



Dr. Shilpa C K

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EXPERIENCE

Guest Lecturer, 14/07/2025 – present

Department of Physics, Nehru Arts and Science College, Kanhangad

Technical Assistant, 18/03/2025-11/07/2025

Central Instrumentation and Research Laboratory, Kannur University

EDUCATION

Ph.D. in Physics, Kannur University, 10/12/2024

- Thesis: "Synthesis, characterisation and photoluminescent study of rare earth elements doped strontium cerium compound perovskites".

M.Sc. in Physics, Mangalore University, 06/2019

- Specialization in Nuclear Physics
- CGPA 8.03
- Dissertation: "Study of angular distribution of dose and dose mapping at different distances of bremsstrahlung radiation from 8 MeV Microtron using Fricke dosimeter".

B.Sc. in Physics, Kannur University, 06/2017

- With chemistry and mathematics
- 87.78%

CERTIFICATIONS

GATE 2020

Organized by IIT Delhi, All India Rank 854

PUBLICATIONS

- Shilpa C K, Jasira S V, Veena V P, Ancy S S, Greeshma K, and Nissamudeen K M, 2025. **Exploring the potential of single-phase white phosphor $\text{SrCeO}_3:\text{Sm}^{3+}/\text{Dy}^{3+}:\text{Gd}^{3+}/\text{Y}^{3+}$ for optoelectronic applications.** Ceramic international. (<https://doi.org/10.1016/j.ceramint.2025.03.083>)
- Shilpa C K, Jasira S V, Veena V P, Abhishek B and Nissamudeen K M, 2024. **Photometric study on excitation tailored cyan to white color conversion in $\text{SrCeO}_3:\text{Dy}^{3+}$ for wLEDs, latent fingerprint, and security ink applications.** Materials Today Communications, 38, p.107954. (<https://doi.org/10.1016/j.mtcomm.2023.107954>)

- Shilpa C K, Jasira S V, Veena V P, Sajith S V, Huda Thasneem A M, Greeshma K, Ancy S S, Sakthivel P, and Nissamudeen K M., 2025. **Thermally stable Sm^{3+} doped SrCeO_3 single-phase white phosphor with Y^{3+} sensitization for fabricating wLEDs.** Scientific reports. (<https://doi.org/10.1038/s41598-025-09142-4>)
- Shilpa C K, Jasira S V, Veena V P, and Nissamudeen K M., 2024 **Discovering the novel white light emission from UV-blue pumped $\text{SrCeO}_3\text{:Eu}^{3+}$ single-phase perovskite for high-CRI wLED applications.** Physica B Condensed Matter. (<https://doi.org/10.1016/j.physb.2025.417231>)
- Shilpa C K, Abin Prasanth M V, Jasira S V, Veena V P and Nissamudeen K M, 2024. **Optimizing the White Light Emission of Pr^{3+} Activated SrCeO_3 Perovskite by Controlling the Excitation Wavelength for High CRI wLED Applications.** Journal of Fluorescence, pp.1-18. (<https://doi.org/10.1007/s10895-024-03651-7>)
- Shilpa C K, Jasira S V, Veena V P, Aardhra M, and Nissamudeen K M., 2024. **Novel white phosphor Bi^{3+} co-doped SrCeO_3 : 2 wt% Sm^{3+} synthesized via fuel excess gel combustion synthesis for wLED applications.** Journal of Fluorescence. (<https://doi.org/10.1007/s10895-024-03909-0>)
- Shilpa C K, Jasira S V, Veena V P, Umadevi P and Nissamudeen K M, 2023. **Robust white light emission of UV pumped SrCeO_3 : $x\text{Sm}^{3+}$ perovskites for wLEDs.** Zeitschrift für Naturforschung A, 78(10), pp.959-973. (<https://doi.org/10.1515/zna-2023-0145>)
- Shilpa C K, Jasira S V, Veena V P, Ancy S S, Greeshma K, and Nissamudeen K M., 2024 **Unveiling the Radiant Secrets: Delving into Luminescent Behaviours of Rare Earth-Infused Strontium Cerate.** MRS Advances, pp.1-6. (<https://doi.org/10.1557/s43580-024-00973-3>)
- Shilpa C K, Jasira S V, Veena V P and Nissamudeen K M, 2023. **Assessing the improved luminescence of $\text{SrCe}_{1-x}\text{Sm}_x\text{O}_3$ perovskite by concentration controlled extra oxidizer substitution.** Materials Today: Proceedings. (<https://doi.org/10.1016/j.matpr.2023.04.606>)
- Shilpa C K, Jasira S V, Veena V P and Nissamudeen K M, 2023. **Study on structural and photoluminescence property of SrCeO_3 and $\text{SrCe}_{0.98}\text{Sm}_{0.02}\text{O}_3$ perovskites.** Materials Today: Proceedings. (<https://doi.org/10.1016/j.matpr.2023.09.057>)
- Shilpa C K, Jasira S V, Veena V P and Nissamudeen K M, 2023. **Growth of proton conducting strontium cerate composites.** Journal of Metals, Materials and Minerals, 33(4), pp.1752-1752. (<https://doi.org/10.55713/jmmm.v33i4.1752>)

...More at <https://scholar.google.com/citations?hl=en&user=rVHYUEgAAAAI>

TRAININGS, WORKSHOPS, CONFERENCES

- Hands-on training in XRD, Raman spectrometer, Photoluminescence spectrofluorometer, UV-Visible spectrometer, TGA, and thin film coating techniques.
- 7 Days Synergistic Training program utilising the scientific and technological infrastructure, University of Calicut, India.
- 6 Days Hands-on workshop on fabrication and modelling of hybrid-nano tetrapod structures for future optoelectronic technologies, NIT Warangal, India.
- Presented a paper titled “Assessing the improved luminescence of $\text{SrCe}_{1-x}\text{Sm}_x\text{O}_3$ perovskite by concentration controlled extra oxidizer substitution” at the 10th National Conference on Condensed Matter Physics and Application (CMPA 2022) held at Manipal Institute of Technology, Manipal; 02-03rd December 2022.

- Presented a paper on “Upshot of annealing on structural and photoluminescence property of 2% Sm³⁺ doped SrCeO₃” at the International Seminar on Luminescence Materials (ISLM 2022) organized by Luminescence Society of India; 09-10th December 2022.
- Presented a paper titled “Study on structural and photoluminescence property of SrCe_{0.98}Sm_{0.02}O₃ and Li⁺ co-doped SrCe_{0.98}Sm_{0.02}O₃ perovskite nanophosphors for skin care” at the International Conference on Nanoscience and Photonics for Medical Applications (ICNPMA 2022), Manipal Institute of Technology, Manipal; 28-30th December 2022.
- Presented a paper titled “Comparing the luminescence of 2% samarium doped strontium cerate at adjustable excitation” at the International Conference on Functional Materials for Advanced Technologies (ICFMAT 1), held at the Central University of Kerala, 2-4th January 2023.
- Presented a paper titled “Study on structural and Photoluminescence property of SrCeO₃ and SrCe_{0.98}Sm_{0.02}O₃ perovskites”, at the International Conference on Advanced Technologies in Chemical, Construction and Mechanical Sciences (ICATCHCOME 2023), held at KPR Institute of Engineering and Technology, Coimbatore, Tami Nadu, 09-10th, February 2023.
- Presented a paper titled “Gel combustion synthesis of SrCeO₃ perovskites by tailoring the intermediate fuel” in a Multidisciplinary National Seminar Series (MELIORA 22-23), held at SNDP Yogam College, Koyilandy, 20th February 2023.
- Presented a paper titled “Novel white phosphor Bi³⁺ co-doped SrCeO₃: 2 wt% Sm³⁺ synthesized via fuel excess gel combustion synthesis for wLED applications”, at the International Conference on Advanced Functional Materials and Devices (AFMD-2024), held at SRM Institute of Science and Technology, Tamil Nadu, 26-29th February 2024.
- Presented a paper titled “Development of single-phase robust white phosphor SrCeO₃:Sm³⁺:Y³⁺ for optoelectronic applications”, at the International Conference on Emerging Multifunctional Materials and Devices for Sustainable Technologies (IEMDST 2024), held at NIT Warangal, 4-5th July 2024.