Dr. R.SUJITHRA

Assistant Professor
Department of Applied Mechanics
Motilal Nehru National Institute of Technology
Allahabad-211004

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Education Qualifications

- **Ph.D**
  Department of Applied Mechanics
  Indian Institute of Technology Madras
  CGPA: 9
  Thesis: *Modeling and experimental studies on memory characteristics of thermally induced amorphous shape memory polymer.*
  Advisor: Prof. M. S. Sivakumar and Dr. A. Arockiarajan

- **M.S (by research)**
  Department of Rubber and Plastics Technology
  Madras Institute of Technology, Anna University Campus, Chennai
  CGPA: 8.36
  Thesis: *Finite element analysis of hyperelastic material.*
  Advisor: Prof. R. Dhanraj, Dept of Aerospace, MIT.

- **B.E**
  Department of Polymer Engineering
  Amrita Institute of Technology and Science, Coimbatore
  Percentage: 78.9
  Project: *Polymer blend based on industrial polymethylmethacrylate scrap with Acryonitrile Butadiene Styrene.*
  Advisor: Dr. M. Kannan

Research Areas

- Characterization of smart materials
- Computational material behavior

Computational Skills

- FEA packages: ABAQUS, ANSYS, MOLDEX 3D
- CAD Packages: Pro- E, AUTOCAD
- Programming Packages: MATLAB, C, FORTRAN

Publications

Journals

- R. Sujithra, M. S. Srinivasan and A. Arockiarajan (2015). Shape recovery studies for coupled deformations in an epoxy based amorphous shape memory polymers. Polymer Testing, 48, 1-6.
- R. Sujithra, M. S. Srinivasan and A. Arockiarajan (2016). Memory characteristics studies for large deflections in amorphous polymers: Experiments and numerical simulation. Journal of Intelligent Material Systems and Structures, Vol. 27, 1203-1217.
- R. Sujithra, M. S. Srinivasan and A. Arockiarajan (2014). Modelling memory effects in amorphous polymers. International Journal of Engineering Science, Vol. 84, 95-112.
- R. Sujithra, M. S. Srinivasan and A. Arockiarajan (2013). Computational studies on shape memory polymer under various deformations. Journal of Structural Engineering, Vol. 40, 72-82.

Book

- R. Sujithra, M.S. SivaKumar, A. Arockiarajan, 'Modeling and Experimental studies on amorphous shape memory polymers', Lambert Academic Publishing, Germany, 2016. (ISBN:978-3-330-01470-1)

Conference Proceedings

- R. Sujithra, M. S. Srinivasan and A. Arockiarajan, 'Numerical Simulation on Thermo mechanical behavior of Shape Memory Polymer', International Conference on Smart Materials Structures and Systems, January 2012, Bangalore, India.
- R. Sujithra, M. S. Srinivasan and A. Arockiarajan, 'Design Friendly Modelling of Shape Memory Polymers – Key Issues and current Advances', 7th International Workshop on Advanced Smart Materials and Smart Structures Technology, July 2012, Bangalore.
- R. Sujithra, M. S. Srinivasan and A. Arockiarajan, 'Finite Element Analysis of Shape Memory Polymer Seal using a thermomechanical constitutive model', 8th European solid mechanics conference, July 2012, Graz, Austria.
- R. Sujithra, M. S. Srinivasan and A. Arockiarajan, 'Finite Element Analysis of Shape Memory Behaviour in Polymers', 3rd Asian Conference on Mechanics of Functional Materials and Structures, Dec 2012, IIT Delhi.
- R. Sujithra, M. S. Srinivasan and A. Arockiarajan, 'Computational Studies on Shape Memory Polymer under Various Deformations', 4th International Congress on Computational Mechanics and Simulation, Dec 2012, IIT Hyderabad.
- R. Sujithra and R. Dhanaraj., 'Finite Element Analysis of Hyperelastic materials', National Conference on Advanced Materials and Characterization', July 2008, VIT, Vellore.

Professional Experience

- Assistant Professor (May 2018 onwards)
  Department of Applied Mechanics
  Motilal Nehru National Institute of Technology, Allahabad

- Assistant Professor (Aug 2016-April 2018)
  Department of Polymer Engineering
  Maharashtra Institute of Technology, Pune.

- Project officer (Dec 2014 – July 2016, Temporary basis)
  Department of Applied Mechanics, IITM
  Job profile: Characterization of Magnetorheological gels.

- Half-Time Teaching Research Assistant (July 2009-June 2014)
  Department of Applied Mechanics, IITM
  Job profile: Mechanics of Materials, UG/PG lab, smart materials, FEM.

- Project Assistant (Apr 2005 - June 2006)
  Center for Aerospace Research, MIT campus, Anna University, Chennai
  Job profile: Aging studies on solid propellants, Modeling and meshing in ICEM CFD.

- Lab chemist (June 2003 - Mar 2005)
  KK Polycolor PVT LTD, Chennai.
  Job profile: Developing colors (master batches), Mechanical testing of polymers.

Industrial Training / Summer courses

- Fracture and Fatigue of Engineering Materials, GIAN Course, Dec 2016, Pune University.
- Nonlinear Finite Elements in Engineering Analysis and Design, IIT, June 2008, Chennai.
- Polytrusions Private Limited, Chennai
- Vinplex Private Limited, Chennai
- Premier Instruments and Control Limited, Plant-1, Coimbatore
- Testing of Plastics, CIPET, Chennai