Keya Dharamvir
Professor (re-employed)
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Educational background

- M.Sc. Physics, I.I.T. Kanpur (1971)
- Ph.D. (Physics), I.I.T. Kanpur (1980)

Professional background

- Lecturer (ad hoc), Govt. Colleges, Haryana, 1977 – 1983)
- Postdoctoral Fellow, Dept. Applied Maths., Imperial College London (1984 – 85).
- Research Associate (UGC), Physics Dept., Panjab University, Chandigarh (1984 – 87)
- Pool Officer (CSIR), Panjab University, Chandigarh (1988 – 91)
- Research Associate (UGC), Physics Dept., Panjab University, Chandigarh (1991 – 94)
- Lecturer, Panjab University, Chandigarh (1994 –99)
- Reader, Panjab University, Chandigarh (1999 –2004)
- Professor, Panjab University, Chandigarh (2004 – 10)
- Professor (re-employed), Panjab University, Chandigarh (2010 – till date)

Main area of work

- Theoretical Cndensed Matter physics: Mixed Valent Systems; Low dimensional electron gas
- Theoretical Nanomaterials: Structure and vibrations of carbon nanomaterials (C60, Carbon Nanotubes); Clusters, metallic and doped: structure prediction and chemical reactivity.
- Experimental: Heavy ion irradiation on carbon nanomaterials

Significant recent publications

1. A DFT based prediction of gold fullerene Au92Si12 with the aid of silicon
SeemaGautam, NeetuGoel and KeyaDharamvir**,**
RSC Adv., **4**, pages 13927-13933, 2014

2. Density functional studies of Li_N and Li_N^+ (N = 2–30) clusters: Structure, binding and charge distribution,
NeetuGoel, SeemaGautam and Keya Dharamvir,
International Journal of Quantum Chemistry 112, Issue 2, pages 575–586, 2012

3. Silicon aids quasi - planar arrangement of gold clusters, Seema Gautam[a], NeetuGoel[b], Rajiv Bhandari[c], KeyaDharamvir[a],Phys. Express 2014, 4: 5
(Received 18 Nov 2012; Accepted 13 Apr 2013; Available Online 13 Apr 2013)

4. Phonon dispersions in graphene sheet and single-walled carbon nanotubes,
Dinesh Kumar, VeenaVerma, Keya Dharamvir, H.S.Bhatti,
Pramana 12/2013; 81(6):1021-1035.

5. Elastic Moduli of Carbon Nanohorns,
Dinesh Kumar, VeenaVerma, H.S. Bhatti, Keya Dharamvir,
Journal of Nanomaterials, 01/2011; 2011:6 pages.

6. Conductivity modulation of carbon nanotubes through hybridization with quantum dots and gold nanoparticles,

   Suresh Kumar, Mridula Mittal, Inderpreet Kaur, KeyaDharamvir, BanshiDhar Pant and Lalit M. Bharadwaj,

   The European Physical Journal Applied Physics , Volume 64 / Issue 02 / November 2013, 20401 (5 pages)

7. Magnetic Field-Guided Orientation of Carbon Nanotubes Through their Conjugation with Magnetic Nanoparticles,
Suresh Kumar, HarsimranKaur, HarkiranKaur, InderpreetKaur, KeyaDharamvir and L.M. Bharadwaj,
Journal of Material Science, 47 (3). pp. 1489-1496. ISSN 0022-2461 (2012)

8. Controlling the density and site of attachment of gold nanoparticles onto the surface of carbon nanotubes, Suresh Kumar , InderpreetKaur , KeyaDharamvir and L.M. Bharadwaj,
Journal of Colloid and Interface Science, 369 (1). pp. 23-27 (2012)

9. Structural Evolution and Stability of Hydrogenated Lin (n =1 - 30) Clusters – A Density Functional Study,

   Seema Gautam, Keya Dharamvir, Neetu Goel, *J. Phys. Chem. A*, *115* (24), pp 6383–6389, 2011.

10. Three-stage structural modification of carbon nanotubes by swift heavy ion irradiation

    Jeet, K., *Jindal, V.K*., Bharadwaj, L.M., Bhandari, R., Dharamvir, K.
    Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms, 285, (2012) 30-36.

11. Substitutional patterns in boron doped heterofullerenes C 60-nB n (n = 1-12)
    Garg, I., Sharma, H., Dharamvir, K., *Jindal, V.K*
    Journal of Computational and Theoretical Nanoscience, 8 (4) (2011) 642-655.

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12. A first-principle investigation of boron- and nitrogen-doped heterofullerenes
    Garg, I., Dharamvir, K., *Jindal, V.K*., Sharma, H

    International Journal of Nanoscience, 10 (1-2) (2011) 29-33.

13. Transition metal induced magnetism in smaller fullerenes (C n for n ≤ 36)
    Garg, I., Sharma, H., Kapila, N., Dharamvir, K., *Jindal, V.K*
    Nanoscale, 3 (1), (2011) 217-224.

14. DFT study of Al n (1-13) clusters encapsulated inside single walled carbon nanotubes
    Garg, I., Sharma, H., Dharamvir, K., *Jindal, V.K*., Kanhere, D.G.
    Journal of Physical Chemistry C, 114 (44), (2010) 18762-18772.

15. Ab initio study of structural and electronic properties of Al nN (n = 1-22) clusters
    Sharma, H., Garg, I., Dharamvir, K., *Jindal, V.K*
    Journal of Computational and Theoretical Nanoscience, 7 (11) (2010) 2297-2307.

16. Damaged carbon nanotubes get healed by ion irradiation Jeet, K., *Jindal, V.K*., Bharadwaj, L.M., Avasthi, D.K., Dharamvir, K.

    Journal of Applied Physics, 108 (3), (2010) art. no. 034302.

17. Structure of polynitrogen clusters encapsulated in C 60: A density functional study
    Sharma, H., Garg, I., Dharamvir, K., *Jindal, V.K*
    Journal of Physical Chemistry C, 114 (19), (2010). 9153-9160.

18. Pressure induced transformations in condensed and molecular phases of C 60
    Kaur, N., Gupta, S., *Jindal, V.K*., Dharamvir, K.
    Carbon, 48 (3) (2010) 744-755.

19. Phonon dynamics and thermodynamical properties of alkali metal doped C 60 compounds
    Varshney, D., Jain, R.K., Ranjan, K., Dharamvir, K., *Jindal, V.K*
    Modern Physics Letters B, 23 (20-21) (2009) 2557-2571.