

Resume

Dr. Tumesh Kumar Sahu

PhD in Physics (Graphene)

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CAREER OBJECTIVE:

Seeking a good and challenging role in the field of teaching and graphene (2D-material) research wherein I can put in the experience and skills gained throughout my career, thereby contributing to the growth of the university.

EXPERIENCE:

1. Experience in **fabrication** of **Graphene-based sensing device** which can detect the greenhouse gases like **methane** (CH_4), **carbon dioxide** (CO_2) and toxic gas **ammonia** (NH_3) at ppm-level.
2. Designed thermoplastic material for packing flammable things.
3. Worked as **Teaching Assistant** at Indian Institute of Technology, Patna from 2016 to 2019.
4. Served as **Senior Research Fellow** in **UGC project**, titled “**Synthesis of Transparent Conducting Oxide (ITO) and its Characterization**”, from **July 2014-February 2015** at **IIT, Madras**.
5. Served as **Junior Research Fellow** in **Science and Engineering Research Board (SERB)** project, titled “**Synthesis of Graphene and its Applications**” from **2016-2018** at **IIT, Patna**.
6. Served as senior research fellow at Indian Institute of Technology Patna from 2018-2021.

SKILL SET :

- ❖ **Languages:** C, C++ and Fortran
- ❖ **Designing:** Sensor
 - > Material Selection
 - > Optimization
 - > Testing
- ❖ **Synthesis:** Graphene (Gr), Boron Nitride (BN), Tungsten disulfide (WS_2), Molybdenum disulfide (MoS_2), and other 2D materials
- ❖ **Instruments:** SEM, TEM, AFM, FTIR, UV-Vis, FTIR
- ❖ Synthesis of porous metal oxide nanotubes using electrochemical anodization process.

QUALIFICATION:

Examination Passed	College	Specialization	Year of Passing	CGPA/Percentage
PhD	Indian Institute of Technology Patna (IITP)	Physics	2016-2021	8.14 (CGPA)
MTech	Indian Institute of Technology Madras (IITM)	Physics	2012-2014	6.79 (CGPA)
M.Sc.	Pt. Ravishankar Shukla University Raipur	Physics	2009-2011	67.22 %
B.Sc.	Pt. Ravishankar Shukla University Raipur	Information Technology with Physics	2006-2009	67.0 %
HSC	C.G.B.S.E Raipur Chhattisgarh	Physics, Chemistry, Mathematics	2006	72.8 %
SSC	C.G.B.S.E Raipur Chhattisgarh	General	2004	67 %

AWARDS AND ACHIEVEMENTS:

- ❖ Achieved **AIR-98** in **Physics** in Graduate Aptitude Test in Engineering (**GATE**) in **2012**.
- ❖ Achieved **AIR-198** in **Physics** in National Eligibility Test (**NET**) in **2012**.
- ❖ Served as **Junior Research Fellow** in **Science and Engineering Research Board (SERB)** project, titled “**Synthesis of Graphene and its Applications**” from **2016-2018** at **IIT, Patna**.
- ❖ Served as **Senior Research Fellow** in **UGC** project, titled “**Synthesis of Transparent Conducting Oxide (ITO) and its Characterization**”, from **July 2014-February 2015** at **IIT, Madras**.

PUBLICATIONS:

[1] **Tumesh Kumar Sahu**, Pranay Ranjan, and Prashant Kumar. "**Chemical Exfoliation Synthesis of Boron Nitride and Molybdenum Disulfide 2D Sheets Via Modified Hummers Method.**" **Emergent Materials** 4, no. 3 (2021): 645-654.

[2] P. Ranjan, **Tumesh Kumar Sahu**, Rebti Bhushan, Sharma SRKC Yamijala, Dattatray J. Late, Prashant Kumar, and Ajayan Vinu. "**Freestanding Borophene and its Hybrids.**" **Advanced Materials** 31, no. 27 (July 2019): 1900353.

[3] S.Mishra, **Tumesh Kumar Sahu**, Priyanshu Verma, Prashant Kumar, and Sujoy Kumar Samanta. "**Microwave-Assisted Catalytic Degradation of Brilliant Green by Spinel Zinc Ferrite Sheets.**" **ACS omega** 4, no. 6 (2019): 10411-10418.

[4] **T. K Sahu**, M Motlag, A Bandyopadhyay, GJ Cheng et.al. "**Emergence of 2+ δ Dimensional Materials.**" (Under Review in **AdvanceMaterial**).

REFERENCE:

Sr. No.	Name of Person	Designation	Institute	Contact
1	Dr. Prashant Kumar	Assistant Professor	Global Innovation Center for Advanced Nanomaterial (GIACAN), University of Newcastle, University Drive Callaghan Australia, NSW-2308	prashant.Kumar@newcastle.edu.au , magmemory@gmail.com
2	Dr. Alpana Nayak	Assistant Professor	Department of physics, Indian Institute of Technology Patna (Bihar)	anayak@iitp.ac.in .
3	Dr. Dinesh Kumar Kotne	Assistant Professor	Indian Institute of Technology, Patna (Department of Metallurgical and Materials Engineering)	dinesh@iitp.ac.in

Personal Details:

✓ **Date of Birth:** 20/07/1988

✓ **Language Known:** English, Hindi, Chhattisgarhi

✓ **Nationality:** Indian

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Mr. Tumesh Kumar Sahu

(Name & Signature)