

# Faculty Profile

1. Name:Dr. Chandan Kumar
2. Department:MECHANICAL ENGINEERING
3. Email id:chandan.me@bitsindri.ac.in
4. Phone Number:8506949851
5. Office Address:Associate Professor ,M-09, Mechanical EngineeringDepartment, BIT Sindri, Dhanbad,-828123
6. Qualification:



| S. No | Degree(UG, PG, PhD) | Specialization                | Institute          |
|-------|---------------------|-------------------------------|--------------------|
| 1     | Ph. D               | Mechanical Engineering/Design | SLIET, LONGOWAL    |
| 2     | M.Tech              | Mechanical Engineering/CIDM   | RIT/NIT, JANSHEPUR |
| 3     | B.Tech              | Mechanical Engineering        | NMU, JALGAON       |

7. Area of Specialization:Design ,Rotor Dynamics, Vehicle Dynamics , Composite Materials , , Robotics , Rapid prototyping, Solar Energy

8. PhD (Guided):**01 ( In progress)/ M.Tech-06**

9. Subjects Taught:

**I) UG:-IC Engine, MD-1, MMC, RAC, MD-2 , CAD, CAM**

**II) PG:-, CAD, CAM , Advance IC Engine, Renewable Energy Sources**

10. Professional Experience: 19 + years

I) Teaching Experience: 16+Years

| Sl. No. | Position held       | Name of Organization | from       | to         |
|---------|---------------------|----------------------|------------|------------|
| 1       | Associate Professor | BIT Sindri           | 02/03/2021 | Present    |
| 2       | Professor           | NIET Gr. Noida       | 10/11/2014 | 27/02/2021 |
| 3       | Ass. Prof.          | GCET, Gr. Noida      | 23/08/2012 | 8/11/2014  |
| 4       | Associate Prof.     | IIMT Meerut          | 01/01/2010 | 22/08/2012 |
| 5       | Assistant prof.     | RGEC Meerut          | 01/07/2006 | 02/12/2008 |
| 6       | Lecturer            | RGEC Meerut          | 01/08/2005 | 30/06/2006 |
| 7       | Lecturer            | IIMT, Meerut         | 20/07/2004 | 31/07/2005 |

III) Industrial Experience:2 years 9 month

| Sl. No. | Position held    | Name of Organization | from       | to        |
|---------|------------------|----------------------|------------|-----------|
| 1       | Service Engineer | Voltas Ltd           | 12.02.2001 | 7.11.2003 |

11. Publications: 43

I)InternationalJournal: 25

| S. No | Title of Paper*   | Journal Name   | Vol (Issue)             | Year  | Page No.  |
|-------|---|--|-------------------------|-------|-----------|
| 1     | Dynamic modeling and simulation of transverse crack in rotating shaft through dissipative coupling. | Journal of Simulation, SCS Publications, (SCI)           | Vol.88(10),             | 2012. | 1260-1276 |
| 2     | Vibration analysis of multi rotor system through extended Lagrangian formalism”,                    | World Journal of Modelling and Simulation, (SCIE/Scopus) | vol. 8(2)               | 2012  | 103-112   |
| 3     | A brief review on dynamics of cracked rotor   | International Journal of Rotating Machinery(SCI/Scopus)  | doi:10.1155/2009/758108 | 2009  |           |

|    |   |   |                         |      |           |
|----|---|---|-------------------------|------|-----------|
| 4  | Effect of asymmetric stiffness on parametric instabilities of rotor   | Journal of Computational and Applied Research in Mechanical Engineering, (Scopus) | 1(2)                    | 2012 | 119-128   |
| 5  | “The Effect of Vacation Interruptions Policy on the Queueing System with Cost Optimization Performance Prediction and Analytics of Fuzzy, | Reliability and Queuing Models , Asset Analytics Springer                         |                         |      | 978-981   |
| 6  | Failure Analysis of Suspension System: Case Study-Tata Indica   | International Journal for Scientific Research and Development                     | 3(9)                    | 2015 | 1085-1090 |
| 7  | Development of computational model of half car through bond graph for comfort evaluation.   | International Journal of Innovation in Engineering and Technology                 | 7(1)                    | 2016 | 76-81     |
| 8  | Failure analysis of Suspension Coil Spring for passenger Car through Sem Microstructure Investigation                                     | International Journal of Innovation in Engineering and Technology                 | 7(1)                    | 2016 | 82-87     |
| 9  | Development of Shoe Sole Cleaner for Automobiles  | International Journal of Advance research in Science and Engineering              | 6(2)                    | 2017 | 345-349   |
| 10 | CFD Analysis of a 3d Aero foil using Ansys Fluent”  | International Journal of Advance research in Science and Engineering              | Vol. 4, Special Issue 3 | 2017 | 54-57.    |
| 11 | Optimization of production line by using MAYANARD operation sequence technique  | International Journal of Advanced research in engineering technology and science  | 5(3)                    | 2018 | 27-35     |

|    |  |   |   |      |           |
|----|--|---|---|------|-----------|
| 12 | Development of frame work for premature failure analysis of suspension system under poor operating condition | International journal of engineering research and management technology | 5(3)  | 2018 | 21-27     |
| 13 | Preparation of Magnetorheological fluids :A Research   | International journal of recent technology and engineering (Scopus)     | 8(3)  | 2019 | 2194-2199 |
| 14 | Reactive power management system for wind power plant  | International journal of recent technology and engineering (Scopus)     | 8(3)  | 2019 | 2204-2206 |
| 15 | Autonomous house floor cleaning robot  | International journal of recent technology and engineering (Scopus)     | 8(3)  | 2019 | 2094-2097 |
| 16 | Assessment and anthology of sustainable source of energy using an approach of promethee                      | IOP Conference Series: Materials Science and Engineering (Scopus)       | Vol 691, doi:10.1088/1757-899X/691/1/012040 | 2019 | 1-11      |
| 17 | A study on buckling of piezoelectric circular cylinder shell   | IOP Conference Series: Materials Science and Engineering (Scopus)       | Vol. 691 doi:10.1088/1757-899X/691/1/012040 | 2019 | 1-12      |
| 18 | Design and Fabrication of Gloves for Cold Temperature Field Work   | International Journal of Recent Technology and Engineering              | 8(6)  | 2020 | 3303-3305 |
| 19 | Drone to Collect and Clean Debris from Canals and Rivers   | International Journal of Engineering Research & Technology              | 9(7)  | 2020 | 381-390   |
| 20 | Power Transfer Capacity Achievement using Thyristor Controlled Series Capacitor                              | International Journal of Innovative Technology and                      | 9(6)  | 2020 | 590-595   |

|    |  |  |                            |      |             |
|----|--|--|----------------------------|------|-------------|
|    |  | Exploring Engineering, (Scopus)  |                            |      |             |
| 21 | Failure Analysis Of Suspension System Through Bond Graph.  | International Journal of Mechanical and Production Engineering Research and Development (Scopus) | 10(3)                      | 2020 | 11823-11832 |
| 22 | Bending Strength Determination Of Involute Spur Gear Using Analytical Method And Fem   | International Journal of Mechanical and Production Engineering Research and Development (Scopus) | 10(3)                      | 2020 | 11833-11848 |
| 23 | Mathematical calculation of voltage hazard in power station  | Advances in mathematics: Scientific Journal(Scopus)  | 9(10)                      | 2020 | 7899-7904   |
| 24 | Mathematical calculation of ground potential rise in power station   | Advances in mathematics: Scientific Journal(Scopus)  | 9(10)                      | 2020 | 7871-7877   |
| 25 | Multi-objective optimization of metal Injection Molding (MIM) Process Parameters Using ANN                                     | Journal of the MaharjaSayajirao university of Baroda (UGC CARE -I)                               | 54 no. 2(XI)               | 2020 | 103-114     |
| 26 | Mechanical Properties Investigation of Al 6063 T6/SiC MMC Fabricated Through Electromagnetic Stir Casting With Squeeze Casting | Sambodhi (UGC CARE -I)   | Vol-44 No.- 01 (I)         | 2021 | 378-391     |
| 27 | A review on Energy sources in India  | Anveshak (UGC CARE -I)   | 0378-4568 Vol 51, No. (VI) | 2021 | 116-127     |

## II) International Conference: 18

| S. No | Title of the paper | Name of the Conference in which | Vol/No. | Year | Pages |
|-------|--------------------|---------------------------------|---------|------|-------|
|-------|--------------------|---------------------------------|---------|------|-------|

|    |  | <b>publication has been made</b>                            |                                  |      |         |
|----|--|---|----------------------------------|------|---------|
| 1  | Bond graph modeling of a cracked rotor”.   | ICBGM-2010,,USA   | 978-1-4503-0069-8                | 2010 |         |
| 2  | Investigation of dynamics of asymmetric rotor through extended Lagrangian formalism”,                | IUROTOR-2009, IIT, Delhi                                    | Presented                        | 2009 |         |
| 3  | Analysis of dynamics of mass asymmetric rotor,   | ICTACEM-2010,IIT Kharagpur                                  | 978-93-80813-03-05               | 2010 | 124-127 |
| 4  | Computational and experimental analysis of transverse dynamics of rotor considering internal damping | NSRD-2011 IIT, Chennai                                      | ISBN: 978- 935-059-056-0         | 2011 | 60-69   |
| 5  | Dynamic analysis and modeling of cracked rotor, pp. 429-440, Dec, 2010. Presented by Rastogi V.      | VETOMAC-VI, IIT Delhi,                                      | 10-0230-332102, 13-9780230332102 | 2010 | 429-440 |
| 6  | Modelling for analysis of natural frequency of rotor system through extended Lagrangian approach,    | STME-2013, DTU, Delhi,                                      | Presented                        | 2013 |         |
| 7  | Investigation of Mechanical behaviour of hollow composite rotor, E glass/ Epoxy through FEM          | CETCME-2015   | Presented                        | 2015 |         |
| 8  | A brief review on the dynamics of conventional rotor (metal alloy) and composite rotor: A Survey     | CETCME-2015   | Presented                        | 2015 |         |
| 9  | Dynamic modelling and simulation of tire road dynamic  | CETCME-2015   | Presented                        | 2015 |         |
| 10 | F.E Modelling and analysis of vibrationbased mass flow measuring devices                             | CETCME-2015   | Presented                        | 2015 |         |
| 11 | Failure Analysis of Automotive Suspension System (Leaf & Helical Spring): A Review                   | International Symposium on Fusion of Science and Technology | 978-93-84935-64-1                | 2016 |         |

|    |  |   |                    |      |  |
|----|--|---|--------------------|------|--|
| 12 | Investigation of Mechanical Properties of E-Glass/Epoxy Hollow Rotor through FEM | International Symposium on Fusion of Science and Technology | 978-93-84935-64-1  | 2016 |  |
| 13 | A Comprehensive Review of Friction Stir Welding on Metal Matrix Composites       | CETCME-2017   | 978-93-82540-40-22 | 2017 |  |
| 14 | Dynamic modelling and simulation of contact between tire road dynamics.          | CETCME-2017   | 978-93-82540-40-30 | 2017 |  |
| 15 | A Study of Infrastructural security of SCADA                                     | CETCME-2020   | 978-9-35-561590-1  | 2020 |  |
| 16 | Dimensional Analysis of Infill Pattern In FDM 3D Printing                        | CETCME-2020   | 978-9-35-561590-1  | 2020 |  |
| 17 | Optimization Of Process Parameters In Hard Turning Of Tool Steel Using CBN Tool  | CETCME-2020   | 978-9-35-561590-1  | 2020 |  |
| 18 | Development Of Drone To Collect and Clean Debris From Canals And Rivers          | CETCME-2020   | 978-9-35-561590-1  | 2020 |  |

## 12. Patents (Filed / Granted)

| S. No. | Title of the Invention   | Application / Patent No. (As applicable) | Year | Status (Filed / Granted) |
|--------|--|--|------|--------------------------|
| 1      | System And Device For Artificial Lung                                      | 202021016552                             | 2020 | Published                |
| 2      | Universal Remote For Home Appliances                                       | 202031019501                             | 2020 | Published                |
| 3      | IOT Based Solar Powered Irrigation system and Method for Smart Agriculture | 202041037333                             | 2020 | Published                |

|   |                                   |                |      |           |
|---|-----------------------------------|----------------|------|-----------|
| 4 | Controlled paste injector         | 332740001      | 2020 | Published |
| 5 | CARTRIDGE FOR 3D-MEDICINE PRINTER | 202011041141 A | 2020 | Published |

### 13. Conference/ Workshop/Seminar/ Organized

| Sl. No. | Title of Seminar / Conferences / Short – term Courses | Name of Coordinator | Funding / Sponsoring Agency | Date of Seminar / Conferences / Short – term Courses | No. of Participants |
|---------|---|---------------------|-----------------------------|--|---------------------|
| 1       | 1 <sup>st</sup> International Conference CETCME-2015  | Dr. Chandan Kumar   | ISTE                        | 22& 23 March 2015                                    | Appx 500            |
| 2       | One Week FDP MSMES-2016                               | Dr. Chandan Kumar   | ISTE                        | 6 June to 10 june2016                                | 50                  |
| 3       | 2 <sup>nd</sup> International Conference CETCME-2017  | Dr. Chandan Kumar   | DST, Delhi                  | 18 <sup>th</sup> & 19 <sup>th</sup> Feb. 2017        | Appx. 500           |
| 4       | One week FDP AMP- 2017                                | Dr. Chandan Kumar   | AKTU & IEI                  | 27th Nov.- 1st Dec 2017                              | 60                  |
| 5       | National Conference NCAWT-2018                        | Dr. Chandan Kumar   | AKTU                        | 18 <sup>th</sup> & 19 <sup>th</sup> Sept. 2018       | Appx.350            |
| 6       | One week FDP OBE-2019                                 | Dr. Chandan Kumar   | AKTU                        | 19th - 23rd Feb 2019                                 | 150                 |
| 7       | 3rd International Conference CETCME-2020 (on line)    | Dr. Chandan Kumar   | AICTE                       | 21 <sup>st</sup> & 22 <sup>nd</sup> Aug 2020         | 950 views           |
| 8       | One Weak FDP- MEET 2021                               | Dr. Chandan kumar   | TEQIP-III/BIT Sindri        | 24 <sup>th</sup> -29 <sup>th</sup> May 2021          | 150                 |
| 9       | One Weak FDP- AIM 2021                                | Dr. Chandan kumar   | TEQIP-III/BIT Sindri        | 15 <sup>th</sup> -19 <sup>th</sup> June 2021         | 190                 |

### 14. Symposium/ Workshop/Seminar/ Attended

| S.No. | Title of Symposium/ Workshop/Seminar/ Short – term Courses | Date         | Organizing Institute |
|-------|--|--------------|----------------------|
| 1     | FDP on Thermal Engg. application                           | 4-9 Jan 2016 | ITS, Greater Noida   |



|    |   |   |  |
|----|---|---|--|
| 2  | FDP on Applications of Thermal Engineering                  | 20th - 24th Feb 2017                                  | GCET, Gr.Noida   |
| 3  | FDP on IC Engines & Compressors                             | 10th- 14th July 2017                                  | KIET Group of Institutions, Ghaziabad                          |
| 4  | FDP on Applications of Techniques Tool in Engineering       | 9th - 14th Oct 2017                                   | Gautam Buddha University, GB Nagar                             |
| 5  | FDP on Power generation from thermal & hydropower           | 6th- 8th Nov 2017                                     | National Power Training Institute (NR) (NIET, Gr. Noida)       |
| 6  | FDP on Advance in Manufacturing Process (AMP-2017)          | 27th Nov.- 1st Dec 2017                               | Institute of Engineers (India) & NIET, Gr. Noida               |
| 7  | FDP on Advance in Manufacturing Through ICT                 | 14th - 18th Jan 2019                                  | NITTR Chandigarh   |
| 8  | FDP on Modern Thermal Power Generation Technologies (MTPGT) | 29th Jan.- 2nd Feb 2019                               | AKTU, UP (GL Bajaj Institute of Engg. & Management, Gr. Noida) |
| 9  | FDP on Outcome Based Education (OBE-2019)                   | 19th - 23rd feb 2019                                  | AKTU, UP (NIET, Gr. Noida)                                     |
| 10 | FDP on Computer Aided Design & Manufacturing Through ICT    | 18 - 22 March 2019                                    | NITTR Chandigarh (NIET, Gr. Noida)                             |
| 11 | FDP on advancement in IC Engines                            | 03-14 Dec 2019  | IEC Group of institutions, Gr. Noida                           |
| 12 | FDP on MDP on Leadership Development                        | 14-16 Feb 2020  | IIM Lucknow  |
| 13 | FDP on Accreditation and Outcome Based Learning             | Aug-Oct 2020  | NPTEL-AICTE  |
| 14 | FDP on MATLAB   | 18-22 May 2020  | New gov. polytechnic Patna                                     |
| 15 | FDP on Pedagogy   | 15-19 DEC 2020  | NIET, Greater Noida  |
| 16 | FDP on Mechanical Engineering “ Emerging Tool”              | 24 <sup>th</sup> May to 29 <sup>th</sup> may 2021     | BIT Sindri   |
| 17 | FDP on Emerging Technology in Electrical Vehicle            | 8 <sup>th</sup> March to 12 <sup>th</sup> march 2021  | IIIT BhagalPur   |
| 18 | FDP on Outcome Based Education                              | 22 <sup>nd</sup> March to 26 <sup>th</sup> March 2021 | NIT Kashmir  |
| 19 | FDP on Advances in Manufacturing                            | 15 <sup>th</sup> June to 19 June 2021                 | BIT Sindri   |

15. Administrative Position Held:

| S. No. | Position Held           | From<br>(date/month/year) |
|--------|-------------------------|---------------------------|
| 1.     | HoD , Mech Engg. Deptt. | 2016-2020                 |

16. Award / Recognition Bestowed on Faculty (State / National / International)

**Felicitated by AKTU Lucknow on Teacher's Day 2019**

17. Members of Professional Bodies:

**FIE, LMISTE, IAENG, UACEE.**

18. Grant Received

- RPS / AICTE : 4.7 L ,
- MODROB /AICTE: 11.92 L
- Conference / AICTE : 5 L/50K
- Conference / DST : 50k