrial Engineering, Ferdowsi University of Mashhad, Iran Prepared lectures and class activities for 20-25 sophomore-level undergraduates.  
Created and graded course assessments to ensure students stayed on track.
  - **Lecturer, Analysis of Structures** (Jan-July 2014) Department of Civil Engineering, Azad University, Torbat-e Heydarieh Branch, Iran  
Prepared lectures and class activities for over 30 sophomore-level undergraduates.  
Designed syllabus for class activities, ensured whether students stayed on track, assessed student's progress, and graded students in an exam-based approach.
  - **Lecturer, Concrete structures** (Jan-July 2014)  
Department of Civil Engineering, Azad University, Torbat-e Heydarieh Branch, Iran  
Prepared lectures and class activities for over 30 sophomore-level undergraduates.  
Designed syllabus for class activities, ensured whether students stayed on track, assessed student's progress, and graded students in an exam-based approach in addition to assigning and supervising their projects.
  - **Lecturer, Formwork for Concrete** (Jan-July 2014)  
Department of Civil Engineering, Azad University, Torbat-e Heydarieh Branch, Iran  
Designed syllabus for class activities, and ensured whether students stayed on track.
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## Conference Presentations

- **A. Maghami**, Q. Wang, M. Tricarico, M. Ciavarella, Q. Li, A. Papangelo (2025). "Viscoelastic crack propagation: is the fracture process zone contribution to dissipation rate-dependent?" *12th European Solid Mechanics Conference*, Lyon, France.
- **A. Maghami**, M. Stender, A. Papangelo (2025). "Real-time insight into adhesion of Hertzian indenter unloaded from a broadband viscoelastic substrate through a physics-augmented machine learning model", *12th European Solid Mechanics Conference*, Lyon, France.
- **A. Maghami**, M. Stender, A. Papangelo (2025). "Toward Real-Time Prediction of Adhesion in Viscoelastic Substrates with Physics-Augmented Machine Learning", *8th International Conference on Computational Contact Mechanics*, Munich, Germany.

- **A. Maghami**, A. Papangelo, M. Ciavarella (2024). "Soft Adhesive Viscoelastic Substrates: Exploring Augmenting Detachment Stress with a Rigid Punch", *Contact Mechanics International Symposium*, Lyon, France.
  - S. Javadi, **A. Maghami**, S. M. Hosseini (2021). "The application of deep learning in the classification of phenolic crystals", *The 7th International Conference on Industrial and Systems Engineering*, Mashhad, Iran.
  - S. Askari-Noghani, **A. Maghami**. (2019, Dec). "Android app for measurement of the severity of anxiety based on Beck Inventory", *13th International Conference on Engineering and Technology*, Oslo, Norway.
  - **A. Maghami**, H. Saffari, I. Mansouri (2014, May). "Nonlinear analysis of structures based on preconditioned bi-conjugate gradient algorithm", *8th National Conference on Civil Engineering*, Babol Noshirvani University of Technology, Babol, Iran. (In Persian)
  - **A. Maghami**, H. Saffari, I. Mansouri, E. Sotoudehnia (2014, May). "Extrapolation of inverse of stiffness matrix in nonlinear analysis of structures", *8th National Conference on Civil Engineering*, Babol Noshirvani University of Technology, Babol, Iran. (In Persian)
  - E. Sotoudehnia, H. affari, **A. Maghami**. (2014, May). "Application of conjugate gradient method in damage detection of structures with indefinite conditions and based on sensitivity analysis", *8th National Conference on Civil Engineering*, Babol Noshirvani University of Technology, Babol, Iran. (In Persian)
  - E. Sotoudehnia, H. Saffari, **A. Magham**. (2014, May). "Damage detection of structures using numerical methods and application of new assumptions in numerical solution process", *8th National Conference on Civil Engineering*, Babol Noshirvani University of Technology, Babol, Iran. (In Persian)
  - **A. Maghami**, H. Saffari (2013, May). "Application of bi-conjugate gradient and Newton-Raphson methods in nonlinear analysis of trusses", *7th National Conference on Civil Engineering*, University of Sistan and Baluchestan, Zahedan, Iran. (In Persian)
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## Technical Skills

- Programming: Python, MATLAB, FORTRAN, C++.
  - Engineering Tools: ABAQUS, AutoCAD, Etabs, OpenSees, Mathematica, Simulink, PyTorch, TensorFlow.
  - Others: LaTeX, Grapher, Visual Studio Code, Microsoft Office.
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## Languages

- English: Fluent.
  - Persian: Mother Tongue.
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## References

- **Prof. Antonio Papangelo**

Department of Mechanics, Mathematics and Management, Politecnico di Bari, Italy

Tel: +39 080 596 3623, Email: antonio.papangelo@poliba.it

 Google Scholar

- **Prof. Merten Stender**

Chair of Cyber-Physical Systems in Mechanical Engineering,

Technische Universität Berlin, Germany

Tel: +49 30 314-77117, Email: merten.stender@tu-berlin.de

 Google Scholar

- **Prof. Michele Ciavarella**

Department of Mechanics, Mathematics and Management, Politecnico di Bari, Italy

Tel: +39 080 596 3670 , Email: michele.ciavarella@poliba.it

 Google Scholar

- **Prof. Dominik Schillinger**

Adjunct Associate Professor, University of Minnesota, USA

Professor at Technische Universität Darmstadt, Germany

Tel: +49 511 762-4290, Email: schillinger@mechanik.tu-darmstadt.de, domink@umn.edu

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