**Nand Jee K.**

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| * ***Editor of Region –Environments Journal (An Open Access Journal of Frontier Scientific Publishing Pte Ltd., Singapore, on Environments Related Analyses)*** * ***Assistant Professor, Mechanical Engineering Department, JSPM’s NTC, Pune*** * ***PhD Research Scholar, Mechanical Engineering, S. V. National Institute of Technology, Surat (An Institute of National Importance)*** * ***Specialization in Modeling and Simulation of CNT reinforced Composite Shell Panels, Self-Healing Composites, Smart Functionally Graded Materials, Self-Lubricating Smart Composites, Bio-Functional Electrospun Nanofibers, Modeling and Simulation of Stress Wave Propagation in Matrix Cracked Laminates in Structural Health Monitoring*** | ***Contact Details:***   * ***Cell: +91-9579248080*** * [***E-MAIL: nandssm@gmail.com***](mailto:E-MAIL:%20nandssm@gmail.com) |

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| ***“An enthusiastic and disciplined person looking for a stable position to share knowledge for the improvement of an organization and society”*** | |
| **Research Areas** | * Modeling and Simulation of CNTs Reinforced Composite Shell Panels * Modeling and Simulation of Self-Healing Composites * Biomimetic 4D Printed Materials * Smart Self-Lubricating Nanocomposites * Modeling and Simulation of Advanced Composites including Smart FGMs * Modelling of Stress Wave Propagation in Matrix Cracked Laminates * Manufacturing of Curcumin, Nylon 6 6, Carbon, and Zinc Oxide (ZnO) Nanofibers and Nanofibers Reinforced Smart Composites & Investigation of Parameters for Synthesizing Optimum Diameter of Nanofibers * Modeling and Optimization of Modern Manufacturing Processes * Finite Element Analysis of Mechanical Response of Fracture Fixation Functionally Graded Bone Plate |
| **Editor** | **Region –Environments Journal [December 2018 Onwards]**   * An Open Access International Journal of Frontier Scientific Publishing Pte Ltd., Singapore,on Environmental Analyses * Indexed by China National Knowledge Infrastructure (CNKI), Google Scholar, National Library of Singapore |
| **Funded Research**  **(Career-wise: 02 Projects Completed; valued at Rs. 2,04000)** | **Manufacturing of Nanocomposites Using Vacuum Assisted Resin Transfer Molding**   * **Role:** Principal Investigator * **Research Type:** Research * **Duration:** 01 Year * **Value:** Rs. 1, 02000 * **Agency:** Bhairavnath Sugar Works Ltd., Pune * **Status:** Completed   **Condition Monitoring, Vibration Analysis of Boiler Feed Pump and Suggestions to Initiate Active Maintenance of Boiler Feed Pump Impeller**   * **Role:** Principal Investigator * **Research Type:** Research * **Duration:** 01 Year * **Value:** Rs. 1, 02000 * **Agency:** Bhairavnath Sugar Works Ltd., Pune * **Status:** Completed |
| **PhD (Pursuing)** | **S. V. National Institute of Technology, Surat [December 2016 Onwards]**   * **Research Scholar:** Mechanical Engineering (Design) Department * **Research Areas:** Modeling and Simulation of CNTs Reinforced Composite Shell Panels |
| **Papers in Web of Science Journals** | * **“Electrospinning process parameters optimization for biofunctional curcumin/gelatin nanofibers”,** [*Materials Research Express*](https://iopscience.iop.org/journal/2053-1591)*,***2020,** 7, 035022,https://doi.org/[10.1088/2053-1591/ab7f60](https://doi.org/10.1088/2053-1591/ab7f60) **(SCIE, Impact factor.: 1.929; H Index.: 27).** * **“An Insight into the Simplified RP Transmission Network, Concise Baseline and SIR Models for Simulating the Transmissibility of the Novel Coronavirus Disease 2019 (COVID-19) Outbreak”,** *American Journal of Infectious Diseases,* **2020,** Accepted (In Press) **(ESCI; H Index.: 15).** * **“Numerical investigations of stress-deformation responses in fractured paediatric bones with prosthetic bone plates”,** [*IOP Conference Series: Materials Science and Engineering*](https://iopscience.iop.org/journal/1757-899X)*,* **2020,** 814, 012038, <https://doi.org/10.1088/1757-899X/814/1/012038> **(CPCI; H Index.: 31).** * **“The nonlinear deflection response of CNT/nanoclay reinforced polymer hybrid composite plate under different loading conditions”,** [*IOP Conference Series: Materials Science and Engineering*](https://iopscience.iop.org/journal/1757-899X)*,* **2020,** 814, 012033, <https://doi.org/10.1088/1757-899X/814/1/012033> **(CPCI; H Index.: 31).** * **“An insight into biomimetic 4D printing”,** *RSC Advances,***2019,** 9,38209-38226, https://doi.org/10.1039/C9RA07342F **(SCIE, Impact Factor.: 3.119; H Index.: 128).** * **“Self-healing composites: A state-of-the-art review”,** *Composites Part A: Applied Science and Manufacturing,* [**2019,** 121, 474-486, https://doi.org/10.1016/j.compositesa.2019.04.012](2019,%20121,%20474-486,%20https://doi.org/10.1016/j.compositesa.2019.04.012) **(SCIE, Impact Factor.: 6.44; H Index.: 166).** * **“Fracture problems, vibration, buckling, and bending analyses of functionally graded materials: A state-of-the-art review including smart FGMS”,** *Particulate Science and Technology,* **2018,** 37(5), 583-608,https://doi.org/10.1080/02726351.2017.1410265 **(SCIE, Impact Factor.: 1.619; H Index.: 32).** |
| **Published Papers in Reputed Conference Proceedings** | * **“Optimization of Critical Process Parameters of Tungsten Carbide in Electro Discharge Drilling”,** *1st International conference on Future Learning Aspects of Mechanical Engineering (FLAME 2018), Amity University, Noida,* **2018.** * **“A Review on Fabrication Techniques of Functionally Graded Materials”,** *Proceedings of 4th International Conference on Industrial Engineering (ICIE 2017), National Institute of Technology, Surat,* ISBN 978 93 86238 39 9, **2017.** * **“Mixed Mode Stress Intensity of Edge Crack Laminated Composite Plate in Hygrothermal Environment Using XFEM”,** *Proceedings of 3rd Indian Conference on Applied Mechanics (INCAM 2017), M. N. National Institute of Technology, Allahabad*, **2017.** |
| **Published Book Chapters** | * Vates U.K., Sharma B.P., **Kanu, N.J.,** Daniel, N.A., Subramanian, S., Sharma, P. **(2020) Optimization of Process Parameters of Galvanizing Steel in Resistance Seam Welding Using RSM.** In: Yadav, S., Singh, D., Arora, P., Kumar, H. (eds) Proceedings of International Conference in Mechanical and Energy Technology. Smart Innovation, Systems and Technologies, vol 174, Springer, Singapore, <https://doi.org/10.1007/978-981-15-2647-3_65> **(ISI Proceedings, EI-Compendex, SCOPUS; H Index.: 18).** |
| **R & D E, DRDO, Pune; Research**  **Experience (2 Years Research Experience)** | **Junior Research Fellowship, JRF [2014 -2015]**   * **About Project:** Worked on Project “Synthesis of Polyamide 6,6 Nanofibers of Various Diameters and Densities on the E-Glass Fabric by Electrospinning Process” * **Agency:** DRDO, Pune * **Laboratory:** Done Research in Composite and Nano Lab in BVDUCOE, Pune for R & D E, ENGINEERS, DRDO, PUNE * **Period:** From 1st April, 2014 to 30th June, 2015 |
| **M.TECH, [Mechanical], CAD/CAM Project (R & D E, DRDO, Pune)** | **Composite Research Center, R & D E Engineers, DRDO, Pune [2014 -2015]**   * **Company:** R & D E, Engineers, DRDO, Pune * **Period:** About 12 months As Research Fellow * **Role:** Modelling of Stress Wave Propagation in Matrix Cracked Laminates * **Software:** ANSYS, MATLAB, & MINITAB * **Project Experience:** Worked under the guidance of senior scientist (Grade ‘F’) and successfully completed those simulations |
| **Assistant Professor Experience (Teaching Since Year 2013)** | **Presently working as Asst. Professor in Pune University affiliated College [January 2018 – Till date]**   * **College:** JSPM’s NTC, Pune * **Department:** Mechanical Engineering * **Role:** Asst. Professor * **Responsibilities:** Teaching and Guiding B.E and M.E (Mechanical) students   **Previously worked as Asst. Professor in Gujarat Technical University [January 2017 – December 2017]**   * **College:** Institute of Technical and Management Universe, Vadodara * **Department:** Mechanical Engineering * **Role:** Asst. Professor * **Responsibilities:** Teaching and Guiding B.E (Mechanical) students   **Previously worked as Asst. Professor in Pune University [June 2015 – January 2017 ]**   * **College:** KJ’s College of Engineering & Management Research * **Department:** Mechanical Engineering * **Role:** Asst. Professor * **Responsibilities:** Teaching and Guiding B.E and M.E (Mechanical) students |
| **Lecturer Experience (During M.Tech)** | **Mechanical & Production Engineering [2014 - 2015]**   * **College/ Institution:** Bharati Vidyapeeth Deemed University, C.O.E., Pune * **Period:** From 1st April, 2014 till date * **Area of expertise:** FEA, FEM, CAD/CAM [CATIA V5, ANSYS 15, MATLAB, SIGNAL PROCESSING], Production Planning & Tool Selection, Machine Tool Design, Jigs, Fixtures & Die Design, Metal Forming, Material Science & Composite Materials, Material Science & Engineering Metallurgy |
| **Industrial Experience (Worked in Design Department on Body – In- White System)** | **Design Engineer [2013 - 2014]**     * **Company:** Dran Classic Automation Systems Pvt. Ltd, Pune * **Period:** About 08 months As Design Engineer * **Role:** Designing of Fixtures for BODY-IN-WHITE Systems * **Software:** CATIA V5 * **Project Experience:** Worked In Team on TATA, ALF, EICHER-POLARIS, NISSAN & HONDA Projects In 2D Detailing & 3D Modifications |
| **Industrial Project (SAIL, India)** | **Steel Authority of India Limited, Bhilai Steel Plant, India [July - August 2012]**   * **Company:** Steel Authority of India Limited, Bhilai Steel Plant * **Period:** About 2 months * **Project Title:** Profile Control In Merchant Mill * **Project Experience:** In Merchant Mill, study of Re-heating furnace includes design of furnace to heat in a given time, as much of material as possible to uniform temperature with the least possible fuel and labor. At the end it has been found that performance of furnace will be influenced by Mill Design, Mill Capacity, Furnace Capacity, Type of Fuel, End Temperature Requirement, Working Hours, Input Materials and Mill Products. The aim of furnace is to achieve the required minimum discharge temperature for the desired production rate. The complete report of working of Merchant Mill including suggestions to reduce defects in products like TMT Bars, Channels, Angels and Rods, has been submitted after rigorous analyses and observations of operations in SAIL, Bhilai Steel Plant. |
| **B.Tech., Final Year Project** | **Indian Institute of Geomagnetism, Mumbai and Bharati Vidyapeeth Deemed University, Pune [2012 - 2013]**   * **Project Title:** Manufacturing of Curcumin Nanofibers & Investigation of Parameters for Diameter of Nanofibers * **Outcome of project:** After completion of research work, Bio-functional Curcumin nanofibers of uniform diameter in nanometer have been synthesized using Electrospinning. And through the parametric investigation using Design of Experiment and Taguchi methods, optimum values of governing parameters have been achieved to synthesize the Bio-functional Curcumin nanofibers. |
| **Project Done [During B. Tech]** | |  |  |  | | --- | --- | --- | | Project Title | At | Year | | 1. Profile Control In Merchant Mill | SAIL, Bhilai Steel Plant | Aug: 2012 | | 2. Information Security | B.V.D.U., COE, Pune | Mar: 2012 | |
| **Other Published Papers** | * **“A Review on Electrospun Nanofibers for Air Pollution Control”,** *International Journal of Analytical, Experimental and Finite Element Analysis,* **2020,** 7(1), 9-18, <https://doi.org/10.26706/ijaefea.1.7.20200306>. * **“3-Point Bending Test of Carbon Nanotubes Reinforced Composites and their Applications”,** *International Journal of Analytical, Experimental and Finite Element Analysis,* **2019,** 6(2), 75-78, [https://doi.org/10.26706/IJAEFEA.2.6.20190402](https://doi.org/10.26706/ijaefea.1.7.20200306). * **“Manufacturing and Characterization of Electrospun Carbon Nanofibers”,** *International Journal of Analytical, Experimental and Finite Element Analysis,* **2019,** 6(2), 59-62, [https://doi.org/10.26706/IJAEFEA.2.6.20190403](https://doi.org/10.26706/ijaefea.1.7.20200306). * **“Manufacturing of Nylon 6,6 Nanofibers using Electrospinning”,** *International Journal of Analytical, Experimental and Finite Element Analysis,* **2019,** 6(2), 67-69, [https://doi.org/10.26706/IJAEFEA.2.6.20190404](https://doi.org/10.26706/ijaefea.1.7.20200306). * **“Manufacturing of ZnO Nanofibers using Electrospinning”,** *International Journal of Analytical, Experimental and Finite Element Analysis,* **2019,** 6(2), 63-66, [https://doi.org/10.26706/IJAEFEA.2.6.20190405](https://doi.org/10.26706/ijaefea.1.7.20200306) . * **“Recent Advances in Nanocomposites: An overview”,** *IOSR Journal of Mechanical and Civil Engineering,* **2018,** 70-75. * **“A Review on Electric Discharge Machine”,** *IOSR Journal of Mechanical and Civil Engineering,* **2018,** 67-74. * **“A Review on Metal Matrix Composites”,** *IOSR Journal of Mechanical and Civil Engineering,* **2018,** 12-14. * **“A Review on Nanocomposites”,** *IOSR Journal of Mechanical and Civil Engineering,* **2018,**49-51. * **“Automated Demand Response Program and Energy Efficiency Integration - It’s Time to Change”,** *International Journal of Science and Research*, **2017,** 6(6), 506-509. * **“Review-Parametric investigation of electro spun nanofiber”,** *International Journal of Engineering Research and General Science,* **2015,**3(5), 537-547. |
| **Education**  **Technical**  **Expertise** | **Post Graduation [2013 - 2015]**   * **Degree:** M.Tech in Mechanical [CAD/CAM]. Passed in 2015 * **Institution:** Bharati Vidyapeeth Deemed University, C.O.E, Pune * **Award:** First Class With Distinction  |  |  |  | | --- | --- | --- | | M.Tech. | SGPA | Out of | | Semester I , II, III & IV | **9.5** | **10** | | Aggregate | **9.5/10** |  |   **Engineering [2009 - 2013]**   * **Degree:** B.Tech in Production Engineering. Passed in 2013 * **Institution:** Bharati Vidyapeeth Deemed University, C.O.E., Pune * **Award:** First Class With Distinction  |  |  |  | | --- | --- | --- | | Graduation | % Marks | Marks Obtained / Total | | B.Tech. | **75.60** | **[1134 / 1500 ]** | | Aggregate | **65%** |  |   **Diploma in Network Security [2009-2012]**   * **Degree:** Diploma in Network Security. Passed in 2012 * **Institution:** Bharati Vidyapeeth Deemed University, C.O.E, Pune * **Award:** First Class With Distinction  |  |  |  | | --- | --- | --- | | Network Security | % Marks | Marks Obt / Total | | Diploma | **75** | **[262 / 350 ]** | | Aggregate | **72%** |  | |
| **Industrial**  **Visit** | * Bhatghar Hydroelectric Power Station, Pune * Electronica Machine Tools Ltd., Saswad, Pune * Mather & Platt Pumps Ltd., Pimpri – Chinchwad, Pune * Accurate Engineering Company Pvt. Ltd., Hadapsar, Pune * Mahindra Gears & Transmissions Pvt. Ltd, MIDC, Chakan, Pune |

**Conferences, Seminars, Workshops, Guest Lectures attended/organized**

* Participant of Two-Day Workshop on *3D Printing & its Applications,* organized in *BVDUCOE, Pune,* 24th – 25th January 2019
* Co-covenor in *1st National Conference on Recent Innovations in Mechanical Engineering, (NCRIME 2018),* organized in *JSPM’s NTC, Pune,* 27th – 28th February 2018
* Participant of *4th International Conference on Industrial Engineering (ICIE 2017),* organized in *S. V.* *National Institute of Technology, Surat,* 21st -23rd December **2017**
* Participant of *One Week* *Short Terms Training Programme (STTP) on Finite Element Methods for Engineering Applications, Advances in Numerical methods for Engineering Applications and Advances in Theoretical, Applied, Computational and Experimental Mechanics,* organized in *S. V.* *National Institute of Technology, Surat,* 30th November – 4th December **2015** & 30th May – 3rd June **2016** and 19th October – 23rd October **2016** respectively
* Participant of *3rd International Conference NANOCON 014,* organized in *BVDUCOE, Pune* on “Smart Materials, Composites, Applications and New Inventions”, 14th – 15th October **2014**
* Participant of Guest Lecture on *“Quality Audit”* by Sr. Manager GKN Drive Line India Ltd., organized by *Production Engineering Students Association* *of BVDUCOE, Pune,* 2nd March **2013**
* Participant of Guest Lecture on *“Vehicle Testing”* by Scientist Polymer Lab in charge CESS Fund projects & QM NABL, organized by *Production Engineering Students Association* *of BVDUCOE, Pune,* 2nd February **2013**
* Participant of *1ST International Conference* organized in *VIT, Pune* on *“Research Trends in the Design, Analysis and Manufacturing of Mechanical System”,* 15th March **2012**

**Other Activities**

* Roborace winner, *BHARATIYAM (A Technical and Cultural fest which is celebrated every year in the month of February in Bharati Vidyapeeth University, College of Engineering, Pune),* **2014**
* Robo Gladiatro winner, *BHARATIYAM,* **2012**
* Roborace winner, *BHARATIYAM,* **2011 & 2012**
* *“Poem & Literary section”* Head of *Production Engineering Student Association,* **2011-2012**
* Marketing Head of *BHARATIYAM,* **2011**
* One of the active members of *Production Engineering Student Association,* **2011-2012**
* One of the active members of *Training & Placement cell*, **2011-2012**
* Supporting member of *Alumni Association*, **2011, 2012 & 2013**

**Personal Information**

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| * **Date of Birth:** | 11/07/1990 |
| * **Nationality:** | Indian |
| * **Sex:** | Male |
| * **Marital Status:** | Married |
| * **Languages Known:** | Hindi & English |
| * **Strengths:** | Team player, Pertinacity, good at learning new things |
| * **Hobbies:** | Reading, Social Service, learning spiritual practices |

**References**

1. Dr. Gyanendra Kumar Singh, Faculty, Technical and Vocational Education and Training Institute, Ethiopia; *Contact: 8318950074*
2. Dr. Umesh Kumar Vates, Assistant Professor, Amity School of Engineering and Technology, Noida; *Contact: 8368713593*
3. Dr. Sachin S. Chavan, Professor, College of Engineering, Bharati Vidyapeeth Deemed University, Pune; *Contact: 9271635407*
4. Dr. A. Lal, Associate Professor, S. V. National Institute of Technology, Surat; *Contact: 9824442503*

**Declaration**

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| **I hereby declare that the information furnished above is true to the best of my knowledge & belief.** |

**Place: Pune Date: 30/06/2020 Signature: Nand Jee K.**