Dr. SUJIT KUMAR

Associate Professor

Department of Mechanical Engineering,

Vidya Vihar Institute of Technology,

Maranga, Purnea- 854301, Bihar, INDIA

Email:
sujitkr0084@gmail.com
Mobile No.: +917903947601, +919006374794

Current Qualification

Ph.D. (Awarded)
Department of Mechanical Engineering
Indian Institute of Technology (Indian School of Mines) Dhanbad, India
Topic: Performance investigation of hydro-motor drive system using proportional and priority valves

Academic Profile

Qualifications	University/College	Year	Marks (%)
Ph.D. (Mechanical Engineering)	IIT (ISM), Dhanbad	2019	NA
B.Tech. (Mechanical Engineering)	MACET, Patna	2011	72%

Area of interest

- Power hydraulics
- Fluid Mechanics
- Fluid Machinery
- Strength of materials
- Machine Design
- Theory of machine

RESEARCH PUBLICATION

1) K. Dasgupta, S. K. Ghoshal, **Sujit Kumar,** & J. Das. "*Dynamic analysis of an open-loop proportional valve controlled hydrostatic drive*" Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, SAGE, 2019, DOI: 10.1177/0954408919861247 [**SCI Indexed**]
2) **Sujit Kumar,** K. Dasgupta & S. K. Ghoshal, "*Fault diagnosis and prognosis of a hydro- motor drive system using priority valve*". Journal of the Brazilian Society of Mechanical Sciences and Engineering, 41(77), 2019, DOI: 10.1007/s40430-019-1572-7 [**SCI Indexed**]
3) ***S*ujit Kumar**, K. Dasgupta, S.K. Ghoshal & J. Das **,** "*Dynamic analysis of a hydro-motor drive system using priority valve*" Proceedings of the Institution of Mechanical Engineers, Part E: Journal of process Mechanical Engineering , SAGE Publication, 2018, DOI 10.1177/0954408918770470 [**SCI Indexed]**

4) ***S*ujit Kumar**, K. Dasgupta, & J, Das, "*Determination of the optimum steady-state performance of an open-loop and closed-loop valve-controlled hydro-motor drive: a design approach".* Journal of the Brazilian Society of Mechanical Sciences and Engineering, 40(3), 2018, ISSN:1678-5878, DOI10.1007/s40430-018-1055-2 **[SCI Indexed]**
5) J. Das, S.K. Mishra, R.S. Paswan, A. Kumar, **S. Kumar**, R. Saha & S. Mookharjee, "*Characterization and tracking control of a nonlinear electrohydraulic valve-cylinder system*" Proceedings of the Institution of Mechanical Engineers, Part E: Journal of process Mechanical Engineering , SAGE Publication, 2014, DOI: 10.1177/0954408914554021 **[SCI Indexed].**
6) Ramprit Baitha, Anil Kumar Das, **Sujit Kumar**, Monalisa, Aniket Manash "Green vs. chemical cerium oxide nanoparticles (CeO_2-NPs): Integrated assessment of synthesis pathways, structural properties, ferroelectric behavior, and biomedical applications" Solid State Communications 409(2026), 2026, DOI: https://doi.org/10.1016/j.ssc.2025.116309 **[SCI Indexed]**
7) Ramprit Baitha, Anil Kumar Das, **Sujit Kumar**, Monalisa, Aniket Manash "Biocompatible K-Substituted CoFe204 Nanoparticles for Electronics, Energy, and Biomedical Uses: Magnetic and Physicochemical Analysis" Chemical Papers, 2026, DOI: 10.1007/s11696-026-04747-z **[SCI Indexed]**
8) J. Das, **Sujit Kumar** et. al *"Modern Advancement of Hydraulic motor: A Review*" Applied Mechanics and Materials Journal (Vols. 592-594 (2014) pp 2179-2183) Trans Tech Publications, Switzerland (**Scopus**).
9) J. Das, **Sujit Kumar** et. al *"Study of energy saving system for hydrostatic drive*: *A Review*" Applied Mechanics and Materials Journal (Vols. 592-594 (2014) pp 2184-2188) Trans Tech Publications, Switzerland (**Scopus).**
10) J. Das, S.K Mishra, A. Kumar, N. Kumar, **Sujit Kumar**, R.S Paswan *"Study of energy recycling in electro-hydraulic system"* Applied Mechanics and Materials Journal (Vols. 592-594 (2014) pp 2244-2248) Trans Tech Publications, Switzerland (**Scopus**).
11) J. Das, S.K Mishra, A. Kumar, N. Kumar, **Sujit Kumar**, R. S Paswan *"Study on hybridization of hydraulic system used in heavy machinery"* Applied Mechanics and Materials Journal (Vols. 592-594 (2014) pp 2249-2253) Trans Tech Publications, Switzerland (**Scopus**).
12) R. S Paswan, J. Das, N. Kumar, A. Kumar, S.K Mishra, **Sujit Kumar** *"Performance analysis of directional control valve: An overview"* Applied Mechanics and Materials Journal (Vols. 592-594 (2014) pp 1983-1987) Trans Tech Publications, Switzerland (**Scopus**).
13) R. S Paswan, J. Das, N. Kumar, A. Kumar, S.K Mishra, **Sujit Kumar** *"Simulation study on different energy efficient hydraulic system: An overview"* Applied Mechanics and Materials Journal (Vols. 592-594 (2014) pp 2234-2238) Trans Tech Publications, Switzerland (**Scopus**).
14) R. S Paswan, J. Das, N. Kumar, A. Kumar, S.K Mishra, **Sujit Kumar** *"Hydraulic circuit n damper: An overview"* Applied Mechanics and Materials Journal (Vols. 592-594 (2014) pp 2056-2060) Trans Tech Publications, Switzerland (**Scopus**).

PAPER UNDER REVIEW

1) Multifunctional Properties of Pr-Substituted $BaFe_{12}O_{19}$ Hexaferrites: Structural, Magnetic, Optoelectronic, and Ferroelectric Investigation.

2) Synthesis and Physico-Chemical Characterization of Neodymium-Doped Cobalt Ferrite Nanoparticles for Dual Antioxidant-Photocatalyst Functionality for multifunctional applications.
3) Green Tea-Assisted Phytochemical Green Synthesis of Cerium Oxide Nanoparticles: Structure-Property Correlation and Optimization for Antioxidant and MTT-Based Biocompatibility.
4) Investigation of biocompatible potassium substituted cobalt ferrite nanoparticles' magnetic and physicochemical properties for applications in Electronics, Energy Materials, and Nanomedicine.
5) Structurally tunned enhance antioxidant activity and photocatalytic, magneto-ferroelectric property of neodymium substituted cobalt nanoparticles for its applications.
6) Comparative Investigation of Structural, Mechanical, and Magnetic Properties of $CoFe_2O_4$, $ZnFe_2O_4$, and $Co_{0.5}Zn_{0.5}Fe_2O_4$ Nanoparticles and Their Potential Applications in Advanced Industries.
7) Lanthanum-Induced Modulation of Structural, Optical, Elastic, Ferroelectric, and Magnetic Properties in Cobalt Ferrite Spinel Nanostructures for Advanced Functional Devices.

PATENT

1) **Sujit Kumar,** Hemant Kumar & Ranjan Kumar. "A hand-operated digital oil pump" *Design Patent*, Application No. 450784-001, Indian Patent Office, Government of India. Date of Filing: 08 March 2025, Publication Date: 20 June 2025.
2) Ranjan Kumar, Bhupal Kumar & **Sujit Kumar**. "Self-Balancing Two-Wheeler Vehicle" *Utility Patent*, Application No.:202531044595A, Indian Patent Office, Government of India. Date of Filing: 08 May 2025, Publication Date: 16 May 2025.

TEACHING & RESEARCH EXPERIENCE

Teaching Experience: - 6.5 years of teaching experience

Indian Institute of Technology (ISM), Dhanbad, July 2013 - February 2019

Responsibilities: Power hydraulics and Pneumatics, Soft Computing, Computer Aided Engineering (CAE), Fluid Machines, Measurement & Control and Computational Laboratory both UG and PG level. Project assistance to B.tech & M.tech students.

Computer and Software skills

- MATLAB & Simulink
- Bondgraph Simulation Technique
- LabVIEW
- Automation Studio
- OriginLab
- Grapher
- AutoCAD

Personal Vitae

- Father's Name : Sri Bindeshwar Prasad Saini
- Mother's Name : Smt. Sushila Saini
- Date of Birth : 25/11/1984
- Sex : Male
- Marital Status : Single

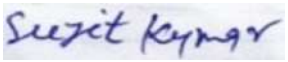
- Nationality : Indian
- Blood Group : O+
- Language Known : Hindi, English
- Current Address : Dr. Sujit Kumar
  Associate Professor
  Department of Mechanical Engineering
  Vidya Vihar Institute of Technology
  Maranga, Purnea- 854301, Bihar, INDIA

Hobbies

- Playing Cricket
- Cooking

Declaration

I hereby declare that all the above information is based on my testimonial and true to best of my knowledge.



Sujit Kumar