

## **CURRICULUM VITAE**

**Dr. SUSHIL KUMAR SINGH**

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### **CAREER OBJECTIVE**

TO OBTAIN A POSITION THAT WILL ENABLE ME TO USE MY STRONG ORGANIZATIONAL SKILLS, EDUCATIONAL BACKGROUND, AND ABILITY TO WORK WELL WITH PEOPLE.

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### **QUALIFICATION**

#### **PROFESSIONAL**

Ph. D. in Mechanical and Viscoelastic Investigations of Nano-filler Dispersed Epoxy Composites with **7.25 CP** from Motilal Nehru National Institute of Technology, Allahabad in 2019.

- M. Tech. (Production Engineering) with **6.9 CPI** from Mechanical Engineering Department, Motilal Nehru National Institute of Technology, Allahabad in 2013.
- B. Tech. in Industrial & Production Engineering with **64%** marks from Institute of Engineering and Rural Technology, Allahabad in 2009.

#### **RESEAECH AREA**

**Polymer nanocomposites & Additive manufacturing with 3D printing.**

#### **LIST OF PROJECT PROPOSALS SUBMITTED IN DST (SERB)**

- Fabrication and Development of Polymer nanocomposites, Science and Engineering Research Board, Government of India, 2020, Amount: Rs. 38.8 Lakhs. PI, File Number: CRG/2020/004956 (**Under Review**).
- Optimum Utilization of low-grade hematite iron ore by reduction through hydrogen followed by magnetic separation for the magnetite based pellet feed, Science and Engineering Research Board, Government of India, 2020, Amount: Rs. 21.8 Lakhs. Co-PI, File Number: CRG/2020/004895 (**Under Review**).

### Teaching Experience-

Designation	Duration	Institute
Assistant Professor	10 July, 2009 – 30 June, 2011	SIET, Allahabad
Assistant Professor	01 July, 2013 – 30 June, 2014	SIET, Allahabad
Visiting Professor	20 July, 2013 -15 November, 2013	IERT, Allahabad
Assistant Professor	27 August, 2018- Till	G H Raisonni College of Engineering Nagpur (NAAC A <sup>+</sup> , NIRF-139)
Engineering services examination and GATE (Teaching Experience)	2010- 2020	SIET, Allahabad & GHRCE Nagpur

### PUBLICATIONS

#### I. Papers in International Journals :

- i. **S. K. Singh**, S. Singh, A. Kumar A. Jain, Thermo-mechanical behavior of TiO<sub>2</sub> dispersed epoxy composites, **Engineering Fracture Mechanics** **184** (2017) 241–248. ( Elsevier, *Impact Factor -4.42*)
- ii. **Sushil Kumar Singh**, Abhishek Kumar and Anuj Jain “An analysis of mechanical and viscoelastic behaviour of nano-SiO<sub>2</sub> dispersed epoxy composites”. **Silicon** **12**, pages 2465–2477(2020), (**Springer**, *Impact Factor -2.41*)
- iii. **Sushil Kumar Singh**, Abhishek Kumar and Anuj Jain “Mechanical and viscoelastic properties of SiO<sub>2</sub>/epoxy nanocomposites post-cured at different temperatures” **Plastics, Rubber and Composites: Macromolecular Engineering** <https://doi.org/10.1080/14658011.2020.1840203> (**Taylor and Francis**, *Impact Factor -1.51*)
- iv. **Sushil Kumar Singh**, Abhishek Kumar and Anuj Jain “Effect of nanoparticles dispersion on viscoelastic properties of epoxy–zirconia polymer nanocomposites” **Materials Science and Engineering** **330** (2018) 012001. (**IOP Series** *Impact Factor -1.11*)
- v. **Sushil Kumar Singh**, Samarjit Singh, Raunak Kohli , Anuj Jain and Abhishek Kumar, “Effect of TiO<sub>2</sub> dispersion on mechanical properties of epoxy polymer” **AIP Conf. Proc.** **1728**, 020586-1–020586-6.
- vi. **Sushil Kumar Singh**, Abhishek Kumar and Anuj Jain “Improving tensile and flexural properties of SiO<sub>2</sub>-epoxy polymer nanocomposite” **Materials Today: Proceedings** **5** (2018) 6339–6344. Elsevier.
- vii. **Sushil Kumar Singh**, Samarjit Singh, Abhishek Kumar and Anuj Jain, “Investigation of Thermo-mechanical Properties of Surface Treated SiO<sub>2</sub>/Epoxy Nanocomposite” **Materials**

- Today 2020, <https://doi.org/10.1016/j.matpr.2020.09.137>. Elsevier.**
- viii. Neetika Keserwani, Ubaid Ahmad Khan, Sushil Kumar Singh, “Investigation of shape recovery response of epoxy-based amorphous polymer” **Materials Today 2021. <https://doi.org/10.1016/j.matpr.2020.12.126>.**
  - ix. Sourabh Shukla , Awanikumar P. Patil , Ashlesha P. Kawale , Sushil Kumar Singh , Manish A. Thombr “Effect of thermal ageing and deformation on microstructural evolution of 304 and 202 grade steel” **Materials Today 2020. <https://doi.org/10.1016/j.matpr.2020.09.718>**
  - x. Vishal Francis, **Sushil Kumar Singh**, Raksha G. Bhonde, Mr. Yash H. Tichkule, “Adaptation of 3D Printing Technology for Fabrication of Economical Upper Limb Prostheses. **Lecture Notes in Mechanical Engineering**” published by Springer 2020 (Accepted).
  - xi. **Sushil Kumar Singh**, Dheeraj Gunwant, Ajitanshu Vedrtam, Abhishek Kumar and Anuj Jain “Synthesis, Characterization, and Modelling the Behavior of in-situ ZrO<sub>2</sub> Nanoparticles Dispersed Epoxy Nano-Composite” **Engineering Fracture Mechanics. ( Elsevier, Impact Factor -3.41) (Under Review)**
  - xii. **Sushil Kumar Singh**, Bandana Rajpoot, Abhishek Kumar and Anuj Jain “Effect of addition of self-healing capsules on thermo-mechanical behaviour of epoxy nanocomposites. **Engineering Fracture Mechanics. ( Elsevier, Impact Factor -3.41) (Under Review)Under Review.**

## II. Papers in International Conferences:

- i. **Sushil Kumar Singh**, Amit Kumar, Samarjit Singh, Abhishek Kumar\* and Anuj Jain “Effect of surface treatment of SiO<sub>2</sub>-nanoparticles on mechanical properties of epoxy-nanocomposites” International Conference on emerging trends in nanomaterials science and technology (ICETNMST-2017) from 4<sup>th</sup> Jan. 2017 to 6<sup>th</sup> Jan. 2017 at **NIT Nagaland**.
- ii. Bandana Rajpoot, **Sushil Kumar Singh**, Abhishek Kumar, and Anuj Jain, “Development of SiO<sub>2</sub>-epoxy nano-composites and their thermo-mechanical properties” International Conference on nanomaterials and nanotechnology (ICNANO-2017) from 1<sup>st</sup> March. 2017 to 3<sup>rd</sup> March. 2017 at **Vinoba Bhawe Research Institute, Allahabad, India**.
- iii. Samarjit Singh, **Sushil Kumar Singh** and Abhishek Kumar, “Material Selection for Nickel based Microwave Absorbing materials in 2-18 GHz frequency range using different Multi-Criteria Decision Making Methods” at 70<sup>th</sup> annual technical meeting at Technical meeting of the institute held at **IIT Kanpur** during 11 to 14 November, 2016
- iv. **Sushil Kumar Singh**, Abhishek Kumar and Anuj Jain “Unveiling the impact of ZrO<sub>2</sub> dispersion over the mechanical behavior of epoxy resin” 71st Annual Technical Meeting of the Indian Institute of Metals NMD ATM 2017 (11-14 NOVEMBER 2017) **BITS, Pilani-K K Birla Goa Campus**.
- v. Deepak Singh, **Sushil Kumar Singh**, Abhishek Kumar and Anuj Jain “A finite element approach to determine young’s modulus of epoxy-silica nanocomposite” 71st Annual Technical Meeting of the Indian Institute of Metals NMD ATM 2017 (11-14 NOVEMBER 2017) **BITS, Pilani-K K Birla Goa Campus**.
- vi. **Sushil Kumar Singh**, Abhishek Kumar, Anuj Jain and B.B. Gulyani “Investigation of mechanical properties of graphene nanoplatelet dispersed epoxy composites” **BITS, Pilani-**

### **K K Birla Dubai Campus (Materials Today).**

- vii. **Sushil Kumar Singh**, Samarjit Singh, Abhishek Kumar and Anuj Jain, “Investigation of Thermo-mechanical Properties of Surface Treated SiO<sub>2</sub>/Epoxy Nanocomposite. **International Conference & Exposition on Mechanical, Material and Manufacturing Technology (ICE3MT2020) 9-10 October, 2020, Hyderabad, INDIA.**
- viii. Vishal Francis, Sushil Kumar Singh, Raksha G. Bhonde, Mr. Yash H. Tichkule, “Adaptation of 3D Printing Technology for Fabrication of Economical Upper Limb Prostheses The 2nd International Conference on Future Learning Aspects of Mechanical Engineering **FLAME 2020 – Online 5th – 7th August 2020.**
- ix. Neetika Keserwani, Ubaid Ahmad Khan, Sushil Kumar Singh, Investigation of shape recovery response of epoxy-based amorphous polymer. **ICMPC -2020, IIT Indore INDIA.**

### **III. Papers in National Conferences:**

- i. **Sushil Kumar Singh**, Varun Chhabra, R.K. Patel, “Effect of Prony Series Parameters on Fracture Behavior of Mixed-Mode Of Viscoelastic Materials” Advances in Manufacturing Technology at NITTR Chandigarh held on 23-24 May, 2013.
- ii. Sushil Kumar Singh, Samarjit Singh, Abhishek Kumar and Anuj Jain, Impact of SiO<sub>2</sub> nanoparticle weight fraction on mechanical properties of two epoxy polymers, 4th Prof. Vijaya Agarwala Memorial National Conference on Microwave Absorbing Materials **(VAMMAM-2020) 23<sup>rd</sup> - 24<sup>th</sup> August 2020**

### **Awards and Recognitions:**

1. GATE Fellowship 2011-2013
2. MHRD Fellowship 2014-2018
3. Best Paper award in ICE3MT2020

### **Achievements**

- GATE Qualified in 2011, 2012.
- Organizer of Sports Event-2008 at IERT Allahabad.
- Volunteer in 6<sup>th</sup> International and 43<sup>rd</sup> National Conference on Fluid Mechanics and Fluid Power(FMPP-2016) from 15<sup>th</sup> December 2016 to 17<sup>th</sup> December 2016 at MNNIT, Allahabad, India

### **M.Tech. Thesis Supervision**

1. Aditya D. Pannase “Multifunctional material handling Device” June 2019.
2. Jayesh S. Kamble “Design and Analysis of Multi-Purpose Cutting Machine for Agriculture” June 2020.
3. Devashish Vikas Wanjari “An Investigation On Electrochemistry Behaviour Of Cold Work And Thermal Aged Austenitic Stainless Steel” June 2021.

### **B.Tech. Project Supervision**

1. “Design and Development of low cost Cooling system for vegetable and fruits for rural area. May 2019.
2. “Design and Development of cost effective 3D printed Prosthetic Hand” May 2019.
3. “IOT Based Electric Bike” May 2020
4. “Solar operated Floor Cleaner” June 2021

5. “Design and fabrication of abrasive jet machine” 2021
6. “Design and fabrication of abrasive jet machine” 2021

### **AREAS OF INTEREST**

- Manufacturing Science
- Heat and Mass Transfer
- Basic Thermodynamics
- Material Science
- Theory of Machine

### **SHORT TERM COURSE/WORKSHOPS ATTENDED**

- Short-term course on “Modeling and Simulation at Nano scale and Nano Structures” under Global Initiatives for Academic Networks (GIAN) by MHRD Conducted at MNNIT, Allahabad from 07-03-16 to 11-03-2016.
- Short-term course on “Thermal Sprayed Coatings and Composites: Science, Engineering and Applications” under Global Initiatives for Academic Networks (GIAN) by MHRD Conducted at MNNIT, Allahabad from 20-6-16 to 01-07-2016.
- Two weeks ISTE workshop on Engineering Mechanics under NME-ICT by IIT Bombay conducted at MNNIT, Allahabad from 20-11-13 to 06-12-13.
- Short-term course on “Advances in Composite Materials” under TEQUIP at MNNIT, Allahabad from 20-6-16 to 01-07-2016.
- A seminar on “national Level Industry Institute Symposium on Turbo-Machines” Organised by Dept. of Applied Mechanics, MNNIT, Allahabad from 05-04-14 to 06-04-14
- Short-term course on “Thermal Sprayed Coatings and Composites: Science, Engineering and Applications” under Global Initiatives for Academic Networks (GIAN) by MHRD Conducted at MNNIT, Allahabad from 20-6-16 to 01-07-2016.
- Foundation Program in ICT for Education, AICTE approved under MHRD by IIT Bombay, from 13-09-2018 to 18-10-18.
- FDP 201X -Pedagogy for Online and Blended Teaching-Learning Process” AICTE approved under MHRD by IIT Bombay from 19-11-2018 to 29-11-2018.
- STTP on "Modern Materials and Manufacturing” under TEQUIP at SVNIT, Surat from 12-10-2020 to 18-10-2020.
- AICTE training and learning (atal) workshop on “Additive Manufacturing” 21-09-2020 to 25-09-2020.

## **PERSONAL SUMMERY**

**DOB** 20-January 1985  
**Marital Status** Married  
**Native Address** Village & Post - Haradawan, Dhata & District – Fatehpur (U.P.), Pin - 212641.

## **REFERENCES**

1. **Dr. ANUJ JAIN**, Professor, Department of Applied Mechanics, MNNIT ALLAHABAD [anujjain@mnnit.ac.in](mailto:anujjain@mnnit.ac.in) 9415305131.
2. **Dr. I. K. BHAT**, Professor, Department of Applied Mechanics, MNNIT ALLAHABAD, [ikbhat@rediffmail.com](mailto:ikbhat@rediffmail.com), 9414076013
3. **Dr. ABHISHEK KUMAR**, Associate Professor, Department of Applied Mechanics, MNNIT ALLAHABAD, [abhishek@mnnit.ac.in](mailto:abhishek@mnnit.ac.in) 9415364799.

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