

NITISH KUMAR

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CURRICULUM VITAE

Date of birth: October 05, 1991
Place of Birth: Panki (Jharkhand)
Citizenship: Indian

PROFESSIONAL EXPERIENCE

8/2016 – 8/2019 (Graphene Business, TATA Steel Ltd. Jamshedpur, Jharkhand, India)

Ceramic & Furnace related projects

- Development of Graphene reinforced Bulk Polycrystalline ceramics.
- Development of graphene Coating on nickel/Stainless steel substrate using Vacuum furnace.
- Synthesis of graphene powder using natural source in tube furnace.
- R programming language for large data analysis.

Graphene Powder Projects

- Production of Graphene Powder.
 - i) Manager for graphene powder production and its processing.
 - ii) Quality Assurance of Graphene powder.
 - iii) Preparation and updating all graphene production / dispatch document.

Composites Projects:

- Team Leader of polymer composite related all projects.
- Production and design of graphene doped polymer composites, collaborated with many prestigious companies.
 - i) Development of wear resistant Graphene doped Polyurethane Flip-Flop & Screen.

Project Status: project successful and product is being used in Raw Materials Group TATA STEEL LTD.

Project Collaborated Company: TEGA Industries LTD.

ii) Development of wear resistant Graphene doped Polyurethane idlers.

Project Status: project successful and product is being used in TATA STEEL LTD.

Project Collaborated Company: Jyoti Cero Rubber

iii) Development of high performing Saddler.

Project Status: project successful and product is being used in CRM TATA STEEL LTD.

Project Collaborated Company: Jyoti Cero Rubber

iv) Development of high performing conveyer belt.

Project Status: ongoing

v) Development of high performing (improved wear, acid and base resistance) Polyurethane rolls.

Project Status: ongoing

vi) Development of high performing UHMWPE Linears.

Project Status: Products is being used in TATASTEEL LTD.

vii) Development of high strength ABS Wrist Watch Case.

Project Status: project successful and product is being used in Titan Company Limited.

Project Collaborated Company: Titan Company Limited

viii) Development of high strength Graphene-Polycarbonate composite for hard luggage bag.

Project Status: Project successful.

Project Collaborated Company: VIP (Skybags)

ix) Development of high strength condom.

Project Status: Project ongoing.

Project Collaborated Company: Reckitt Benckiser

x) Development of high strength Polypropylene.

Project Status: Project successful

Project Collaborated Company: Reliance, TACO, Sabic.

xi) Development of acid resistance EPDM seal.

Project Status: Project successful

Project Collaborated Company: J K Fenner

- Design of Conductive ink for Sensor and Electronic Circuits Application.

TECHNICAL SKILLS

- **IT Skills:** Microsoft Excel, Microsoft PowerPoint, Origin, R programming language.
- **Materials characterization equipment:** Raman Spectroscopy, UV-Vis Spectroscopy, FTIR, XRD, SEM, VSM, BET, Four Probe, Particle size analyzer and Potentiometer.
- **Polymer characterization equipment-** TGA, DSC, Abrasion tester, UTM.
- **Process instrument:** Extruder, Injection molding equipment, two roll mixer, Vacuum furnace, Ball Mill, Tube furnace
- **Soft skills:** Quick learner, excellent public speaker and presentation skills.

Education

7/2014-5/2016 Master of Technology (Materials Science & Engineering), IIT Patna

- Study Emphasis: Study of different material synthesis route, properties and its characterization.
- Two Semester project at CSIR-NML, Jamshedpur, India 6/2015- 6/2016.
- Master's thesis: "**Annealing effect on structural and magnetic property of Strontium Hexaferrite**".
- **Project Summary:** In this work, strontium hexaferrite was synthesized, and structural change on annealing in hydrogen atmosphere were studied. This technique facilitate to tune the magnetic values as per requirement. This project envisaged the industrial requirement.

Adviser: (i) Dr. Ranjan Kr. Sahu (Principle Scientist), CSIR-NML.
(ii) Dr. Anirban Chowdhury (Asst. Prof.), IIT Patna

- Final grade: 8.44/10

7/2010-5/2014 Bachelor of Technology (Nanotechnology), Central University of Jharkhand, Brambe, Ranchi, India.

- Study Emphasis: Study of different Nano-materials synthesis route, properties and its characterization.
- Internship at IIT-BHU, Dept. of Metallurgical Engineering.

Adviser: Dr. R. K. Mandal (Prof.) IIT BHU.

- Bachelor's thesis: **“synthesis and characterization of silver nanoparticles using azadirachta indica leaf extract”**.
- **Project Summary:** In this project, Silver nanoparticle was synthesized using chemical route method. In this project natural reducing agent (azadirachta indica leaf or neem leaf) were used. This project improved my skills to make nanoparticles and to use different characterization tools like UV-Vis Spectroscopy, XRD and SEM.

Adviser: Dr. G.P. Singh (Asst. Prof.) CUJ, Ranchi, Jharkhand.

- Final grade: 7.62/10

3/2006-5/2008 Intermediate (JAC) . G.L.A Collage, Daltonganj, Jharkhand, India.

- Obtained 60% marks

3/2005-5/2006 Matriculation (JAC), S.S.High School Panki, Palamu, Jharkhand, India.

- Obtained 76% marks

PUBLICATION/CONFERENCE

- “Manish Kumar Singh, **Nitish Kumar**, Manjri Singh, Jaya L.Verma, R. K. Mandal, *Stabilization of Nanocrystalline Silver by Sella and Mansoori Rice starch*, Transactions of the Indian Institute of Metals, **68 (2015):p.239–245.** ”.
- Presented seminar at NML Jamshedpur in **BTDD 2016**.

FELLOWSHIP/AWARD

- MHRD (Govt. of India) Fellowship to study M.Tech.
- Qualify Graduate Aptitude Test (GATE) 2014, **All India Rank 290**.
- Gold medal winner in volleyball and Football in 2013 in Annual University Sports Meet.
- Winner of 3rd prize for elocution in annual fest 2007 at G. L. A. Collage.

PERSONAL DETAILS

Date of Birth	5th Oct 1991
Proficiency in Language	English, Hindi
Strengths	Optimistic, Hardworking, Adaptive, Consistency, Team worker, Passion for Perfection
Hobbies	Football, cricket and Reading Novel.
Father Name	Dr. Awadhesh Kumar
Mother's Name	Mrs. Bimla Devi
Permanent Address	Vill-Sorath, Post-Panki, Dist-Palamu, Jharkhand.