Mohammad Ali Mesforush Mashhad

Faculty of Mathematical Sciences, Shahrood University of Technology, Shahrood, Iran.
+989397973468 amesforush@gmail.com A.Mesforush My Webpage

Education

Chalmers University of Technology **2005 – 2010**
Ph.D. in Applied Mathematics,(Numerical Partial Differential Equations) *Gothenburg, Sweden*

Shahid Bahonar University **1995 – 1997**
MSc in Applied Mathematics,(Numerical Analysis) *Kerman, Iran*

Shahid Bahonar University **1990 – 1995**
BSc in Applied Mathematics,(With focus on Computer Science) *Kerman, Iran*

Publications(Journal Papers)

- **A. Mesforush, S. Larsson, M. Kovacs**
  Finite element approximation of the Cahn-Hilliard-Cook equation, *SIAM Journal on Numerical Analysis*,
  DOI: 10.1137/110828150
- **A. Mesforush, S. Larsson**
  Finite element approximation of the linearized Cahn-Hilliard-Cook equation, *IMA Journal of Numerical Analysis*,
  DOI:10.1093/imanum/drq042
- **A. Mesforush, S. Larsson, M. Kovacs**
  Erratum, Finite element approximation of the Cahn-Hilliard-Cook equation, *SIAM Journal of Numerical Analysis*,
  DOI: 10.1137/140968161
- **A. Mesforush, Z. Mehraban** Boundary element method for Helmholtz equation, *Journal of Mathematical Extension*,
- **A. Mesforush, N. Habibi**
  Semi-Algebraic Mode Analysis For Finite Element Discretizations Of The Heat Equation, *Computational Methods for Differential Equations*,
  DOI: 10.22034/cmde.2019.32018.1549
- **A. Mesforush, K. Izadpanah, A. Nazemi** Stabilized IMLS based element free Galerkin method for stochastic elliptic partial differential equations, *Journal of Mathematical Modeling*,
  DOI: 10.22124/jmm.2019.14278.1314
- **A. Mesforush, M. Asgari, A. Nazemi** The numerical approximation for the solution of linear and non-linear integral equations of the second kind by interpolating moving least squares with error analysis, *Computational Methods for Differential Equations*,
  DOI: 10.22034/cmde.2020.31729.1483
- **A. Mesforush, M. Asgari, A. Nazemi** The numerical method for solving Volterra–Fredholm integro-differential equations of the second kind based on the meshless method, *Asian-European Journal of Mathematics* ,
  DOI: 10.1142/S1793557122500024
- **A. Mesforush, N. Habibi** Extending a new two-grid waveform relaxation on a spatial finite element discretization, *Computational Methods for Differential Equations*,
  DOI: 10.22034/cmde.2020.37349.1653
- **A. Mesforush, S. Larsson** A posteriori error analysis for the Cahn-Hilliard equation, *Journal of Mathematical Modeling*,
  DOI: 10.22124/JMM.2022.22244.1960
- **A. Mesforush, S. Mokhtari, R. Mokhtari, R. Akbari, C. Heitzinger** Solving Stochastic Nonlinear Poisson-Boltzmann Equations Using a Collocation Method Based on RBFs *MDPI nMathematics*,
  DOI: doi.org/10.3390/math11092118

- **A. Mesforush, N. Habibi** Semi-algebraic mode analysis for multigrid method on regular rectangular and triangular grids *Journal of Mathematical Modeling*,
  DOI: 10.22124/JMM.2023.23386.2086
- **A. Mesforush, K. Izadpanah** A new approach to apply the essential boundary conditions in element free Galerkin method for elliptic partial differential equations, *Journal of New Researches in Mathematics*,
- **A. Mesforush, S. Larsson** A posteriori error analysis for the Cahn-Hilliard equation
  Hindawi Journal of Mathematics,
  DOI: doi.org/10.22124/JMM.2022.22244.1960
- **A. Mesforush, S. Mokhtari, R. Mokhtari, R. Akbari, R. Akbari** An RBF-LOD Method for Solving Stochastic Diffusion Equations
  Hindawi Journal of Mathematics,
  DOI: doi.org/10.1155/2024/9955109

Publications(Books)

- **Python from Novice to Professional(In Persian)** , Translator
- **A quick guide into LATEX(In Persian)** , Author
- **A quick guide into MATLAB(In Persian)** , Author
- **Introduction to Linear Algebra (In Persian)**,Translator
- **Mathematics By Maple (In Persian)**,Translator
- **An Introduction to Finite Element Method(In Persian)** .Author

Conference Papers

- **A. Mesforush**
  Finite Element Method for The Linear Stochastic Cahn-Hilliard Equation,
  BIT Numerical Mathematics Circus in Olso.
- **A. Mesforush, N. Habibi**
  Multigrid waveform relaxation based on finite element discretization,
  Fifteenth International Conference Zaragoza-pau on Mathematics and its Applications.
- **A. Mesforush, K. Izadpanah**
  A new approach to applying the essential boundary,
  The 23rd Seminar on Mathematical Analysis and its Applications, Arak University.
- **A. Mesforush, M. Asgari**
  The numerical approximation for the solution of integral equations by interpolating moving least squares,
  The 23rd Seminar on Mathematical Analysis and its Applications, Arak University.
- **A. Mesforush, K. Izadpanah**
  RBF Meshless Method for Linear Stochastic Wave Equation,
  The Second National Conference of Mathematics: Advanced Engineering with Mathematical Techniques.
- **A. Mesforush, K. Izadpanah**
  Local Radial Point Interpolation Meshless Method for Transient Heat Conduction Problems,
  2nd National Conference on Applied Research in Mathematics and Physics.
- **A. Mesforush, M. Asgari**
  The Interpolating Element Free Galerkin Method for Transient Heat Conduction Problems,
  2nd National Conference on Applied Research in Mathematics and Physics.

Workshpos (As Instructor)

- **LaTeXWorkshop**,
  51'th Iranian Mathematics Conference, Kashan.
- **LaTeXWorkshop**,
  53'th Iranian Mathematics Conference, Behshahr.
- **LaTeXWorkshop**,
  54'th Iranian Mathematics Conference, Zanjan.
- **Numerical Solution of Partial Differential Equations by FEniCS**,
  The 9th Seminar on Numerical Analysis and its Applications, Gulilan University.

Teaching Expriences

- Topics in Finite Element Method (PhD)
- Stochastic Partial Differential Equations (PhD)
- Meshfree Methods in Partial Differential Equations (PhD)
- Advanced Numerical Analysis (MSc)
- Computational Methods for Partial Differential Equations (MSc)
- Introduction to Finite Element Method (MSc)
- Numerical Methods in Linear Algebra (MSc)
- Numerical Methods in Financial Mathematics (MSc)
- Seminar (MSc)
- Numerical Analysis 1 (BSc)
- Numerical Analysis 2 (BSc)
- Advanced Programming, C and Python (BSc)
- Numerical Linear Algebra (BSc)
- Calculus 1 (BSc)
- Calculus 2 (BSc)
- Engineering Mathematics (BSc)
- Data Structure (Bsc)
- Numerical Calculations (BSc)
- Ordinary Differential Equations (BSc)
- Partial Differential Equations (BSc).

Graduated PhD Students

- **Noora Habibi**,
  Investigating and Implementing a Multi-Grid Method on the Time-Dependant Equations with Finite-Element Discretization.
- **Komeil Izadpanah**,
  Numerical Solution for a Class of Deterministic and Stochastic Partial Differential Equations by Meshfree Methods.
- **Morteza Asgari**,
  Numerical solution for a class of two-dimensional integro- differential equations by meshfree methods.

Languages

- English [Fluent]
- Persian [Native]