

Curriculum Vitae

Name:

Dr. Hansnath Tiwari

Citizenship:

Indian

Correspondence Address:

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Research Interest:

Inorganic Chemistry, Material Science, – Rare-Earth & Transition Elements based phosphor Materials, Solid State Chemistry, Luminescent Material, Synthesis of materials related to energy-storage devices.

Academic Qualification:

Examination	Board/University	Year	CGPA or Percentage
Ph.D.	IIT Madras	2011-2017	8.25 /10 CGPA
M.Sc.	D.D.U.G.U. Gorakhpur	2007-2009	68.67 %

Ph.D. Thesis Title:

Photoluminescence of rare earth ions (Eu^{3+} , Dy^{3+}) in certain oxide host lattices with Garnet, Perovskite, Scheelite and Pyrochlore structures

Ph.D. Thesis Adviser's Name:

Professor U. V. Varadaraju, Department of Chemistry, Indian Institute of Technology Madras (IIT Madras) Chennai, India and Dr. S. Asiri Naidu, RGUKT, Nuzvid, Andhra Pradesh, India

Professional Experience:

Sr. No.	Position held	Institute	From	To
1	Ad-hoc Faculty	MNIT, Prayagraj Uttar Pradesh	4 th Aug. 2022	Till Now
2	Assistant Professor	MITS, Gwalior	15 th Oct. 2018	30 th Sept. 2021
3	Assistant Professor	GITAM University, Visakhapatnam	30 th Jun. 2018	14 th Oct. 2018
4	Assistant Professor	GITAM University, Visakhapatnam	06 th Sept. 2017	31 st Apr. 2018

Courses Taught:

I have taught various courses falling under the domain of Chemistry at Undergraduate as well as Postgraduate level. Some of them are listed as bellow:

- Organic Chemistry (Reaction Mechanism – B.Sc.)
- Various topics in Inorganic Chemistry (B.Sc.)
- Various topics in Engineering Chemistry (B. Tech.)
- Stereochemistry and Group theory (M.Sc.)
- Pericyclic Chemistry and Photochemistry (M.Sc.)
- Organic synthesis and Retro synthesis (M.Sc.)

Publications:

1. Hansnath Tiwari, S. Asiri Naidu, and U. V. Varadaraju, “Li₃Gd₃Te₂O₁₂:Eu³⁺- An intense red phosphor for solid state lighting applications,” [J. Solid State Chem., 246, 319–323 \(2017\).](#)
2. Hansnath Tiwari, U. V. Varadaraju and S. Asiri Naidu, “Eu³⁺ -photoluminescence in CaYTiNbO₇, Pyrochlore: A promising orange-red phosphor for white-light-emitting diodes” [ChemistrySelect, 2, 10741-10747 \(2017\).](#)
3. Hansnath Tiwari, U. V. Varadaraju and S. Asiri Naidu, “Intence photoluminescence emission in Eu³⁺ and Dy³⁺ - doped low-band gap perovskite titanate, Na_{0.5}Gd_{0.5}TiO₃” [ChemistrySelect, 3, 6321-6327 \(2018\).](#)
4. Hansnath Tiwari, U. V. Varadaraju and S. Asiri Naidu, “Eu³⁺- photoluminescence in LiGd(WO₄)₂ with scheelite-related structure” [ChemistrySelect, 4, 2347-2351 \(2019\).](#)
5. K. Mohan Raw, Hansnath Tiwari, S. Asiri Naidu and U. V. Varadaraju, “Eu(III) doped barium tellurooxyphosphate phosphor with orange-red emission” [Bull. Mater. Sci. 43, 51 \(2020\).](#)
6. S. Asiri Naidu and Hansnath Tiwari, “Eu³⁺ luminescence – A local structural probe in Li₅La₅M₂O₁₂ (M = Nb, Ta) with garnet structure” [AIP Conference Proceedings, 2369, 020167 \(2021\).](#)
7. K. Mohan Raw, Hansnath Tiwari, S. Asiri Naidu and U. V. Varadaraju, “Photoluminescence of Eu³⁺ in A₃Zn₃TeP₂O₁₄ (A = Sr, Ba & Pb): Influence of 6s² lone pair of electrons on Eu³⁺ emission (To be communicated)
8. K. Mohan Raw, Hansnath Tiwari, S. Asiri Naidu and U. V. Varadaraju Photoluminescence studies of Eu³⁺ in non-centrosymmetric (NCS) oxide BaZnTe₂O₇ (To be communicated).

Paper Presented in Conferences:

1. The Photoluminescence Behavior of Eu³⁺ in Dy₂Si₂BO₁₃ Host Lattice: In Apatite-Based Structure in the Virtual International Conference on Emerging Trends in Chemical Sciences (ERTCS-2020) organised by Govt. Post Graduate College, Rajouri, Jammu on July 24 to 26, 2020. (Oral Presentation)
2. Luminescence of Eu³⁺ in a Mullite-Type Host Material Bi₂Ga₂Al₂O₉, in 229th ECS Meeting held on May 29 to June 2, 2016 in San Diego, CA., USA. (Poster Presentation)
3. Photo-luminescent Characterization of CaYTiNbO₇:Eu³⁺ as an Orange-Red Emitting Phosphor in the 5th International Conference on “Advance in Energy Research”, held by Department of Energy Science and Engineering, IIT Bombay on December 15 to 17, 2015. (Oral Presentation)

4. Orange – Red Emission of Eu^{3+} in A Mixed Pyrochlore Host Material in the Chemistry In-House Symposium held by chemistry department of Indian Institute of Technology Madras on August 13, 2014. (Poster Presentation)
5. Presented the research work in HINDI Language in “Rajbhasha Technical Conference” organized by Indian Institute of Technology, Madras (IIT), Chennai, on September 2, 2014. (Oral Presentation)
6. Multiband Orange-Red Photoluminescence of Eu^{3+} - In Rare Earth Polyphosphates in the NCLA-2013 held by the Luminescence Society of India at Bengaluru, India from January 8 to 10, 2013. (Poster Presentation)

Expert Talk:

1. Delivered a talk as a Resource Person on “The Role of Publication in Professional Growth” in Sage Summer Training Program on “Research skills Developments”, organized by Sager Institute of Research Technology & Science (SIRTS), Bhopal Madhya Pradesh on July 20, 2020.

Awards and Other Accomplishments:

1. Received Appreciation letters for the best teaching practices from the Director’s Office at MITS, Gwalior in 2020 and 2021
2. Received recognition from The International Center for Diffraction Data (ICDD) for synthesizing three powder patterns. Following are the recognized synthesized powder patterns:
 - A. $\text{Li}_3\text{Gd}_{2.4}\text{Eu}_{0.6}\text{Te}_2\text{O}_{12}$ – ICDD No. I07544
 - B. $\text{Li}_3\text{Gd}_{1.8}\text{Eu}_{1.2}\text{Te}_2\text{O}_{12}$ – ICDD No. I07545
 - C. $\text{Li}_3\text{Eu}_3\text{Te}_2\text{O}_{12}$ – ICDD No. I07546
3. Awarded senior research fellowship (SRF) from IIT Madras in 2013.
4. Secured all India 337th rank in Graduate Aptitude Test in Engineering in Chemistry (GATE-2013).
5. Qualified in The Joint CSIR-UGC Test for Junior Research Fellowship (JRF) in June 2011 with all India rank-79th.
6. Qualified in The Joint CSIR-UGC Test for Junior Research Fellowship (JRF) in Dec-2011 with all India rank-77th.
7. Awarded (CSIR-UGC-Net), Junior Research Fellowship for pursuing Ph.D. in Chemistry in 2011.
8. Qualified in The Joint CSIR-UGC Test for Lectureship (NET-only) in Dec-2010 with all India rank-137th.

Academic Responsibilities:

1. Reviewer of the Journal Advances in Materials since July 2020.
2. Organised one day National workshop on “Recent Trends in Engineering Materials (RTEM-2020) under TEQIP- III sponsored program on August 07, 2020.
3. Was a member of organizing team of AICTE-QIP sponsored short term training course for the teachers of AICTE approved institutes, organized from March 14 to 18, 2019.
4. Was a member of GPS-enabled Monitoring Team in the Gwalior constituency of assembly election in 2019 and 2021.
5. Assisted Department of Chemistry, IIT Madras in conducting Laboratory classes for B. Tech and M.Sc. Courses during my Ph.D. program in 2012 and 2013.

Responsibilities Carried Out in MITS Gwalior:

1. Mentor for B.Tech. First year students.
2. Member of Evaluating team for the subject, Engineering Chemistry.
3. Class Coordinator for B.Tech. First Year in the academic years, 2019 to 2020.
4. Moodle coordinator for the subject- Engineering Chemistry.
5. Member of the Anti-Ragging Committee.
6. Member of the Admission and Counseling Committee.
7. Involved in activities as and when directed by the Director.
8. Coordinator for Induction Program, conducted for the newly admitted students in the academic years, 2019-2020 and 2020-2021.

Other Experience:

1. Worked as an expert in chemistry for guiding students appearing in UGC-NET examination carried out throughout the country for the selection of research scholars and teachers for IITs, other state universities and institutions of science and engineering in New Delhi.

The Online Conferences, Webinars and Workshops Attended:

1. Attended webinar on “How Stress Affects the Body”, organized by Department of Physical Education, Easwari Engineering College, Chennai on May 26, 2020.
2. Attended One Day National workshop on “Nano-Sensors and their Applications”, organized by the Department of Applied Science, MITS, Gwalior on July 31, 2020.
3. Attended two days National Virtual Conference on “Recent Advances in Analytical Technique-2020”, organized by USERC DST Dehradun, Uttarakhand Govt. from August 16 to 17, 2020.
4. Attended TEQIP-III sponsored One Day Webinar on “NEP-2020”, organized by Department of Mechanical Engineering, Engineering College, Banswara on September 09, 2020.
5. Attended National Workshop Series titled “Transition from traditional to blended learning- Challenges & Opportunity- II”, jointly organised by IQAC MITS Gwalior and Manav Rachana University, Faridabad, Haryana on January 31, 2021.

The Faculty Training Program Attended:

1. Summer Training Program on “Advanced Pedagogy in Teaching Learning”, at IIT Indore from May 24 to 28, 2019.
2. Attended Three Days Online Faculty Development Program on “Effective Teaching Pedagogy”, organized by Indraprastha Engineering College, Ghaziabad from July 20 to 22, 2020.
3. Faculty Development Program on “Recent Trends and Opportunities in Science and Technology”, organized by Amity School of Engineering and Technology, Amity University, Patna from July 27 to 31, 2020.
4. Faculty Development Program on “Pedagogical Techniques for Virtual Class Room”, organized by Punjab University and Dibrugarh University from September, 02 to 06, 2020.

Faculty Development Program Through MOOCS:

1. Introduction to Molecular Spectroscopy, authorized by University of Manchester and offered through Coursera in June 06, 2020
2. Nanotechnology: A Maker's Course, authorized by Duke University, North Carolina State University and the University of North Carolina at Chapel Hill offered through Coursera in August 11, 2020.
3. Nanotechnology and Nano-sensors, Part-I, authorized by Technion- Israel Institute of Technology and offered through Coursera in November 06, 2020.

Computational and Technical Skills:

1. Extensive knowledge of handling the Software's like PANalytical, X'Pert HighScore Plus and FullProf Suite crystallographic program, mainly used for the Rietveld Refinement of crystal structure.
2. Expertise in synthesizing and characterization of inorganic phosphor materials for white light applications.
3. Extensive knowledge of the Data plotting software - Origin and other Crystal structure drawing software – Diamond, Mercury and Vesta.
4. Extensive knowledge of MS office.
5. Extensive knowledge of Turnitin – The plagiarism checking software.

Equipment Handling Expertise:

1. Table-top X-ray Diffractometer (XRD).
2. JASCO FP-6500 Spectrofluorometer used for measurement of fluorescence.
3. JASCO V-560, UV/Vis Spectrofluorometer used for measurement of the Reflectance and Absorbance parameters.

Extra Co-curricular Activities:

1. Written a Poetry Book, Named- *Khushi-Khushi* for primary level students.
2. Served as a core member of Hindi Mitra Mandal, IIT Madras, from 2013 to 2016.
3. As a participant in a play named "Andhwishwash", won the best performance prize in 2009, awarded by MGPG College Gorakhpur.
4. Participated in Poetry Recitation program organized by Hindi Mitra Mandal-IIT Madras.
5. Worked as organizing member of conferences and program related to "Hindi-Cell" of IIT, Madras, India.
6. Volunteered in fund raising drive for disaster in Jammu and Kashmir in 2014.

Hobbies and Interest:

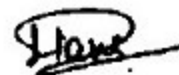
1. Writing poetry and short story.
2. Interested in creating social awareness about education, social problem, spiritual significance etc. (Associated with Vande-Mataram group and Vivekananda study circle of IIT Madras).
3. Playing cricket.

Personal Information:

1. Marital status: Married.
2. Date of Birth: May 03, 1988.
3. Gender: Male.
4. Category: General.
5. Languages known: Hindi, Bhojpuri and English.

Declaration:

I do hereby declare that all the details mentioned above are correct to the best of my knowledge and confidence. I bear the responsibility for any error or mistake in the future.



Signature
(Dr. Hansnath Tiwari)

References:

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2. Dr. S. Asiri Naidu
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3. Dr. Mahaveer Kumar Jain
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