

Mr. SHOWKAT AHMAD KANTH

Bellow Dergund Pulwama J&K-192306, India

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*Seeking a challenging and rewarding opportunity with an organization of repute which recognizes and utilizes my true potential in the field of **Academics, Research and Development***

Areas of Expertise

Well versed with numerical solution of equations governing structural analysis with mechanical/ aerospace engineering applications. In depth knowledge of **MATLAB Programming** for modelling and simulation of different crack propagation problems.

Thorough understanding of enriched numerical techniques such as extended finite element method (XFEM) and Element Free Galerkin Method (EFGM) for solving different structural problems containing material discontinuities such as cracks, holes, inclusions etc. Well versed with softwares tools such as **ABAQUS** for solving various crack modelling problems.

A hand on various experimental techniques such as Servo-control dynamic testing machine by Walter+bai AG for determination of fatigue crack growth, low cycle fatigue and high cycle fatigue.

EDUCATIONAL CREDENTIALS

Ph.D. Mechanical, 2022

Area of research:

National Institute of Technology, Srinagar
Elasto-Plastic crack growth using enriched numerical techniques

**M Tech ,
(Manufacturing and Automation)**

Shri Mata Vaishno Devi University, Katra Jammu; *8.02 (CGPA)*

B E Mechanical, 2012

University of Kashmir

SCHOLARSHIPS

*April '2017
to
March '2022*

Ph.D. Scholarship Assistantship

Ministry of Human Resource and Development, Government of India

*June '2014
to
June '2016*

M. Tech. Scholarship Assistantship

Ministry of Minority Affairs, Merit cum Means Scholarship, Government of India

PROFESSIONAL EXPERIENCE

JEHLUM VALLEY MOTORS, J&K

Workshop Incharge

January' 2013 to February' 2014

NATIONAL INSTITUTE OF TECHNOLOGY SRINAGAR

Assistant Professor, contractual (Mechanical Engineering Department)

September' 2016 to March' 2017

- Teaching and mentoring students at bachelors and masters level.
- Utilized innovative teaching methods to develop an insight of various courses such as Strength of materials, Finite element method and fracture mechanics at bachelors and masters level.

NIT SRINAGAR | Research Scholar (Mechanical Engineering)**April'2017 to March' 2022**

- Analyzing, summarizing and presenting results for all research projects. Regularly reviewing ongoing research for trends. Providing insight on those findings and ensuring key findings are shared with appropriate internal audiences.
- Developing indigenous on numerical techniques such as XFEM and EFGM in **MATLAB** for modeling and simulation of various crack propagation problems.
- Responsible for analyzing various numerical techniques/applications and recommending technique to enhance programme efficiency.

**GOVT. COLLEGE OF ENGINEERING AND TECHNOLOGY GANDEBAL, J&K December'2022 to March' 2023
Assistant Professor, contractual (Mechanical Engineering Department)**

- Actively involved in creating a positive and inclusive teaching environment.
- Showcased proficiency in incorporating technology in teaching subjects such as Internal combustion engines, Machine design etc .

University of Kashmir, J&K**March'2023 till present****Lecturer, contractual (Mechanical Engineering Department)**

- Mentoring and tailoring students at bachelors and masters level to impart indepth knowledge of various courses.
- Incorporated technology and innovative methods to inculcate effective knowledge of courses such as Finite element method, Heat transfer, Engineering mechanics, Strength of materials etc.

Projects Undertaken

- Study of tribological and mechanical properties of copper based metal matrix composites.
- Portable power generating unit.

Summer Internship

- Four weeks internship with "Gas Turbine Pampore".
- Four weeks internship with "J & K SRTC Pampore".

Publications:

1. **Showkat Ahmad Kanth**, G. A. Harmain, Azher Jameel, "Investigation of fatigue crack growth in engineering components containing different types of material irregularities by XFEM", *Mechanics of Advanced Materials and Structures (Taylor & Francis)*, pp. 1-39, 2021. <https://doi.org/10.1080/15376494.2021.1907003>.
2. **Showkat Ahmad Kanth**, G. A. Harmain, Azher Jameel, "Assessment of fatigue Life in Presence of Different Hole geometries by X-FEM", *Iranian Journal of Science and Technology, Transactions of Mechanical Engineering (Springer)* , pp. 1-15, 2022. <https://doi.org/10.1007/s40997-022-00569-y>
3. **Showkat Ahmad Kanth**, G. A. Harmain, Azher Jameel, "Estimation of crack tip plastic zones in presence of material irregularities by extended finite element method", *Journal of the Brazilian Society of Mechanical Sciences and Engineering (Springer)* **45**, 304 (2023). <https://doi.org/10.1007/s40430-023-04235-5>
4. Aazim Shafi Lone, **Showkat Ahmad Kanth**, G. A. Harmain, Azher Jameel, "Modeling of Large Sliding Between Contacting Bodies by Penalty-Based Element-Free Galerkin Method Using Node-to-Segment Approach", *Iranian Journal of Science and Technology, Transactions of Mechanical Engineering (Springer)* , pp. 1-18, 2023. <https://doi.org/10.1007/s40997-023-00605-5>
5. **Showkat Ahmad Kanth**, G. A. Harmain, Azher Jameel, "Modeling of embedded and edge cracks in steel alloys by XFEM", *Elsevier, Materials Today: Proceedings* **26** (2020), pp. 814–818. <https://doi.org/10.1016/j.matpr.2019.12.423>

6. **Showkat Ahmad Kanth**, G. A. Harmain, Azher Jameel, “Elasto Plastic Crack Growth by XFEM: A Review”, Elsevier, *Materials Today: Proceedings 18(2019)*, pp. 3472-3481. <https://doi.org/10.1016/j.matpr.2019.07.275>
7. **Showkat Ahmad Kanth**, G. A. Harmain, Azher Jameel, “Modeling of Nonlinear Crack Growth in Steel and Aluminum Alloys by the Element Free Galerkin Method”, Elsevier, *Materials Today: Proceedings 5 (2018)*, pp. 18805–18814. <https://doi.org/10.1016/j.matpr.2018.06.227>
8. **Showkat Ahmad Kanth**, G. A. Harmain, Azher Jameel, “Enriched element free Galerkin method for elastoplastic crack growth in steel alloys”, Elsevier, Book Chapter (**In Press**).

Conferences Attended:

1. **Showkat Ahmad Kanth**, G. A. Harmain, Azher Jameel, “Level Set Methodology for Representing Different Discontinuities in Engineering Materials”, *62nd CONGRESS OF ISTAM (December 2017)*.
2. **Showkat Ahmad Kanth**, G. A. Harmain, Azher Jameel, “A state of Art Review on the Level Set Method for Modelling Discontinuities in Engineering materials”, *62nd CONGRESS OF ISTAM (December 2017)*.

Packages



Equipment's Handled

1. **Servo-control dynamic testing machine (Walter+bai AG 100KN)**
Fatigue crack growth testing
2. **Video Gauge (Imetrum)**
Determination of Strain
3. **Impact testing apparatus (Charpy and Izod)**

References:

1. **Prof. G. A. Harmain** | gharmain@nitsri.ac.in
Dean Research and Consultancy, Former HoD Professor, Mechanical Engineering Department, National Institute of Technology, Srinagar, India.
2. **Dr. Azher Jameel** | jameelazher@gmail.com
Assistant professor, Mechanical Engineering Department, National Institute of Technology, Srinagar, India
3. **Dr. Mir Irfan ul Haq** | haqmechanical@gmail.com
Assistant professor, School of Mechanical Engineering, Shri Mata Vaishno Devi University, J&K, India.
4. **Dr. Junaid Hassan Masoodi** | junaidmasoodi@uok.edu.in
Coordinator and Assistant professor, Department of Mechanical Engineering, IOT, University of Kashmir, India