



Dr. P K Khanna,
Sr. Professor,
Department of Applied Chemistry

Academic Background:

Ph. D. Indian Institute of Technology, Bombay
Post-doctoral research at Queens University, Belfast and University of Wales, UK
BOYSCAST, DST Fellow, University of St. Andrews, Scotland
Brainpool International Fellow, South Korea.

Honours and Awards:

- 2015-2020: Editorial Board Member, Defence Science Journal, DRDO
- 2003, 2004 & 2008-09: Brain Pool Scientist Korea
- 2010: MRSI medal (Materials Res. Society of India)
- 2013: Member MRS-Singapore
- 2008: Guest Editor of Special issue Int. J Green Nanotechnology: Phy. & Chem. (Taylor&Francis, USA)
- 2006: Guest Editor of Special issue of Reactivity in Inorg, MetalOrga & Nanochem (Taylor&Francis)
- 2014: Researcher of the year DIAT, DRDO
- Editorial Board Member of Defence Sc J. 2015-2020
- Listed as Top 2% Scentist in Mater.Science researchers' data of Stanford Univ USA Published by Elsevier 2020-21-22

Representative Publications:

- Nanostructured Molybdenum Dichalcogenides: A Review, Priyanka Phalswal, P.K. Khanna, Y. K. Mishra **Mater. Adv. (RSC)** 5672, **3**, 2022
- Ternary Metal Selenides by use of 4-nitroacetophenone Selenosemicarbazone: Application of Selenium Schiff Base in Nanotechnology, A. S. Kshirsagar, P. K. Khanna, **Inorg. Chem. Comm.**, 109334, **139**, 2022.
- Selenium NPs: A review on Synthesis and Biomedical Applications, N. Bisht, Priynaka, P.K. Khanna, **Mater. Adv. (RSC)** 1415, **3**, 2022
- Synthesis of Biologically active AgNPs by use of N-containing comp.: Dual role of Semicarbazone, P. G. Joshi, Minakshi More, Neha Bisht, Priynaka, P.K. Khanna, RSC, **New J. Chem**, 22369, **45**, 2021.
- Magic-Sized CdSe Nanoclusters: A Review on Synthesis and White Light Potential, V Singh, Priyanka, P More, Y K Mishra, Eva Hemmer and P.K. Khanna, **RSC, Mater. Adv.**, 1204-1228, **2**, 2021
- Novel one-pot microwave assisted synthesis of MoO₂ nanoparticles, Priyanka Phalswal, P.K. Khanna, **Materials Letter**, 130445, **302**(1), 2021.
- Materials and biological applications of 1,2,3-selenadiazoles: a review, P.G. Joshi, M.S. More, A.A. Jadhav, P. K. Khanna, **Materials Today Chemistry**, (Elsevier) 100255, **16**, 2021
- Optimization of Strontium doping Concentration in BaTiO₃ Nanostrucures for Room Temerature NH₃ and NO₂ Sensing, Priyesh More, V. Gaikwad, Neha Bhist, **P.K. Khanna**, G. Jain, R.N. Patil, **Materials Today Chemistry**, 100240, **16**, 2020.
- Materials and biological applications of 1,2,3-selenadiazoles: a review P.G. Joshi, M.S. More, A.A. Jadhav, **P.K. Khanna**, **Materials Today Chemistry**, 100255, **16**, 2020.
- A Review of Schiff Base and Semicarbazones and their Applications. M. More, PG Joshi and P. K. Khanna **Materials Today Chemistry**-2019, **14**, 100195
- Band Engineered I/III/V-VI Binary Metal Selenide/ MWCNT/PANI Nanocomposites for Potential Room Temperature Thermoelectric Applications, A. S. Kshirsagar, C. Hiragond, A. Dey, P. More & P. K. Khanna, **ACS Applied Energy Materials**, 2680-2691, **(2)4** 2019.

Research Description: - Our areas of interest include applied research on organometallic chemistry of selenium and tellurium, nanoararchitronics, R & D in Nano-chemistry via Inorganic and Organometallic chemistry, new Chemical strategies for developing nanomaterials/quantum dots via direct and molecular precursor route. Nanotechnology via solution chemistry targeting particles dimension of <10 nm., synthesis of quantum dots of semiconductor and their applications in energy devices (solar cells), photonics and bionanotechnology, R&D on Nano-particles of metals and their chalcogenides

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