JATIN DHANUKA

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EDUCATION

Year	Degree	Institute	CGPA
2023-2025	Ph.D.	Shiv Nadar University, Chennai	7.83
2020-2022	M.Sc.	National Institute of Technology, Karnataka(NITK)	7.25
2017-2020	B.Sc.	University of Delhi	7.44

THESIS

Development of narrow band green and red-light emitting phosphors for wide colour gamut mini-LED based display devices

Ph.D. thesis *Supervisor: Dr. Sudipta Som*

Synthesis and characterization of ZnO nanoparticles and it's photocatalytic activity

M.Sc thesis *Supervisor: Dr. N.K.Udayashankar*

Band Structure and DOS Simulation of ZnO using Quantum Espresso

M.Sc. Project *Supervisor : Dr. Kartick Tarafder*

RESEARCH VISIT

University of Free State, South Africa working on project titled "Development of Cr^{3+} doped phosphors for NIR pc-LED"

April 2024 - October 2024 *Supervisor: Prof. H.C.Swart*

COURSES

- Characterization of Materials.
- Atomic and Molecular Spectroscopy.
- Condensed Matter Physics.
- Computational Material Science using Density Function Theory.
- Advance Florescence Spectroscopy

SKILLS

- **Instrumentation**
  XRD, UV- VIS spectrometer, Fluorescence spectrometer.
- **Computational**
  Python ,Quantum Espresso, VESTA, Logisim, LATEX,MS-office.
- **Soft Skills**
  Communication, Writing, Time Management

PUBLICATIONS

- A highly efficient deep red-emitting Mn^{4+}-powered oxyfluoride nanophosphor developed for plant growth and optical thermometric applications, Abraham, M., **Dhanuka, J.**, Som, S., Pandey, M. K., Das, S. (2024) Nanoscale, 16(22), 10690-10705.
- Enhanced red-emitting and thermally stable 0.42 Pb (Mg0.335Nb0.665) O3–0.26 Pb (In0.5Nb0.5) O3–0.32 PbTiO3: Eu3+ phosphor: Judd-Ofelt analysis, **Jatin Dhanuka**, Sudipta Som, G Anandha Babu, J Mater Sci: Mater Electron, 36, 840 (2025).
- Cr^{3+}-Cr^{3+} Pairing and Multi-Site Engineering for Broadband Near-Infrared Emission, **Jatin Dhanuka**, Monalisa Behra, Shivaramu NJ, Sudipta Som, Robin Kroon, Hendrik Swart - Journal of Materials Chemistry C - In peer review
- Compositional Design of a Narrow-Band Green-Emitting Phosphor with Enhanced Thermal Stability for Backlight Display Applications, **Jatin Dhanuka**, Monalisa Behra, Sudipta Som, Somritta Dutta, HC Swart, Angewandte Chemie - Submitted

CONFERENCE

- "Highly Efficient Deep Red-Emitting Mn^{4+} Phosphors for Enhanced Plant Growth and Advanced Optical Thermometry" 7th International Conference on the Physics of Optical Materials and Devices and the 4th International Conference on Phosphor Thermometry (ICOMICPT 2024), Budva - Bečići, Montenegro.
- "Narrow band red-emitting phosphors for various applications' International Conference on Recent and Technology Advances in Physics and Materials Science (ICRATPMS-2024).
- "Synthesis and luminescence properties of narrow band green emitting $Zn_xMg_{1-x}Al_2O_4$: Tb^{3+} phosphors for high resolution display applications" in International Conference on Luminescence and its Applications (ICLA-2023).