DR. SHUBHRA KALA

Assistant Professor
H.N.B. Garhwal University
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RESEARCH AREA

To contribute cost-effective Research & Development / Process Engineering with a focus on thin film and nanoparticle technologies.

- *Green synthesis of nanomaterials for different applications.*
- *Synthesis of CIGS and CZTS thin films for solar cell application by pulsed laser deposition.*
- *Rare earth-Palladium thin films for hydrogen storage*
- *Gas phase synthesis of nanoparticles by spark discharge technique to prepare*
- *SPM, TEM SEM, EDX, UV-VIS-NIR spectroscopy, HRTEM*

EDUCATION

08/2003-12/2008 **Ph.D., Physics (solid state)**
INDIAN INSTITUTE OF TECHNOLOGY DELHI, INDIA
Thesis: "Synthesis, structural and hydrogenation properties of Pr nanoparticles"

PROFESSIONAL EXPERIENCE

06/2013-present Assistant Professor
H.N.B. Garhwal University
A Central University, Uttarakhand

09/2011-06/2013 **Fellow Scientist**
NATIONAL PHYSICAL LABORATORY, NEW DELHI, INDIA

04/2009–06/2011 **Post-doctoral Fellow**
INSTITUTE FOR NANOSTRUCTURES AND TECHNOLOGY – Duisburg, Germany

08/2008–03/2009 **Project Scientist at** IIT – DELHI, INDIA

PUBLICATIONS *(RECENT)*

Book Chapter

"Synthesis and Film Formation of Monodisperse Nanoparticles and Nanoparticle Pairs"
Shubhra Kala, Marcel Rouenhoff, Ralf Theissmann, and Frank Einar Kruis, Book Chapter, Nanoparticles from the gas phase, Nanoscience and Technology, Springer- Verlag, Berlin Heidelberg (2012).

Journals

1. *"A Multi-cation responsive Ni(II)-supramolecular metallogel mimics a molecular keypad lock via reversible fluorescence switching "*
Vaishali Singh, Shubhra Kala, Tanmay Rom, Avijit Kumar Paul and Rampal Pandey, ***Dalton Transctions 52 (2023) 7088.***

2. *"Integrated hydrothermal-green approach to synthesize Fe, Ag doped copper sulfide nanopowders and investigation of their thermoelectric properties"*
Pooja Rawat, Shubhra Kala, Shamim SK, Sudhir K Pandey, Manika Khauja, **Physics B: Condensed Matter 660 (2023) 414918.**

3. "*Synthesis of Mixed AuZn Nanoparticles by Spark Discharge Technique"*
Shubhra Kala, F.E. Kruis, ***MRS advances 4(2019)1621-1629***

4. *"Metal-semiconductor pair nanoparticles by a physical route based on bipolar mixing"*
Shubhra Kala, Ralf Theissmann, Marcel Rouenhoff and Frank Einar Kruis, ***Nanotechnology 27 (2016) 125604***

5. *"Structural and opto-electronic features of pulsed laser ablation grown Cu_2ZnSnS_4 films for photovoltaic applications"*
Shubhra Kala, Hardeep Kaur, Ankur Rastogi, V.N. Singh, T.D. Senguttuvan ***J. Alloys Compd. 658 (2016) 324***

6. *"Generation of AuGe nanocomposites by co-sparkingtechnique and their photoluminescence properties"*
Shubhra Kala, Ralf Theissmann, Frank Einar Kruis, **J. Nanopart. Res. 15 (2013) 1963**