

# **CURRICULUM VITAE**



**Dr. SUSHIL KUMAR**

**Department of Physics**

**Chaudhary Devi Lal University, Sirsa**

## CURRICULUM VITAE

1. **Name** : **Dr. Sushil Kumar**
2. **Designation** : Associate Professor
3. **Institution** : Chaudhary Devi Lal University, Sirsa
4. **Date of birth** : September 01, 1968
5. **Nationality** : Indian
6. **Category, Sex, Marital status** : General, Male, Married
7. **Father's name** : Shri Raj Pal Singh
8. **Address Office** : Department of Physics,  
Chaudhary Devi Lal University,  
Sirsa -125 055, Haryana, India  
Phone: +91-9466739217  
Email: sushil\_phys@rediffmail.com  
sushil.phys@gmail.com
- Residence** : H. No. 9, M.I.T.C. Colony  
Sirsa-125055, Haryana, India

9. **Academic qualifications** :

Ph. D.	C. C. S. University, Meerut	2002		Physics (Materials Science)
M. Phil.	C. C. S. University, Meerut	1992	First	Physics
M. Sc.	C. C. S. University, Meerut	1989	First	Physics (with Electronics)
B. Sc.	C. C. S. University, Meerut	1987	First	Physics, Chemistry, Mathematics
Intermediate	U. P. Board, Allahabad	1985	First	Hindi, Eng., Maths., Phys., Chem.
High school	U. P. Board, Allahabad	1983	First	Hindi, Eng., Maths., Sci., Bio.

10. **Languages known (Speak, Read & Write)** : English, Hindi

11. **Scholarship/Fellowship/Awards** : Merit scholarship in M. Sc.  
(Fifth position in the C.C.S. University)  
Best Poster Presentation Award  
(in NanoSciTech-2012, Panjab University)  
Best Oral Presentation Award  
(in NCAPMS-2015, MD University)

12. **Professional experience** :

- (a) **Teaching experience** : 19 years

Assoc. Prof.	Ch. Devi Lal University, Sirsa (Haryana)	15.09.2007	till date
Lecturer	G. N. G. College, Yamuna Nagar (Haryana)	31.10.2001	14.09.2007
Lecturer	G. G. D. S. D. College, Palwal (Haryana)	28.10.1997	30.10.2001
Lecturer	G. N. G. College, Ludhiana (Punjab)	06.01.1997	27.10.1997

(b) **Research experience:** 19 years  
**Field/Area of interest:** Materials Science (including Nanomaterials)

(c) **Reviewer of Journals:**  
(i) Journal of Alloys & Compounds  
(ii) J. Optoelectronics & Advanced Materials  
(iii) J. Electronic Materials

**13. Work done in Ph.D. & M.Phil.:**

(i) **Ph. D. Thesis** : **‘Studies on Infrared Sensitive Films’**

It deals with the synthesis and characterization of the thin films of narrow gap lead chalcogenides (PbS, PbSe, PbTe) and their alloys ( $\text{PbS}_{1-x}\text{Se}_x$ ,  $\text{PbSe}_{1-x}\text{Te}_x$ ,  $\text{PbTe}_{1-x}\text{S}_x$  where  $0 \leq x \leq 1$ ). Optical, electrical and structural characterization was made which include the determination of band gap, absorption coefficient, electrical conductivity, activation energy, Schottky barrier height, ideality factor, lattice constant, inter-planer spacing etc.

(ii) **M. Phil. Dissertation** : **‘Giant dipole resonances in heavy ion collisions’**

It deals with Giant dipole resonance which exists as a general feature of highly excited nuclei. In heavy ion induced fusion reactions (collisions), the projectile and target formed a compound nucleus in statistical equilibrium. The compound nucleus then decays by particle and gamma ray emission. Statistical model calculations were made for the cross-section of formation and decay of the compound nucleus.

**14. Publications (Research papers)**

(i)	Papers published in International Journals	-	53
(ii)	Papers accepted for publications (in press)	-	Nil
(iii)	Papers published/presented in Conferences/Workshops	-	90
(iv)	Papers communicated for publication	-	03

(List is attached herewith)

**15. Professional expertise / training :**

(a) **Orientation programmes/Refresher courses attended** : O.P.-1, R.C.- 3

Refresher courses:

(i) U.G.C.-A.S.C., University of Delhi, Delhi, Mar.12-31, 2007.  
(ii) U.G.C.-A.S.C., University of Delhi, Delhi, Feb.7-26, 2005.  
(iii) U.G.C.-A.S.C., Jawaharlal Nehru University, New Delhi, Jan.28-Feb.22, 2002.

Orientation programme:

(i) U.G.C.-A.S.C., Jamia Millia Islamia, New Delhi, Feb. 6-Mar.5, 1999.

(b) **Seminars / Symposia / Workshops / Conferences attended:** 24

**16. Particulars of guiding research :**

(i)	No. of candidates completed Ph. D.	-	4
(ii)	No. of candidates submitted Ph.D. thesis	-	2
(iii)	No. of candidates pursuing Ph. D.	-	5
(iv)	No. of candidates completed M. Phil.	-	7

(List is attached herewith)

- 17. Membership of academic bodies :**
- (i) Materials Research Society of India, Bangalore
  - (ii) Indian Physical Society, Kolkata.
  - (iii) Indian Association of Physics Teachers, Kanpur.
  - (iv) Semiconductor Society (India), New Delhi
- 18. Course designed/developed :** M. Sc., M. Phil., Ph.D. (Physics)  
Chaudhary Devi Lal University, Sirsa
- 19. Research projects :** P.I. of UGC Major Research Project (01.04.2013-31.03.2016)  
Title: *“Investigations on technologically important nanosized metal oxides and their binary systems prepared by sol-gel route”*
- 20. Administrative responsibilities :**
- (i) Chaudhary Devi Lal University, Sirsa-125055, Haryana  
Chairperson: Department of Physics  
Director: University Science Instrumentation Centre (USIC)  
Member: Academic Council, Faculty of Physical sciences  
Career and Counseling Cell, College(s) Inspection Committee(s)  
House Allotment Committee, Selection Committee(s)  
Chairperson: Post Graduate Board of Studies & Research, Admission Committee  
Under Graduate Board of Studies, Departmental Research Committee  
Time Table Committee
  - (ii) Guru Nanak Girls College, Yamuna Nagar-135001, Haryana  
Member: Admission, Advertisement, Purchase, Cleanliness committees  
Coordinator: NAAC & IQAC committees
  - (iii) G. G. D. S. D. College, Palwal-121102, Haryana  
Member: Admission, Exams., Discipline, Health, Water & Sanitation committees
  - (iv) Guru Nanak Girls College, Ludhiana-141001, Punjab  
Member: Admission, Library maintenance, Campus cleanliness committees
- 21. References :**
- (i) Prof. M. Husain  
Vice-Chancellor  
MJP Rohilkhand University, Bareilly  
Formerly Professor, Department of Physics  
Director, Centre for Nanoscience & Nanotechnology  
Jamia Millia Islamia (A Central University)  
New Delhi-110025  
Tel.: +91-9811214084  
Email: mush\_phys@rediffmail.com

(ii) Prof. Harsh

Centre for Nanoscience & Nanotechnology  
Jamia Millia Islamia (A Central University)  
New Delhi-110025  
Formerly Scientist G and Associate Director  
Solid State Physics Laboratory  
Defence Research & Development Organization (DRDO)  
Lucknow Road, Timarpur, Delhi-110054  
Tel. +91 9953451588  
Email: harshnd51@yahoo.com

**(Sushil Kumar)**

## Particulars of Major Research Project

**Title:** *“Investigations on technologically important nanosized metal oxides and their binary systems prepared by sol-gel route”*

**Principal Investigator:** Dr. Sushil Kumar

**Funding Agency:** University Grants Commission, New Delhi

**Duration:** 01.04.2013 – 31.03.2016

**Amount sanctioned:** 11,24,300/- (Eleven lacs twenty four thousand three hundred only)

### Research highlights:

Methodology:

1. Synthesis of nanopowders and thin films of metal oxides and their binary systems by sol-gel and spin coating techniques.
2. Tailoring of structural, optical and thermal properties through composition/doping.
3. Structural, optical and thermal characterization of prepared nanosized materials.

Applications:

Synthesized nanopowders and thin films of metal oxides are useful in various technologically important devices such as optical sensors, solar cells, luminescent displays, holographic gratings, microelectronic circuits etc. Our aim is to alter the properties of nanopowders and thin films so that the efficiency and stability of devices may be increased.

## Particulars of guiding research of Dr. Sushil Kumar

**(i) No. of candidates completed Ph. D. under my supervision - 02**

1. Ajay Garg, Date of Award: 14.06.2012  
Title: "Estimation of natural radioactivity in dwellings and industrial units of Eastern Haryana"
2. Anand Kumar, Date of Award: 27.04.2012  
Title: "Synthesis; electrical and spectroscopic characterization of doped conducting polymers"

**(ii) No. of candidates completed Ph. D. under my co-supervision - 02**

1. Ms. Nidhi Sharma, Date of award: 07.05.2014  
Title: "Synthesis of nano-materials using co-precipitation technique and their structural characterization"
2. Ms. Monika Chahar, Date of Award: 13.05.2013  
Title: "Synthesis and spectroscopic characterization of nano-composites using silica gel and some polymers"

**(iii) No. of candidates submitted Ph. D. thesis under my supervision/co-supervision - 02**

1. Mr. Shyam Sunder, Date of submission: 02.02.2015  
Title: "Study of some nano metal oxides prepared by wet chemical technique"
2. Mr. Narinder Kumar, Date of submission: 16.06.2015  
Title: " Study of radiation effects on the properties of nano- and micro-structures"

**(iv) No. of candidates pursuing Ph. D. under my supervision - 05**

1. Ms. Surbhi, Date of Regn.: 19.03.2012  
Title: "Investigations on structural, thermal and optical characterizations of nanoscaled metal oxides and their binary systems"
2. Ms. Saruchi, Date of Regn.: 19.03.2012  
Title: "Studies on sol-gel derived nanodimensional metal oxides and their binaries"
3. Ms. Nisha Mann, Date of Regn.: 19.03.2012  
Title: "Measurement of natural radioactivity in different building construction materials in western Haryana"
4. Mr. Mukesh Chander, Date of Regn.: 19.03.2012  
Title: "Study of ionic transport through synthesized nanopores in polymeric membranes and their applications"
5. Mr. Narender Kumar, Date of Regn.: 01.09.2012  
Title: "Structural, magnetic and electrical characterization of some nano-ferrites (single/mixed/doped) synthesized by wet chemical method"

**Administrative responsibilities:**

**Chaudhary Devi Lal University, Sirsa-125055, Haryana**

Chairperson: Department of Physics

Director: University Science Instrumentation Centre (USIC)

Member: Academic Council  
Faculty of Physical sciences  
Career and Counseling Cell  
College(s) Inspection Committee(s)  
House Allotment Committee  
Selection Committee(s)

Chairperson: Post Graduate Board of Studies & Research  
Under Graduate Board of Studies  
Departmental Research Committee  
Admission Committee  
Time Table Committee

**Membership of academic bodies:**

- (i) Materials Research Society of India, Bangalore
- (ii) Indian Physical Society, Kolkata.
- (iii) Indian Association of Physics Teachers, Kanpur.
- (iv) Semiconductor Society (India), New Delhi

**Field/Area of interest:**

Materials Science (including Nanomaterials)

**Reviewer of Journals:**

- (i) Journal of Alloys & Compounds
- (ii) J. Optoelectronics & Advanced Materials
- (iii) J. Electronic Materials

**Publications**

- |    |  |                       |
|----|--|-----------------------|
| 1. | Research papers published in International Journals: | 53                    |
| 2. | Research papers presented in Conferences             | (i) International: 58 |
|    |  | (ii) National: 32     |

**(List is attached herewith)**



## Research papers published in International journals

1. “Electrical studies of vertically oriented tellurium nanowire arrays produced by template electrodeposition”  
Narinder Kumar, Rajesh Kumar, **Sushil Kumar**, S.K. Chakarvarti  
J. Electronic Materials, Vol. 44, No. 8, 2015, DOI:10.1007/s11664-015-3778-5.
6. “Fe-doping induced tailoring in the microstructure and optical properties of ZnO nanoparticles synthesized via sol-gel route”  
M.A. Majeed Khan, **Sushil Kumar**, Maqsood Ahamad, Salman A. Alrokayan  
J. Materials Science: Materials in Electronics, DOI:10.1007/s10854-015-3190-1, (2015)
3. “Structural and electrical studies of template synthesized copper nanowires”  
Narinder Kumar, Rajesh Kumar, **Sushil Kumar**, S.K. Chakarvarti  
Current Applied Physics, 14 (2014) 1547-1552.
4. “Structural, electrical and optical properties of nanocrystalline silicon thin films deposited by pulsed laser ablation”  
M.A. Majeed Khan, **Sushil Kumar**, Maqsood Ahamad  
Materials Science in Semiconductor Processing, 30 (2014) 169-173.
5. “Microstructural, optical and electrical investigations of large scale selenium nanowires prepared by template deposition”  
Narinder Kumar, Rajesh Kumar, **Sushil Kumar**, S.K. Chakarvarti  
J. Materials Science: Materials in Electronics, 25 (2014) 3537-3542.
6. “Microstructure and blueshift in optical band gap of nanocrystalline  $Al_xZn_{1-x}O$  thin films”  
M.A. Majeed Khan, **Sushil Kumar**, M. Naziruddin Khan, Maqsood Ahamad, A.S. Al Dwayyan  
J. Luminescence, 155 (2014) 275-281.
7. “Microstructure and optical characterization of nanometric silicon thin films prepared by pulsed laser ablation”  
M.A. Majeed Khan, **Sushil Kumar**, Maqsood Ahamad  
J. Modern Optics, 61 (2014) 504-508.
8. “Study of structural and magnetic properties of Nd doped zinc ferrites”  
N. Sharma, P. Aghamkar, **S. Kumar**, M. Bansal, Anju, R.P. Tandon  
J. Magnetism and Magnetic Materials, 369 (2014) 162-167.
9. “Structural investigations on Nd-doped silica nanocomposites: Effect of sintering temperature and dopant concentration”  
Surbhi, Saruchi, P. Aghamkar, **Sushil Kumar**  
Philosophical Magazine Letters, 94 (2014) 503-513.
10. “Effect of annealing temperature on structural, photoluminescence and thermal properties of nanosized zirconium silicates”  
Surbhi, Saruchi, **Sushil Kumar**  
Advanced Science Letters, 20 (2014) 1504-1508.
11. “Structural and optical studies of  $Sn_{1-x}Zr_xO_2$  nanocomposites”  
Saruchi, Surbhi, **Sushil Kumar**  
Advanced Science Letters, 20 (2014) 1558-1561.

12. "Optical and electrical investigations of a-GaTe nanoparticles thin films prepared by inert gas condensation technique"  
**Sushil Kumar**, M. A. Majeed Khan  
Optoelectronics and Advanced Materials, 8 (2014)...-....
13. "Morphological, optical and DC conduction properties of a-GaSe semiconductor nanoparticles thin films"  
**Sushil Kumar**, M. A. Majeed Khan  
J. Materials Science & Technology, 29 (2013) 1151-1155.
14. "Synthesis and characteristics of spray deposited CuInS<sub>2</sub> nanocrystals thin films for photovoltaic applications"  
M.A. Majeed Khan, **Sushil Kumar**, Mohamad S. AlSalhi  
Materials Research Bulletin, 48 (2013) 4277-4282.
15. "Spray pyrolysed Cu<sub>2</sub>ZnSnS<sub>4</sub> absorbing layer: A potential candidate for solar cells/ photovoltaic applications"  
M.A. Majeed Khan, **Sushil Kumar**, Mansour Alhoshan, A.S. Al Dwayyan  
J. Optics and Laser Technology, 49 (2013) 196-201.
16. "Synthesis and spectral investigations of kiton red-620 doped silica based materials"  
Monika Chahar, Vazid Ali, **Sushil Kumar**  
J. Optoelectronics and Advanced Materials, 15 (2013) 224-228.
17. "Neodymia-silica nanocomposites: synthesis and structural properties"  
Saruchi, Surbhi, Praveen Aghamkar, **Sushil Kumar**  
Advanced Materials Letters, 4 (2013) 78-81.
18. "Effect of protonation and chemical doping of poly (o-toluidine) with copper sulphate on spectral and electrical properties of host polymer"  
Anand Kumar, Vazid Ali, **Sushil Kumar**  
J. Macromolecular Science Part B: Physics, 52 (2013) 1107-1117.
19. "Synthesis and spectroscopic investigations of CuSO<sub>4</sub>.5H<sub>2</sub>O doped poly( m-toluidine)" Anand Kumar, Vazid Ali, **Sushil Kumar**  
International J. Polymeric Materials and Polymeric Biomaterials, 62(2013) 433-436.
20. "Structural and electrical properties of spray deposited thin films of CuInS<sub>2</sub> nocrystals"  
M.A. Majeed Khan, **Sushil Kumar**, Maqusood Ahmed, Mohamad S. AlSalhi  
Materials Letters, 68 (2012) 497-500.
21. "Morphology and non-isothermal crystallization kinetics of CuInS<sub>2</sub> nanocrystals synthesized by solvo-thermal method"  
M.A. Majeed Khan, **Sushil Kumar**, M.S. Alsalhi, Maqusood Ahamad, Mansour Alhoshan, Salman A. Alrokayan, Tansir Ahmed  
Materials Characterization, 65 (2012) 109-114.
22. "Spectroscopic and electrical studies of ferrous sulphate doped polyaniline"  
Anand Kumar, Vazid Ali, **Sushil Kumar**  
Advanced Materials Research, 585 (2012) 224-227.
23. "Schottky barrier junctions of gold with lead chalcogenides: Growth and characteristics"

- Sushil Kumar**, M. A. Majeed Khan  
Chalcogenide Letters, 9 (2012) 99-103.
24. “Electrical conductivity and dielectric parameters of polyaniline doped with  $\text{CuClO}_4 \cdot 4\text{BN}$  in aqueous DMSO solvent”  
Vazid Ali, Raminder Kaur, GBVS Lakshmi, Anand Kumar, Kiran Kumari, **Sushil Kumar**  
Advances in Polymer Technology, 31 (2012) 374-379.
  25. “Spectral investigations of kiton red-620 doped polymethyl methacrylate”  
Monika Chahar, Vazid Ali, **Sushil Kumar**  
Materials Sciences and Applications, 3(10) (2012) 669-673.
  26. “Optical properties of amorphous  $\text{Se}_{94}\text{Te}_6$  and  $\text{Se}_{91}\text{Te}_9$  thin films deposited by thermal evaporation”  
**Sushil Kumar**, M. A. Majeed Khan  
Chalcogenide Letters, 9 (2012) 145-149.
  27. “Structural and thermal studies of silver nanoparticles and electrical transport study of their thin films”  
Mohd. Abdul Majeed Khan, **Sushil Kumar**, Maqsood Ahmed, Salman A. Alrokayan, Mohammad S. Alsahli  
Nanoscale Research Letters, 6 (2011) 434-441.
  28. “Structural and spectroscopic studies of thin film of silver nanoparticles”  
Mohd. Abdul Majeed Khan, **Sushil Kumar**, Maqsood Ahmed, Salman A. Alrokayan, M. S. Alsahli, Mansour Alhoshan, A. S. Aldwayyan  
Applied Surface Science, 257 (2011) 10607-10612.
  29. “Investigations on structural and magnetic properties of cobalt ferrite/silica nanocomposites prepared by the co-precipitation method”  
Sunil Rohilla, **Sushil Kumar**, P. Aghamkar, S. Sunder, A. Agrawal  
J. Magnetism & Magnetic Materials, 323 (2011) 897-902.
  30. “Studies on electrical conductivity and optical properties of poly (o-toluidine)-ferrous sulphate composites”  
Anand Kumar, Vazid Ali, **Sushil Kumar**, M. Husain  
International J. Polymer Analysis and Characterization, 16 (2011) 298-306.
  31. “DC conductivity and spectroscopic studies of polyaniline doped with binary dopant  $\text{ZrOCl}_2/\text{AgI}$ ”  
Kiran Kumari, Vazid Ali, Anand Kumar, **Sushil Kumar**, M. Zulfequar  
Bulletin of Materials Science, 34 (2011) 1237-1243.
  32. “DC conductivity and spectroscopic characterization of Poly (o-toluidine) doped with binary dopant  $\text{ZrOCl}_2/\text{AgI}$ ”  
Kiran Kumari, Vazid Ali, Gita Rani, **Sushil Kumar**, G.B.V.S. Lakshmi, M. Zulfequar  
Materials Sciences and Applications, 2 (2011) 1049-1057.
  33. “Electrical transport mechanism in a- $\text{Se}_{95}\text{M}_5$  films (M=Ge, Se, Bi)”  
M. A. Majeed Khan, **Sushil Kumar**, M. Wasi Khan, M. Husain, M. Zulfequar  
J. Materials Research Bulletin, 45 (2010) 727-732.
  34. “Investigations on the properties of solid solutions of pseudobinary leadchalcogenides”

- Sushil Kumar**, Bhajan Lal, Sunil Rohilla, P. Aghamkar, M. Husain  
J. Alloys & Compounds, 505 (2010)135-139.
35. “Growth and characterization of screen printed CdSe films”  
Vipin Kumar, Sachin K. Sharma, **Sushil Kumar**, M. Husain, T. P. Sharma  
Philosophical Magazine Letters, 90 (2010) 493.
  36. “Synthesis of  $\text{Fe}_4[\text{Fe}(\text{CN})_6]_3 \cdot 14\text{H}_2\text{O}$  nanopowder by co-precipitation technique and effect of heat treatment”  
S. Rohilla, B. Lal, S. Sunder, P. Aghamkar, **S. Kumar**, A. Agrawal  
Acta Physica Polonica A 118 (2010) 333-336.
  37. “Estimation of radioactivity in some sand and soil samples”  
Monika Gupta, R. P. Chauhan, Ajay Garg, **Sushil Kumar**, R. G. Sonkawade  
Indian Journal of Pure & Appl. Phys., 48(7) (2010) 482.
  38. “Influence of sulfur, selenium and tellurium doping on optical, electrical and structural properties of lead salts thin films”  
**Sushil Kumar**, Bhajan Lal, P. Aghamkar, M. Husain  
J. Alloys & Compounds, 488 (2009)334.
  39. “Structural studies of annealed Neodymia -Silica composite synthesized by Sol-gel Technique”  
Bhajan Lal, **Sushil Kumar**, P. Aghamkar, S. Rohilla, Dilbag Singh  
Physica B, 404 (2009) 3452.
  40. “Dependence of band gap on deposition parameters in CdSe sintered films”  
Sachin K. Sharma, Lokendra Kumar, **Sushil Kumar**, T. P. Sharma.  
Chalcogenide Letters, 5 (2008) 73.
  41. “The effect of annealing on the electrical conduction of amorphous  $\text{Bi}_{0.5}\text{Se}_{99.4}\text{Zn}_{0.1}$  thin films”  
M. A. Majeed Khan, **Sushil Kumar**, M. Husain, M. Zulfequar  
Materials Letters, 62 (2008) 1572.
  42. “Thermal properties of Selenium-Bismuth glassy alloys”  
M. A. Majeed Khan, **Sushil Kumar**, M. Husain, M. Zulfequar  
Chalcogenide Letters, 4 (2007) 147.
  43. “Optical, electrical and structural investigations on  $\text{PbTe}_{1-x}\text{S}_x$  alloys”  
**Sushil Kumar**, M. A. Majeed Khan, M. Zulfequar, M. Husain.  
J. Materials Science, 42 (2007) 363.
  44. “Studies on thin films of lead chalcogenides”  
**Sushil Kumar**, Zishan H. Khan, M. A. Majeed Khan, M. Husain.  
Current Applied Physics, 5 (2005) 561.
  45. “Studies on vacuum evaporated  $\text{PbS}_{1-x}\text{Se}_x$  thin films”  
**Sushil Kumar**, M. A. Majeed Khan, Shamshad A. Khan, M. Husain.  
Optical Materials, 25 (2004) 25.
  46. “CdS sintered films: Growth and characteristics”

- Monika Sharma, **Sushil Kumar**, L. M. Sharma, T. P. Sharma, M. Husain.  
Physica B, 348 (2004) 15.
47. “Characterization of CdSe<sub>x</sub>Te<sub>1-x</sub> sintered films for photovoltaic applications”  
Monika Sharma, **Sushil Kumar**, L. M. Sharma, T. P. Sharma, M. Husain  
Current Applied Physics, 4 (2004) 419.
  48. “Characterization of PbSe<sub>1-x</sub>Te<sub>x</sub> thin films”  
**Sushil Kumar**, Muzammil Husain, T. P. Sharma, Mushahid Husain.  
J. Physics and Chemistry of Solids, 64 (2003) 367.
  49. “Optical, electrical and structural investigations on Cd<sub>1-x</sub>Zn<sub>x</sub>Se sintered films for photovoltaic applications”  
M. Husain, Beer Pal Singh, **Sushil Kumar**, T. P. Sharma, P. J. Sebastian  
J. Solar Energy Materials and Solar Cells, 76 (2003) 319.
  50. “Characterization of vacuum evaporated PbS thin films”  
Sushil Kumar, T. P. Sharma, M. Zulfequar, M. Husain  
Physica B, 325 (2003) 8.
  51. “Optical band gap and optical constants of a-Se<sub>1-x</sub>Sb<sub>x</sub> thin films”  
M. A. Majeed Khan, M. Zulfequar, **Sushil Kumar**, M. Husain  
J. Modern Optics, 50 (2003) 251.
  52. “CdTe photovoltaic sintered films”  
**S. Kumar**, S. K. Sharma, T. P. Sharma, M. Husain  
J. Physics and Chemistry of Solids, 61 (2000) 1809.
  53. “CdSe photovoltaic sintered films”  
Sachin K. Sharma, **Sushil Kumar**, Vipin Kumar, T. P. Sharma  
Optical Materials, 13 (1999) 261.

## Research papers presented in Conferences/Seminars/Workshops

### (i) International

1. “Structural and thermal characterization of sol-gel derived nanodimensional zirconium silicates”  
Surbhi, Saruchi, **Sushil Kumar**  
International Conference on Soft Materials, Oct. 6-10, 2014, Malviya National Institute of Technology, Jaipur.
2. “Studies on structural parameters of ZrO<sub>2</sub>-SnO<sub>2</sub> binary system”  
Saruchi, Surbhi, **Sushil Kumar**  
17<sup>th</sup> International Workshop on the Physics of Semiconductor Devices, Dec. 10-13, 2013, Amity University, NOIDA.
3. “Thermal evolution of mixed oxides of zirconia-silica prepared by sol-gel route”  
Surbhi, Saruchi, **Sushil Kumar**  
17<sup>th</sup> International Workshop on the Physics of Semiconductor Devices, Dec. 10-13, 2013, Amity University, NOIDA.
4. “Morphological and optical study of electrodeposited selenium nanowires”

Narinder Kumar, Rajesh Kumar, **Sushil Kumar**, S.K. Chakarvarti  
17<sup>th</sup> International Workshop on the Physics of Semiconductor Devices, Dec. 10-13,  
2013, Amity University, NOIDA.

5. “Microstructure and optical characterization of nanometric silicon thin films prepared by pulsed laser ablation for solar cell applications”  
**Sushil Kumar**, M.A. Majeed Khan  
International Conference on Nanoscience and Nanotechnology, Nov. 18-20, 2013,  
Babasaheb Bhimrao Ambedkar University, Lucknow.
6. “Structural studies of nanosized ZrO<sub>2</sub>-SnO<sub>2</sub> mixed oxides synthesized by sol-gel method”  
Surbhi, Saruchi, **Sushil Kumar**  
International Conference on Nanoscience and Nanotechnology, Nov. 18-20, 2013,  
Babasaheb Bhimrao Ambedkar University, Lucknow.
7. “Composition effect on structural parameters of Sn<sub>x</sub>Zr<sub>1-x</sub>O<sub>2</sub> (0≤x≤1) system”  
Saruchi, Surbhi, **Sushil Kumar**  
International Conference on Nanoscience and Nanotechnology, Nov. 18-20, 2013,  
Babasaheb Bhimrao Ambedkar University, Lucknow.
8. “Optical properties of tellurium nanowires prepared by template based electrochemical deposition”  
Narinder Kumar, Rajesh Kumar, **Sushil Kumar**, S.K. Chakarvarti  
International Conference on Nanoscience and Nanotechnology, Nov. 18-20, 2013,  
Babasaheb Bhimrao Ambedkar University, Lucknow.
9. “Study of ion transport through synthetic nanopores prepared by chemical etching”  
Mukesh Chander, Rajesh Kumar, **Sushil Kumar**, S.K. Chakarvarti  
International Conference on Nanoscience and Nanotechnology, Nov. 18-20, 2013,  
Babasaheb Bhimrao Ambedkar University, Lucknow.
10. “Structural properties of SnO<sub>2</sub>-ZrO<sub>2</sub> binary system synthesized by sol-gel route”  
Saruchi, Surbhi, **Sushil Kumar**  
International Conference on Recent Trends in Applied Physics & Materials Science,  
Feb. 01-02, 2013, Govt. College of Engg. & Tech., Bikaner, Rajasthan.
11. “Preparation and structural characterization of nanosized ZrO<sub>2</sub>-SiO<sub>2</sub> mixed metal oxides”  
Surbhi, Saruchi, **Sushil Kumar**  
International Conference on Recent Trends in Applied Physics & Materials Science,  
Feb. 01-02, 2013, Govt. College of Engg. & Tech., Bikaner, Rajasthan.
12. “Influence of ferrous sulphate (a novel dopant) on conductivity of poly (m-toluidine)”  
Anand Kumar, **Sushil Kumar**, Pawan S. Rana  
International Conference on Polymers on the Frontiers of Science and Technology,  
Feb.21-23, 2013, Panjab University, Chandigarh.
13. Synthesis and characterization of Lead-Octate doped conducting polyaniline-PVC films  
Kiran Kumari, Anand Kumar, **Sushil Kumar**  
International Conference on Polymers on the Frontiers of Science and Technology,  
Feb.21-23, 2013, Panjab University, Chandigarh

14. “Structural, optical and electrical investigations on spray deposited  $\text{Cu}_2\text{ZnSnS}_4$  films”  
**Sushil Kumar**, M.A. Majeed Khan  
Second International Symposium on Semiconductor Materials & Devices, Jan. 31-Feb. 02, 2013, University of Jammu, Jammu.
15. “Template synthesis and characterization of selenium nanowires”  
Narender Kumar, Rajesh Kumar, **Sushil Kumar**, S.K. Chakarvarti  
Second International Symposium on Semiconductor Materials & Devices, Jan. 31-Feb. 02, 2013, University of Jammu, Jammu.
16. “Preparation and characteristics of doped polyaniline”  
Anand Kumar, **Sushil Kumar**  
Second International Symposium on Semiconductor Materials & Devices, Jan. 31-Feb. 02, 2013, University of Jammu, Jammu.
17. “Influence of  $\text{Nd}^{3+}$  substitution on structural and magnetic properties of zinc ferrite”  
Nidhi Sharma, **Sushil Kumar**, Praveen Aghamkar  
13<sup>th</sup> International Conference on Magnetic Fluids, Jan. 7-11, 2013, National Physical Laboratory, New Delhi.
18. “Estimation of radioactive air pollutants in thermal power generation”  
Ajay Garg, **Sushil Kumar**, R. P. Chauhan  
International Conference on Emerging Trends in Physics for Environmental Monitoring & Management, Dec. 17-19, 2012, Panjabi University, Patiala.
19. “Measurement of radon, thoron and their progeny levels in some coal fired industrial units”  
A. K. Garg, Nisha Mann, **Sushil Kumar**, R. P. Chauhan  
International Conference on Emerging Trends in Physics for Environmental Monitoring & Management, Dec. 17-19, 2012, Panjabi University, Patiala.
20. “Investigations on  $\text{CuInS}_2$  thin films prepared by spray pyrolysis for photovoltaic applications”  
**Sushil Kumar**, M. A. Majeed Khan,  
International Conference on Advances in Materials and Processing: Challenges and Opportunities, Nov. 02-04, 2012, I.I.T., Roorkee.
21. “Spectroscopic and electrical studies of ferrous sulphate doped polyaniline”  
Anand Kumar, Vazid Ali, **Sushil Kumar**  
International Conference on Advances in Materials and Processing: Challenges and Opportunities, Nov. 02-04, 2012, I.I.T., Roorkee.
22. “Preparation and spectral characterization of yttrium oxide doped polymethyl-methacrylate based optical material”  
Monika Chahar, Vazid Ali, **Sushil Kumar**  
International Conference on Advances in Materials and Processing: Challenges and Opportunities, Nov. 02-04, 2012, I.I.T., Roorkee.
23. “Characterization of spray deposited  $\text{CuInS}_2$  nanocrystalline thin films”  
M. A. Majeed Khan, **Sushil Kumar**, Surbhi, Saruchi  
International Conference on Frontiers in Nanoscience, Nanotechnology and their Applications, Feb. 16-18, 2012, Panjab University, Chandigarh.

24. "Structural and thermal studies of Nd-doped silica glasses"  
Surbhi, Saruchi, P. Aghamkar, **Sushil Kumar**  
International Conference on Frontiers in Nanoscience, Nanotechnology and their Applications, Feb. 16-18, 2012, Panjab University, Chandigarh.
25. "Magnetic properties of spinel zinc ferrite nanoparticles prepared by co-precipitation"  
Nidhi Sharma, **Sushil Kumar**, P. Aghamkar  
International Conference on Frontiers in Nanoscience, Nanotechnology and their Applications, Feb. 16-18, 2012, Panjab University, Chandigarh.
26. "Synthesis and spectroscopic characterization of saffron doped silica based material"  
Monika Chahar, Vazid ali, **Sushil Kumar**  
International Conference on Frontiers in Nanoscience, Nanotechnology and their Applications, Feb. 16-18, 2012, Panjab University, Chandigarh.
27. "Synthesis of selenium nanowires via template assisted electrodeposition technique"  
N. Kumar, R. Kumar, **S. Kumar**, S.K. Chakarvarti  
International Conference on Nanomaterials & Nanotechnology, Dec. 18-21, 2011, University of Delhi, Delhi.
28. "Morphological and optical properties of thin films of amorphous GaSe nanoparticles"  
**S. Kumar**, M.A.M. Khan, M. Zulfequar, M. Husain  
International Conference on Nanomaterials & Nanotechnology, Dec. 18-21, 2011, University of Delhi, Delhi.
29. "Synthesis and characterization of Nd-doped silica nanocomposites"  
Surbhi, Saruchi, P. Aghamkar, **S. Kumar**  
International Conference on Nanomaterials & Nanotechnology, Dec. 18-21, 2011, University of Delhi, Delhi.
30. "Spinel zinc ferrite: synthesis and magnetic properties"  
N. Sharma, **S. Kumar**, P. Aghamkar  
International Conference on Nanomaterials & Nanotechnology, Dec. 18-21, 2011, University of Delhi, Delhi.
31. "Neodymia-silica nanocomposites: synthesis and structural properties"  
Saruchi, Surbhi, P. Aghamkar, **S. Kumar**  
International Conference on Nanomaterials & Nanotechnology, Dec. 18-21, 2011, University of Delhi, Delhi.
32. "Structural characterization of MgAl<sub>2</sub>O<sub>4</sub> spinel nanoparticles prepared by co-precipitation method"  
S. Sunder, B. Lal, A. Kumar, S. Rohilla, **S. Kumar** and P. Aghamkar  
3<sup>rd</sup> International Conference on Current Developments in Atomic, Molecular, Optical and Nano Physics with Applications, Dec. 14-16, 2011, University of Delhi, Delhi.
33. "Synthesis and characterization of Fe<sub>4</sub>[Fe(CN)<sub>6</sub>]<sub>3</sub>.14H<sub>2</sub>O/SiO<sub>2</sub> nanocomposite by Co-precipitation technique and effect of heat treatment"  
Sunil Rohilla, P. Aghamkar, **Sushil Kumar**  
3<sup>rd</sup> International Conference on Current Developments in Atomic, Molecular, Optical and Nano Physics with Applications, Dec. 14-16, 2011, University of Delhi, Delhi.
34. "Synthesis and spectroscopic characterization of neodymium oxide doped silica gel material"



- Monika Chahar, Vazid Ali, **Sushil Kumar**, S.P. Khatkar  
International Conference on Innovations in Chemistry and Sustainable Development,  
Dec. 01-03, 2011, Panjab University, Chandigarh
35. “Template synthesis of copper nanowires via electrodeposition technique and their characterization”  
Narinder Kumar, Rajesh Kumar, **Sushil Kumar**  
International Conference on Advances in Condensed and Nano Materials, Feb. 23-26,  
2011, Panjab University, Chandigarh  
**AIP Conf. Proc. 1393, pp 89-90 (doi: <http://dx.doi.org/10.1063/1.3653623>)**
36. “Spectroscopic and electrical characterization of CuSO<sub>4</sub>.5H<sub>2</sub>O doped poly(m-toluidine)”  
Anand Kumar, Vazid Ali, **Sushil Kumar**  
International Conference on Advances in Condensed and Nano Materials, Feb. 23-26,  
2011, Panjab University, Chandigarh  
**AIP Conf. Proc. 1393, pp 365-366 (doi: <http://dx.doi.org/10.1063/1.3653761>)**
37. “Structural characterization of spinel zinc aluminate nanoparticles prepared by co-precipitation method”  
Shyam Sunder, **Sushil Kumar**, Sunil Rohilla, P. Aghamkar  
International Conference on Advances in Condensed and Nano Materials, Feb. 23-26,  
2011, Panjab University, Chandigarh  
**AIP Conf. Proc. 1393, pp 123-124 (doi: <http://dx.doi.org/10.1063/1.3653640>)**
38. “Synthesis and Spectroscopic Characterization of 2, 5-Diphenyloxazol dye doped Silica gel hybrid material”  
Monika Chahar, Vazid Ali, **Sushil Kumar**, M. Husain  
International Conference on Advances in Condensed and Nano Materials, Feb. 23-26,  
2011, Panjab University, Chandigarh.
39. “Synthesis and structural characterization of spinel zinc ferrite magnetic nanoparticles”  
Nidhi Sharma, **Sushil Kumar**, P. Aghamkar  
International Conference on Advances in Condensed and Nanomaterials, Feb. 23-26,  
2011, Panjab University, Chandigarh
40. “Electrical and spectroscopic characterization of FeSO<sub>4</sub>.7H<sub>2</sub>O doped poly (o-toluidine)”  
Anand Kumar, Vazid Ali, **Sushil Kumar**, M. Husain  
International Conference on Advances in Condensed and Nano Materials, Feb. 23-26,  
2011, Panjab University, Chandigarh.
41. “Measurement of radon, thoron and their progeny levels in some coal fired industrial units of northern India”  
A.K. Garg, R.P. Chauhan, **Sushil Kumar**  
25<sup>th</sup> International Conference on Nuclear Tracks in Solids, Sep.4-9, 2011, held in  
**Mexico.**
42. “Estimation of natural radioactivity in some soil samples”  
A.K. Garg, R.P. Chauhan, **Sushil Kumar**  
98<sup>th</sup> Indian Science Congress, Jan. 3-7, 2011, Kattankulathur, Tamilnadu
43. “Estimation of radioactive air pollutants in some industrial units”  
A.K. Garg, R.P. Chauhan, **Sushil Kumar**  
98<sup>th</sup> Indian Science Congress, Jan. 3-7, 2011, Kattankulathur, Tamilnadu.

44. "DC conductivity and spectroscopic characterization of binary dopant ( $ZrOCl_2/AgI$ ) doped poly(o-toluidine)"  
Kiran Kumari, Vazid Ali, **Sushil Kumar**, M. Zulfequar  
International Conference on Polymer Science & Engineering: Emerging Dimensions, Nov. 26-27, 2010, Panjab University, Chandigarh
45. "Spectroscopic and electrical investigations of  $CuSO_4 \cdot 5H_2O$  doped polyaniline"  
Anand Kumar, **Sushil Kumar**, Vazid Ali, M. Husain  
International Conference on Polymer Science & Engineering: Emerging Dimensions, Nov. 26-27, 2010, Panjab University, Chandigarh
46. "Spectroscopic investigation and electrical properties of lead-octoate doped poly (o-toluidine)"  
Anand Kumar, **Sushil Kumar**, Pawan S. Rana, H.P.S. Kang  
International Conference on Polymer Science and Engineering: Emerging Dimensions, Nov. 26- 27, 2010, Panjab University, Chandigarh.
47. "Effect of selenium and tellurium doping in lead sulphide thin films"  
**Sushil Kumar**, M. A. Majeed Khan, P. Aghamkar, M. Husain  
XV International Workshop on Physics of Semiconductor Devices, Dec. 15-19, 2009, Jamia Millia Islamia, New Delhi.
48. "DC conductivity and spectroscopic characterization of binary dopant ( $ZnOCl_2/AgI$ ) doped polyaniline"  
Kiran Kumari, Vazid Ali, **Sushil Kumar**, G.B.V.S. Lakshmi, M. Zulfequar.  
XV International Workshop on Physics of Semiconductor Devices, Dec. 15-19, 2009, Jamia Millia Islamia, New Delhi.
49. "Synthesis and spectroscopic characterization of ZnO doped polyaniline"  
Monika Chahar, Vazid Ali, **Sushil Kumar**, G.B.V.S.Lakshmi, M.Zulfequar, M. Husain  
XV International Workshop on Physics of Semiconductor Devices, Dec. 15-19, 2009, Jamia Millia Islamia, New Delhi.
50. "Structural characterization of Neodymium silicates prepared by sol-gel process"  
Bhajan Lal, P. Aghamkar, **Sushil Kumar**, Dilbag Singh, Y.P.S. Berwal  
International Conference on Electroceramics, Dec.13-17, 2009, University of Delhi.
51. "Synthesis and characterization of  $Co(NO_3)_2 \cdot 6H_2O$  doped polyaniline"  
Kiran Kumari, Anand Kumar, Vazid Ali, **Sushil Kumar**, M. Zulfequar  
Polymer Congress (Asian Polymer Association-2009); Polymer Science & Technology: Vision & Scenario, Dec. 17-20, 2009, Indian Institute of Technology, New Delhi.
52. "Synthesis and optical characterization of embed Kiton red-620 dye Polymethyl-methacrylate (PMMA)"  
Monika Chahar, Vazid Ali, **Sushil Kumar**, M. Husain.  
Polymer Congress (Asian Polymer Association-2009); Polymer Science & Technology: Vision & Scenario, Dec. 17-20, 2009, Indian Institute of Technology, New Delhi.
53. "Annual effective dose estimation for some industrial workers from exposure to low level radiations"  
Ajay Garg, **Sushil Kumar**, K. Kant, R. P. Chauhan

International Conference on Radiation Biology & Translational Research in Radiation Oncology, Nov. 10-12, 2008, University of Rajasthan, Jaipur.

54. “Differential scanning calorimetric study of  $\text{Se}_{100-x}\text{Bi}_x$  glasses”  
M. A. Majeed Khan, M. Zulfequar, K. P. Tripathi, **Sushil Kumar**, M. Husain  
XIII International Workshop on Physics of Semiconductor Devices, New Delhi, Dec. 2005.
  55. “Optical, electrical and structural investigations on  $\text{Cd}_{1-x}\text{Zn}_x\text{Se}$  sintered films for photovoltaic applications”  
M. Husain, **Sushil Kumar**  
International Symposium on New Materials for Hydrogen Fuel Cell, Photovoltaic Systems, Aug. 26-30, 2001, Cancun, **Mexico**.
  56. “Electrical properties of  $\text{In}_{1-x}\text{Sb}_x$  thin films”  
Sachin K. Sharma, **Sushil Kumar**, T. P. Sharma, M. Husain  
International Conference on Advanced Materials, Chaudhary Charan Singh University, Meerut, Dec. 26-28, 2000.
  57. “Variation of band gap of CdTe sintered films with sintering temperature and sintering time”  
Sachin K. Sharma, **Sushil Kumar**, T. P. Sharma, M. Husain, M. Zulfequar  
X International Workshop on Physics of Semiconductor Devices, Indian Institute of Technology, New Delhi, Dec. 14-18, 1999.
  58. “Opto-electro-structural properties of  $\text{Cd}_x\text{Se}_{1-x}$  sintered films”  
Sachin K. Sharma, **Sushil Kumar**, Vipin Kumar, T. P. Sharma  
International Conference on Optics and Optoelectronics, Instruments Research & Development Establishment, Dehradun, Dec. 9-12, 1998.
- (ii) National**
59. “Studies on electrical and spectral behaviour of transition salt doped organic macromolecular complexes”  
Anand Kumar, Sushil Kumar  
National Conference on Emerging Trends in Physics & Materials Science, March 9-10, 2015, CDL University Sirsa.
  60. “Structural and optical properties of Fe-doped ZnO nanoparticles”  
**Sushil Kumar**, M.A. Majeed Khan  
National Conference on Applied Physics & Materials Science, Feb.5-6, 2015, MD University Rohtak.
  61. “Effect of annealing temperature on structural, photoluminescence and thermal properties of nanosized zirconium silicates”  
Surbhi, Saruchi, **Sushil Kumar**  
National Conference on Nanotechnology and Renewable Energy, April 28-29, 2014, Jamia Millia Islamia, New Delhi.
  62. “Structural and optical studies of  $\text{Sn}_{1-x}\text{Zr}_x\text{O}_2$  nanocomposites”  
Saruchi, Surbhi, **Sushil Kumar**

- National Conference on Nanotechnology and Renewable Energy, April 28-29, 2014, Jamia Millia Islamia, New Delhi.
63. “Structural and optical investigations on Al-doped ZnO thin films”  
**Sushil Kumar**, M.A. Majeed Khan  
National Conference on Nanotechnology and Renewable Energy, April 28-29, 2014, Jamia Millia Islamia, New Delhi.
  64. “Structural and optical properties of silicon thin films”  
**Sushil Kumar**, M.A. Majeed Khan  
2<sup>nd</sup> National Conference on Photonics & Materials Science, March 20-21, 2014, Guru Jambheshwar University of Science & Technology, Hisar.
  65. “Synthesis of tellurium nanowires via template synthesis”  
Narinder Kumar, Rajesh Kumar, **Sushil Kumar**, S.K. Chakarvarti  
18<sup>th</sup> National Symposium on Solid State Nuclear Track Detectors and their Applications, Oct. 18-20, 2013, Aggarwal College, Ballabgarh, Haryana.
  66. “Measurement of radon exhalation rates in some soil samples collected from western Haryana”  
Nisha Mann, A.K. Garg, **Sushil Kumar**, R.P. Chauhan  
National Conference on Nanoscience and Instrumentation Technology, March 28-29, 2013, National Institute of Technology, Kurukshetra.
  67. “Synthesis and characterization of thin film of silver nanoparticles”  
**Sushil Kumar**, M.A. Majeed Khan.  
National Conference on Nanoscience and Instrumentation Technology, March 28-29, 2013, National Institute of Technology, Kurukshetra.
  68. “Influence of annealing temperature on structural parameters of nanodimensional ZrO<sub>2</sub>-SnO<sub>2</sub>”  
Saruchi, Surbhi, **Sushil Kumar**.  
National Conference on Nanoscience and Instrumentation Technology, March 28-29, 2013, National Institute of Technology, Kurukshetra.
  69. “X-ray diffraction studies of sol-gel derived ZrO<sub>2</sub>-SiO<sub>2</sub> nanomaterial”  
Surbhi, Saruchi, **Sushil Kumar**.  
National Conference on Nanoscience and Instrumentation Technology, March 28-29, 2013, National Institute of Technology, Kurukshetra.
  70. “Fabrication and optical properties of selenium nanowires via template synthesis”  
Narinder Kumar, Rajesh Kumar, **Sushil Kumar**, S.K. Chakarvarti.  
National Conference on Nanoscience and Instrumentation Technology, March 28-29, 2013, National Institute of Technology, Kurukshetra.
  71. “Ionic transport through conical nanopores prepared by asymmetric track etch technique”  
Mukesh Chander, Rajesh Kumar, **Sushil Kumar**, S.K. Chakarvarti.  
National Conference on Nanoscience and Instrumentation Technology, March 28-29, 2013, National Institute of Technology, Kurukshetra.
  72. “Structural and thermal properties of silver nanoparticles prepared by wet chemical route”

- Sushil Kumar**, M.A. Majeed Khan.  
National Conference on Physics of Engineering Materials, March 15-17, 2013,  
Deenbandhu Chhotu Ram University of Science & Technology, Murthal, Sonapat.
73. “Investigations on spectral and electrical properties of cobalt nitrate doped poly (m-toluidine)”  
Anand Kumar, **Sushil Kumar**, Pawan S. Rana  
National Conference on Physics of Engineering Materials, March 15-17, 2013,  
Deenbandhu Chhotu Ram University of Science & Technology, Murthal, Sonapat.
74. “Spectral and electrical properties of cobalt nitrate doped poly (o-toluidine)”  
Anand Kumar, **Sushil Kumar**, Pawan S. Rana  
National Conference on Physics of Engineering Materials, March 15-17, 2013,  
Deenbandhu Chhotu Ram University of Science & Technology, Murthal, Sonapat.
75. “Characterization of copper nanowires grown by template synthesis technique”  
Narinder Kumar, Rajesh Kumar, **Sushil Kumar**, M.A. Majeed Khan.  
National Conference on Advanced Trends in Nanoscience and Nanotechnology , Feb.  
25, 2013, Jamia Millia Islamia New Delhi.
76. “Synthesis, Photophysical and Microstructural study of 2-(4-Biphenyl)-5-phenyl-1,  
3,4-oxadiazole doped rod shaped silica gel material”  
Monika Chahar, Vazid Ali, **Sushil Kumar**, S. P. Khatkar, Gita Rani,  
6<sup>th</sup> National Conference on Thermodynamics of Chemical and Biological Systems,  
Nov.2-4, 2011, Maharshi Dayanand University, Rohtak.
77. “Radon exhalation rates from soil and sand samples collected from the vicinity of  
Yamuna river”  
A.K. Garg, R.P. Chauhan, **Sushil Kumar**  
17<sup>th</sup> SSNTD National Conference on Nuclear Tracks in Solids, Oct. 17-19, 2011, M.  
S. University, Baroda.
78. “Radon- thoron monitoring in and around some industrial units using Solid state  
nuclear track detectors”  
A.K. Garg, R.P. Chauhan, **Sushil Kumar**  
17<sup>th</sup> SSNTD National Conference on Nuclear Tracks in Solids, Oct. 17-19, 2011, M.  
S. University, Baroda.
79. “Optical properties of FeSO<sub>4</sub>.7H<sub>2</sub>O doped poly(o-toluidine)”  
Anand Kumar, Vazid Ali, **Sushil Kumar**, Pawan S. Rana  
National Conference on Chemistry in Our Lives, Mar. 29, 2011, Arya P.G. College.  
Panipat (Haryana)
80. “Morphology and characterization of template synthesized nanostructures”  
Narinder Kumar, Rajesh Kumar, **Sushil Kumar**, S. K. Chakravarty  
National Conference on Recent Advances in Science & Technology, Mar.27-28,  
2010, Aggarwal College, Ballabgarh (Haryana)
81. “Estimation of annual effective radiation dose received by some industrial workers”  
Ajay Garg, Alka Singhal, **Sushil Kumar**, R. P. Chauhan  
National Conference on Recent Advances in Science & Technology, Mar.27-28,  
2010, Aggarwal College, Ballabgarh (Haryana)

82. "Electrical conductivity and dielectric parameters of polyaniline doped with  $\text{CuClO}_4 \cdot 4\text{BN}$  in aqueous DMSO solvent"  
Anand Kumar, **Sushil Kumar**, Kiran Kumari, Vazid Ali  
National Conference on Recent Advances in Science & Technology, Mar.27-28, 2010, Aggarwal College, Ballabhgarh (Haryana)
83. "Synthesis and Optical characterization of Kiton red-620 doped silica gel matrix"  
Monika Chahar, Vazid Ali, **Sushil Kumar**, M. Husain  
National Symposium on Emerging Trends in Chemistry, Feb. 15-16, 2010, Punjabi University, Patiala.
84. "Radon activity and exhalation rate in sand samples collected from Yamuna river"  
A.K. Garg, **Sushil Kumar**, Monika Gupta, A. K. Narula, R. P. Chauhan.  
16<sup>th</sup> Solid State Nuclear Track Detectors and their Applications, Nov. 9-11, 2009, Guru Nanak Dev University, Amritsar.
85. "Estimation of radioactivity in some sand and soil samples"  
Monika Gupta, R. P. Chauhan, Ajay Garg, **Sushil Kumar**, R. G. Sonkawade.  
National Conference on Accelerator and Low Level Radiation Safety, Nov. 18-20, 2009, Inter University Accelerator Centre, New Delhi.
86. "Electrical and spectroscopic properties of  $\text{Cu}^{+1}$  salt doped polyaniline"  
Vazid Ali, Anand Kumar, Kiran Kumari, **Sushil Kumar**  
National Conference on Recent Drifts, Break in Applied Sciences & its Technology for Innovation Management, Aug. 07-09, 2009 Krishna Institute of Engineering & Technology, Ghaziabad, U.P.,
87. "Measurement of  $\alpha$ -radioactivity in some Indian building materials"  
Ajay Garg, **Sushil Kumar**, R. P. Chauhan  
National Conference on Innovative Technologies, Jun. 18-19, 2009, P.D.M. College of Engineering , Bahadurgarh, Haryana.
88. "Optical properties of  $\text{Cu}^{+1}$  salt doped polyaniline"  
Vazid Ali, Kiran Kumari, Anand Kumar, **Sushil Kumar**  
National Conference on Photonics & Materials Science, Oct. 24-25, 2008, Guru Jambheshwar University of Science & Technology, Hisar
89. "The effect of sintering temperature and sintering time on the band gap of CdSe sintered films"  
Monika Sharma, **Sushil Kumar**, L. M. Sharma, T. P. Sharma, M. Husain  
National Conference on Materials and their Applications, Kurukshetra University, Kurukshetra, March 11-13, 2004.
90. "Optical, electrical and structural studies of  $\text{PbTe}_{1-x}\text{S}_x$  alloy semiconductors"  
**Sushil Kumar**, M. Husain  
National Workshop on Synthesis, Characterization and Applications of Materials, National Physical Laboratory, New Delhi, Feb. 6-7, 2002.