




## University Faculty Details Page on DU Web-site

Title	Prof./Dr./Mr./Ms. DR.	First Name	Amarjeet	Last Name	Kaur	Photograph
Designation	PROFESSOR					
Department	Physics and Astrophysics					
Address (Campus)	North Campus Physics and Astrophysics					
	(Residence)	4A/64 Old Rajinder Nagar, New Delhi 110060				
Phone No (Campus)	27667793					
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Mobile	9818620240					
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Web-Page	<a href="http://people.du.ac.in">http://people.du.ac.in</a>					
<b>Education</b>						
Subject	Institution	Year	Details			
Ph.D.(Physics)	National Physical Laboratory (NPL) New Delhi and Deptt. of Physics and Astrophysics Delhi University	1997	Thesis topic: Mechanism of charge transport in polypyrrole, poly(N-methyl pyrrole) and poly(N-methyl-pyrrole-pyrrole)			
Post-Doc.	Center for Advanced Materials University of Massachusetts, USA	2000	Under BOYSCAST fellowship scheme, Govt. of India			
M.Sc.	Deptt. Of Physics and Astrophysics, DU	1992	Subjects: specialization Electronics			
B.Sc.(Hons)Physics	S.G.T.B. Khalsa College, DU	1990	Subjects:Physics			
<b>Career Profile</b>						
Organisation / Institution	Designation	Duration	Role			
Maitreyi College, DU	Lecturer (adhoc+permanent)	July 1993-1998	Teaching & Research			
Maitreyi College DU	Sr. Lecturer	July 1998-2003	Teaching & Research			
Deptt. of Physics and Astrophysics, DU	Associate Professor	4 <sup>th</sup> July 2003	Teaching + Research			
<b>Administrative Assignments</b>						
Member of various working committees of Department of Physics and Astrophysics ( from time to time) Deputy Superintendent of Exam. M.Sc., Ph.D. Admission Committee Time table,						

Space Committee  
Executive Council, etc.  
Convenor, Committee of Courses for Hons

### Areas of Interest / Specialization

Fabrication and characterization of of optoelectronics devices based on conducting polymers and to understand the fundamental principle of their working. Devices include Light emitting diodes (research work in collaboration with University of Massachusetts, Lowell USA), photovoltaic cells, Schottky diodes, transistors, etc.  
Modification of conducting polymers by ion beam irradiations ( in collaboration with IUAC, New Delhi). Gas sensing applications of conducting polymers and other materials like tin oxide, zinc oxide, grapheme oxide, etc  
Electrochemical devices for Smart Windows Applications

### Subjects/Courses Taught

Various undergraduate Hons., subsidiary, General and lab.courses have been taught during teaching in Maitreyi college. The courses include Digital electronics, Computer Fundamentals, Microprocessors, and Numerical analysis, waves and optics, Electricity and Magnetism, etc.

#### Postgraduate courses at Deptt. of Physics :

Electronics I sem.,  
Electronics (Final yr. IV Sem. special paper-devices ),  
Solid state Physics (II sem.),  
Experimtnal Solid State Physics (Special Paper)(III sem)  
Electronics Lab. I and II Sem. (OLD SYLLABUS)  
Solid state Physics (Expt.) IV sem.  
Solis state Physics Lab., II-IV SEM.  
Molecular Electronics (M.Tech Nanoscience and Nanotechnology--) V Sem.  
Electronics Electronics (M.Tech Nanoscience and Nanotechnology-NSNT-) V Sem  
Solid State PhysicsLab. III and IV Sem.  
Physics Lab. I and II Sem M.Tch. NSNT

### Research Guidance

#### List against each head (If applicable)

1. Ph.D. degrees Degree awarded :07
2. Under supervision :04

#### Degrees awarded to following students under supervision of Dr. Amarjeet Kaur

- i. Dr. Anju - Study on The Effect of Swift Heavy Ion Irradiation on Mechanism of Charge Transport in Conducting Polymers”
- i. Dr. Ravikant Prasad - Study of Thickness Modified Magnetotansport of Doped Manganite Thin Films
- i. Dr. Md. Taukeer Khan- Study on the Effect Of Quantum Dots on The Charge Transport Of Poly(3-alkyl thiophenes) and THEIR COPOLYMERS : Application in Polymer Solar Cell”
- v. Dr. Ritu Saharan-Study of Charge Transport in the Copolymers of Polyaniline, Poly(O-methoxyaniline) and poly(o-ethoxyaniline) with m-aminobenzoic sulfonic Acid
- v.Dr.. Ishpal Rawal - Study Of Conduction Mechanism In Nanostructures of Polypyrrole for Gas Sensing Applications

vi. Dr. Manoj K. Srivastav - Effect of Substrate Induced Strain on Magnetism and Magnetotransport in Low Bandwidth Manganite Films”

vii Beerandra Singh - Study Of Optical And Electrical Transport Properties of Poly (3-Hexylthiophene) and Its Nanocomposites

Doctoral Thesis Under Supervision

Tentative titles

Gas Sensing Mechanism in Polyaniline nanostructures (Vishal)

ix Study of gas sensing mechanism in swift heavy ion irradiated conducting polymers (Ramesh)

x Study of conduction mechanism in conducting polymers for electrochromic applications (Monika)

xi Conduction Mechanism in Graphene Oxide Composites (Ramesh)

*Supervision of awarded M.Phil dissertations ) : 0 1 (f Mr. Vishal registered at Madurai Kamraj university)*

*3. Supervision of various project Dissertations and (Nanotechnology, Electronics and others ) : 14*

#### Publications (LAST FIVE YEARS)

##### **PATENTS**

**A CONDUCTING POLYMER MEMBRANE AND A PROCESS FOR THE PREPARATION OF THE SAID MEMBRANE,**

**R. Singh, S. Chandra, H. Singh, Amarjeet K. Narula and S. Broor,**

1. **Pakistan Patent, No. 1,36,850, dated April 27, 2002.**
2. **Bangladesh Patent No. BD10032/6 dated July 25, 2001.**
3. **Malaysia Patent No. 116022 dated October 31, 2003.**
4. **Romania patent No. : 120690 GRANTED September 28, 2007**
5. **Germany Patent No. 19914200 GRANTED May18, 2006**

6. **\*CONDUCTING POLYMER MEMBRANE AND A PROCESS FOR THE PREPARATION OF THE SAME MEMBRANE,**

**R. Singh, S. Chandra, H. Singh, Amarjeet K. Narula, S. Broor**

United States Patent, No. 6,156,202, dated Dec. 5, 2000.

7.\* **A PROCESS FOR THE PREPARATION OF CONDUCTING POLYMERIC MEMBRANE AND A CONDUCTING POLYMERIC MEMBRANE PREPARED THEREBY USEFUL AS A FILTER FOR CAPTURING VIRUSES IN POTABLE LIQUIDS,**

R. Singh, S. Chandra, H. Singh, Amarjeet K. Narula and S. Broor,

Indian Patent No. : 215049 granted on February 20, 2008

*Last five year Publications*

*2017(on going)*

**1.Fabrication of chemiresistive gas sensors based on multistep reduced graphene oxide for low parts per million monitoring of sulfur dioxide at room temperature**

Ramesh Kumar, D.K. Avasthi, **Amarjeet Kaur**, *Sensors and Actuators B 242* 461–468 (2017) ISSN 0925-4005  
*Impact Factor 4.758*

**2.Flexible Room Temperature Ammonia Sensor Based on Highly Transparent and Conducting Polyaniline**

Lalit Kumar, Ishpal, **Amarjeet Kaur** S. Annapoorni, *Sensors and Actuators B 240* 408–416(2017) ISSN 0925-4005,  
*Impact Factor 4.758*

*2016*

**3.Surfactant assisted polyaniline nanofibres—Reduced graphene oxide (SPG) composite as electrode material for supercapacitors with high rate performance**

Deepika Jain, S.A Hashmi, **Amarjeet Kaur**, *Electrochim. Acta 222* 570–579 (2016) ISSN 0013-4686 *Impact Factor 4.803*

**4.Effect of charge carrier transport on sulfur dioxide monitoring performance of highly porous polyaniline nanofibres**

Vishal Chaudhary, HK Singh and **Amarjeet Kaur**, *Polym. Int. online* Dec2016 DOI 10.1002/pi.5311 ISSN 0959-8103,  
*Impact Factor 2.414*

**5.Surfactant directed polyaniline nanostructures for high performance sulphur dioxide chemiresistors:effect of morphologies, chemical structure and porosity**

Vishal Chaudhary, **Amarjeet Kaur** *RSC Advances* RSC Adv., 2016, 6, 95349 (2016) ISSN 2046-2069 *Impact Factor 3.289*

**6. Charge transport mechanism of thermally reduced graphene oxide and their fabrication for high performance shield against electromagnetic pollution**

Ramesh Kumar, S.K. Dhawan, H.K. Singh **Amarjeet Kaur** *Materials Chemistry and Physics* 180 (2016) 416-421,  
doi:10.1016/j.matchemphys.2016.06.025

**7. Enhanced and selective ammonia sensing of reduced graphene oxide based chemoresistive sensor at room temperature**

Ramesh Kumar and **Amarjeet Kaur**

*AIP Conference Proceedings 1728*, 020156:1-4 (2016); doi: 10.1063/1.494620770

**8. Highly Stable Surfactant Assisted Polyaniline Nanostructures With Enhanced Electroactivity**

Monika Jamdegni and **Amarjeet Kaur** *AIP Conference Proceedings 1728*, 020418:1-5 (2016); doi: 10.1063/1.4946469

**9. Sensing of Ammonia at Room Temperature by Polypyrrole-Tin Oxide Nanostructures: Investigation by Kelvin Probe Force Microscopy***Sensors and Actuators A 245* (2016) 113–118

*2015*

10. **Enhanced room temperature sulphur dioxide sensing behaviour of in-situ polymerized polyaniline-**

**tungsten oxide nanocomposite possessing honeycomb morphology,**  
Vishal Chaudhary, Amarjeet Kaur *RSC Advances* RSC Adv., 5, 73535- 73544 (2015)

11. **Solitary surfactant assisted morphology dependent chemiresistive polyaniline sensors for room temperature monitoring of low ppm sulphur dioxide,**

Vishal Chaudhary, Amarjeet Kaur *Polymer International*, 64, 1475–1481 (2015)

12. **Charge transport mechanism of hydrazine hydrate reduced grapheneoxide**  
Ramesh Kumar, Amarjeet Kaur *Instt. Engg. Techn. Circuit Devices and Systems* IET Circuits, Devices & Systems, Doi: 10.1049/iet-cds.2015.0034.

13 **Enhanced and selective ammonia sensing behaviour of poly(aniline co-pyrrole) nanospheres chemically oxidative polymerized at low temperature**

Vishal Chaudhary, Amarjeet Kaur *J. Industrial and Engg. Chem.* 26, 143–148 (2015).

14. **Low Frequency and Temperature Dependent Spectroscopic Studies of Polypyrrole Nanoparticles**

Ishpal Rawal, Amarjeet Kaur *Phil. Mag. B* 95, 1399–1413 (2015 )  
2014

**15 Enhanced Photoelectrical Conductivity of Poly (3-Hexylthiophene) by Incorporation of ZnS Nanoparticles**  
Beerandra Singh, Amarjeet Kaur *Synth. Met. (Elsevier)* 195, 306-311 (2014)

16. **Photoelectrical, Optical and Transport properties of Poly (3-Hexylthiophene) (P3HT) – Zinc Sulfide (ZnS) hybrid nanocomposites**

Beerandra Singh, Amarjeet Kaur *J. Appl. Phys. (AIP)*- 116, 063709 (1-7)(2014)

17. **Effect of Anionic Surfactant Concentration on the Variable range Hopping Conduction in Polypyrrole Nanoparticles**

Ishpal Rawal, Amarjeet Kaur, *J. Appl. Phys. (AIP)*- 115, 043717 (1-6) (2014)

18. **Effect of Anionic Surfactant Concentration on the Variable range Hopping Conduction in Polypyrrole Nanoparticles**

Ishpal Rawal, Amarjeet Kaur, (*J. Appl. Phys.*)(AIP)- 115, 043717 (1-6)(2014)

19. **Microstructure, Magnetism And Magnetotransport of Epitaxial Sm<sub>0.45</sub>Nd<sub>0.08</sub>Sr<sub>0.47</sub>MnO<sub>3</sub> Thin Films**

M K Srivastava, Sandeep Singh, P K Siwach, K K Maurya, V P S Awana, Amarjeet Kaur and H K Singh *Mat. Res. Exp.* (IOP) 1, 016110 (1-17) (2014)

20. **Vibration Spectroscopy for the Investigation of Ammonia gas sensing Mechanism in polypyrrole nanostructures**

Ishpal Rawal, Kiran Sehrawat and Amarjeet Kaur, *Vibrational Spectroscopy*(Elsevier) –74, 64–74, 2014

2013

21. **Synthesis of mesoporous polypyrrole nanowires / nanoparticles for ammonia gas sensing application**

Ishpal Rawal , Amarjeet Kaur

*Sensors and Actuators A* 203, 92-102 (2013) (Elsevier) ISSN 0924-4247

22. **Investigation of charge transport properties in conducting polyaniline and its copolymer with 3-aminobenzenesulfonic acid for their application as antistatic encapsulation material blended with LDPE**

Amarjeet Kaur, Ritu Saharan, S.K.Dhawan

*Polymer International* (Wiley)DOI 10.1002/pi.4495 2013 ISSN 0959-8103

23. **Spectroscopic and electrical sensing mechanism in oxidant mediated polypyrrole nanofibers/nanoparticles for ammonia gas**

Ishpal and Amarjeet Kaur

*J. Nanoparticle Research* (Springer)15, 1637 :1-14 (2013) ISSN 1388-0764.

24. **Spectroscopic investigations of ammonia gas sensing mechanism in polypyrrole nanotubes/nanorods**

Ishpal and Amarjeet Kaur  
**J. Appl. Phys.** **113**, 094504:1-11 (2013) ISSN 0021-8979.

**25 Comparative Study of magnetic and magnetotransport properties of  $\text{Sm}_{0.55}\text{Sr}_{0.45}\text{MnO}_3$  thin films grown on different substrates**

M.K. Srivastava, Sandeep Singh, P.K. Siach, **Amarjeet Kaur**, V.P.S. Awana, K.K. Maurya and H.K. Singh,  
**AIP Advances** **3**, 052118 :1-13 (2013) ISSN 2158-3226

**26. Low frequency alternating current conduction and dielectric relaxation in polypyrrole irradiated with 100 MeV swift heavy ions of silver ( $\text{Ag}^{8+}$ )**

**Amarjeet Kaur**, Anju Dhillon, and D.K. Avasthi

**Materials Chemistry and Physics** (Elsevier B.V.) **140**, 472-477 (2013) ISSN 0254-0584.

**22. Impact of strain on metamagnetic transitions in  $\text{Sm}_{0.5}\text{Sr}_{0.5}\text{MnO}_3$  thin films**

M. K. Srivastava, **Amarjeet Kaur**, K. K. Maurya, V. P. S. Awana, and H. K. Singh

**Appl. Phys. Lett** (AIP) **102**, 032402 : 1-5 (2013) 52 ISSN 0003-6951.

2012

**27. Tuning of EMI shielding properties of polypyrrole nanoparticles with surfactant concentration**

**Amarjeet Kaur**, Ishpal, S.K. Dhawan, Synth. Met. **162**, 1471-77 (2012)

**28. Electrochemical and chemical investigations of the co-polymers of 3-aminobenzenesulfonic acid with aromatic amines for their application in electrochromic devices**

R.Saharan, **Amarjeet Kaur** and S. K. Dhawan

J. Appl. Electrochem.(Springer) DOI 10.1007/s10800-012-0387-3 (2012)

**29 Impact of substrate on magnetic phase coexistence in bicritical  $\text{Sm}_{0.53}\text{Sr}_{0.47}\text{MnO}_3$  thin films**

M.K. Srivastava , M.P. Singh, P.K. Siwach, **Amarjeet Kaur**, F.S. Razavi and H.K. Singh

Solid State Communications **152** 138–141 (2012)

**30 First order phase transition in  $\text{Sm}_{0.53}\text{Sr}_{0.47}\text{MnO}_3$  films**

Manoj K. Srivastava, M. P. Singh, **Amarjeet Kaur**, and H. K. Singh

AIP Conf. Proc. 1447, 125 (2012); doi: 10.1063/1.4709913

**31 Carrier localization and out of plane anisotropic magnetoresistance in  $\text{Nd}_{0.55-x}\text{Sm}_x\text{Sr}_{0.45}\text{MnO}_3$  thin films**

M. K. Srivastava, **Amarjeet Kaur**, and H. K. Singh

Appl. Phys. Lett. **100** 222408 (1-4)(2012)

2011

**32 Modifications induced in poly (3-hexylthiophene) due to swift heavy ion beam of 100MeV silver ( $\text{Ag}^{8+}$ )**

**Amarjeet Kaur**, Anju Dhillon, G.B.V.S. Lakshmi, Y.K. Mishra, D.K. Avasthi

**Materials Chemistry and Physics** (Elsevier B.V.) **131**. 436-442 (2011)

**33 In-Situ growth of CdTe Nanocrystals in P3HT Matrix for Photovoltaic Application,**

Md Taukeer Khan, **Amarjeet Kaur**, S. K. Dhawan and S. Chand,

*J. Appl. Phys (AIP USA)* **110**, 044509 [1-8] *Selected for Virtual Journal of Nanoscale Science & Technology Vol 24, Issue 11, (2011).*

**34 Hole transport mechanism in organic/inorganic hybrid system based on in-situ grown CdTe nanocrystals in poly(3-hexylthiophene),**

Md Taukeer Khan, **Amarjeet Kaur**, S. K. Dhawan and S. Chand,

*J. Appl. Phys. (AIP USA)* **109**, 114509 (2011)

**35. Huge Anisotropic Magnetoresistance In Epitaxial  $\text{Sm}_{0.53}\text{Sr}_{0.47}\text{MnO}_3$  Thin Films**

M. K. Srivastava, **Amarjeet Kaur**, and H. K. Singh

AIP Conf. Proc. 1349, 703-704 (2011); doi: 10.1063/1.3606052© 2011 American

Institute of Physics 978-0-7354-0905-7 *Solid State Physics, Proceedings of the*

*55th DAE Solid State Physics Symposium 2010*

**36. Low field anisotropic colossal magnetoresistance in  $\text{Sm}_{0.53}\text{Sr}_{0.47}\text{MnO}_3$**

#### thin films

- M. K. Srivastava, M. P. Singh, **Amarjeet Kaur**, F. S. Razavi, and H. K. Singh  
*J. Appl. Phys. (AIP USA)* **110**, 123922-5 (2011)
37. **Impact of Growth Conditions on the Nature of Magnetism and Magnetotransport of  $\text{Sm}_{0.55}\text{Sr}_{0.45}\text{MnO}_3$  Thin Film**  
M. K. Srivastava, P. K. Siwach, Amarjeet Kaur, and H. K. Singh  
*IEEE Transaction on Magnetics* **47** 2486-89 (2011)
38. **Electrical, optical and hole transport mechanism in thin films of poly(3-Octylthiophene-co-3-hexylthiophene) : Synthesis and characterization**,  
Md. Taukeer Khan, M. Bajpai, Amarjeet Kaur, S. K. Dhawan, and S. Chand,  
*Synthetic Metals (Elsevier)* **160**, 1530-1534 (2010)
39. **Experimental investigations of semi-crystalline plasma polymerized poly(3-octyl thiophene)**  
**Amarjeet Kaur**, Anju, D.K. Avasthi, A.K. Srivastava  
*Thin Solid Films (Elsevier)* **519**, 1003-06 (2010)
40. **Experimental investigations of semi-crystalline plasma polymerized polypyrrole for surface coating”**  
Anju, **Amarjeet Kaur**, D. K. Avasthi A. K. Srivastava  
*Progress in Organic Coatings (Elsevier)* **69**, 396-401 (2010)
41. **Effect of cadmium sulphide quantum dots processing and post thermal annealing on P3HT/PCBM photovoltaic device**,  
Md. Taukeer Khan, R. Bhargav, **Amarjeet Kaur**, S. Chand and S.K. Dhawan,  
*Thin Solid Films (Elsevier)* **519** 1007-1011 (2010).
42. **Effect of thickness on magnetic phase coexistence and electrical transport in  $\text{Nd}_{0.51}\text{Sr}_{0.49}\text{MnO}_3$  films”**  
R. Prasad, M. P. Singh, P. K. Siwach, **Amarjeet Kaur**, P. Fournier and H. K. Singh  
*Appl Phys A* **99**, 823 (2010)
43. **Electrical and morphological properties of poly(3-hexyl thiophene) irradiated with 100 MeV silver ions**  
Anju Dhillon, Amarjeet Kaur, D.K. Avasthi  
*Thin Solid Films (Elsevier)*, **519**, 998-1002 (2010).
44. **Enhanced ferromagnetic and metal insulator transition in  $\text{Sm}_{0.55}\text{Sr}_{0.45}\text{MnO}_3$  thin films: role of oxygen vacancy induced quenched disorder**  
M. K. Srivastava, P. K. Siwach, Amarjeet Kaur and H. K. Singh,  
*Appl. Phys. Lett. (USA)* **97**, 182503-1-3 (2010)
45. **Comparative study of transport properties of compressively strained epitaxial and polycrystalline  $\text{La}_{0.88}\text{Sr}_{0.12}\text{MnO}_3$  thin films**  
R. Prasad, M.P. Singh, W. Prellier, P.K. Siwach, R. Rawat, **Amarjeet Kaur**, and H.K. Singh,  
*Physica Status Solidi (b)*, **246**, 1662-1673

#### Conference Presentations (Last three years)

- a. List of invited as resources persons in(plase enclosed list) Workshops/Seminars/ Confrenences organized by external professional agencies
1. **Journey Of Conducting Polymers : From Discovery To Their Applications**  
August 4, 2017, Amity University, NOIDA, UP
  2. **A brief review of Conducting Polymers and their Applications**  
January 29, 2016 Dayalbagh Ed. Institute, Agra, UP
  3. **Conducting Polymers And Their Applications** August 4, 2017 Amity University, NOIDA



- 4 **Organic Semiconductors And Their Application In Solar Cells** , I “*Innovation Conclave on Innovations and its application in Science, Technology and Management [ INCON-2014*” Lingaya University, Old Faridabad, Haryana, February 13, 2014
- 5 **Conducting Polymers and their Applications** *Refresher Course* in Jamia Millia Islamia November 26, 2013
- 3 List of participation in external Workshops/Seminars/Conferences recognized by national / interanational professional bodies?
1. **Role of Chalcogenide Quantum Dots in Enhancing Photovoltaic Performance Of Organic Solar Cells**  
**National Conference on Chemistry of Chalcogens and its Nanotechnology (NC<sup>3</sup>-2017)** Department of Applied Chemistry, Defence Institute of Advanced Technology (DIAT), Pune , January 12- 13, 2017.
2. **Role of ZnX (X=S, Se, Te) for Enhancing Photoconductivity of Poly(3-hexyl thiophene) (P3HT) in Photovoltaic Devices.**  
**The International Conference on Science and Technology of Synthetic Metals in 2016 (ICSM2016)** , Guangzhou Convention Center, Guangzhou , China , June 26 – July 1, 2016
3. **Conduction Mechanism In Poly(3-Hexyl Thiophene-Cadmium Telluride)-An Active Transport Layer in Bulk Heterojunction Organic Photovoltaic Devices** In *Advances in Polymer Science and Technology*” (POLY-2016) , JNU New Delhi during March 9-10, 2016.
- 4 **Harnessing Solar Energy From Materials Other Than Silicon : Current Status And Challenges To Achieve Ultimate Goal***International Conference on Advance Material Challenges for Alternative Energy Solutions(AMAES2013)* Park Hotel New Delhi , December 18-19, 2015
5. **ORGANIC SOLAR CELLS FUTURE ENERGY DEVICES** in **National Seminar on Organic Solar Cells”** at Banasthali University, Rajasthan August 30,-31 2015.
- 6 **Quantum Dots Based Organic Solar Cells How Far And How Near From Reality**  
 International Conference on Nanostructured materials and Nanocomposites (ICNM 2015) Hindustan College of Science and technology, Mathura, India December 12 -14, 2015
- 7 **CHARGE TRANSPORT AND APPLICATIONS OF POLYPYRROLE NANOSTRUCTURES** in **National Conference/Workshop on Synthesis, Characterization and Application of Advanced Nanomaterials (NCSCAAN-2014)** , held at Hindustan College of Science and technology, Mathura, India January 16-18 2014
- 8 **Transport Properties of Polypyrrole nanostructures prepared by surfactant directed approach**  
*National Conference on In Low Dimensional Systems: Experiment and Simulation (TransLES-2014)*, IAST, Guwahati , December 11-13, 2014
- 9 **Organic Solar Cells How Near and How far from Reality**  
**Amarjeet Kaur**  
*International Conference on Advance Material Challenges for Alternative Energy Solutions(AMAES2013)*  
 Panelist in Podium **Discussion Material Challenges for Energy Solutions: Where are the low hanging fruits** (AMAES2013), Park Hotel, September 15-17, 2013
- 10 **Investigation of Gas Sensing Mechanism in Polypyrrole Nanostructures through Raman Spectroscopy**  
**Amarjeet Kaur** and Ishpal  
 19<sup>th</sup> European Symposium on Polymer Spectroscopy (ESOPS), Institute of Macromolecular Chemistry, Prague, Czech Republic July 10-14, 2013.
- 11 **Gas sensing response of nanostructures of polypyrrole**  
**Amarjeet Kaur**, *International Confernce on Chemistry and Materials: Prospects and Perspectives-2012 (ICCMPP-2012)*, B.R. Ambedkar University (Central University) Lucknow, UP December 14-16, 2012



- 12     **Donor-Acceptor nanoparticles interactions in the organic solar cell devices**  
*Progress in Applied Surface, Interface, and Thin Film Science – Solar Renewable Energy News III*  
*(SURFINT-SREN III, Florence, Italy, May 14-18, 2012. Chaired one session*

**In the Institutes Abroad**

1.     **Charge Transport Properties In Organic/Inorganic Hybrid Systems In Organic Photovoltaic Devices Devices**  
**Amarjeet Kaur** *MaxPlanck Institute for Polymer Research, Mainz, Germany, May 24, 2012*
2.     **Charge Transport In Organic/Inorganic Hybrid Systems In Organic Solar Cell Devices**  
**Amarjeet Kaur**, *Instituto Nazionale Fisica Nucleare (INFN)-National Institute for Nuclear Physics – Legnaro National laboratories, Padua, Italy, May 18, 2012*

Other presentations in conferences (O/P) by self/ groupmembers

- **Polyaniline-Silver core-shell nanocomposite as an energy efficient rapid hydrazine chemiresistors**  
Vishal Chaudhary, **AmarjeetKaur**  
*NPL-RSC symposium on advanced materials for energy held at NPL, Delhi on 7<sup>th</sup> October, 2016.*
- **Performance of NiO-rGO based electrodes with proton conducting PVA based gel electrolyte for supercapacitor applications**  
Deepika Jain, **AmarjeetKaur**  
*NPL-RSC symposium on advanced materials for energy held at NPL, Delhi on 7<sup>th</sup> October, 2016.*
- **High contrast poly(aniline-co-anisidine) with higher stability and improved Electrochromic properties**  
Monika Jamdegni and **AmarjeetKaur**  
*NPL-RSC symposium on advanced materials for energy held at NPL, Delhi on 7<sup>th</sup> October, 2016.*
- **All Solid State Supercapacitors based on NiO-rGO Electrodes with PVA-H<sub>2</sub>SO<sub>4</sub> based Gel Polymer Electrolyte**  
Deepika Jain, **AmarjeetKaur**  
*Materials and devices using soft matter: Current Status and Outlook, DAAD seminar held at University of Delhi, Delhi on 21st November, 2016.*
- **Cost effective and room temperature chemiresistive sensor based on Poly(aniline-co-anisidine) for low ppm ammonia detection**  
Monika jamdegni and **Amarjeetkaur**  
*Materials and devices using soft matter: Current Status and Outlook, DAAD seminar held at University of Delhi, Delhi on 21st November, 2016.*
- **Charge transport study of poly (aniline co-pyrrole) nanospheres based high performance sulphur dioxide chemiresistor,**  
Vishal Chaudhary, **AmarjeetKaur**  
*Materials and devices using soft matter: Current Status and Outlook, DAAD seminar held at University of Delhi, Delhi on 21st November, 2016.*
- **Smart sensors based on nanostructured conducting polymers for monitoring hazardous gases at**  
**AmarjeetKaur**, Vishal Chaudhary  
*International science fair 2016 at NPL, Delhi on 9<sup>th</sup> – 10<sup>th</sup> December, 2016.*
- **Smart sensors based on nanostructured polyaniline for monitoring sulphur dioxide**  
Vishal Chaudhary, **AmarjeetKaur**  
*International science fair 2016 at NPL, Delhi on 9<sup>th</sup> – 10<sup>th</sup> December, 2016.*
- **Redox potential assisted sensing behaviour of polyaniline nanofibres**  
**Vishal Chaudhary**, Amarjeet Kaur  
*National seminar on advances in polymer sciences and technology 2016, JNU Delhi, March 9-10, 2016.*
- **Variable Range Hopping Conduction in Multistep Reduced Graphene Oxide Samples**  
**Ramesh Kumar**, AmarjeetKaur

- National seminar on advances in polymer sciences and technology 2016, JNU Delhi, March 9-10, 2016.  
**Enhancement in pH dependent electrochemical stability of polyaniline by introducing hydrophobic effect**  
Monika Jamdegni, AmarjeetKaur
- National seminar on advances in polymer sciences and technology 2016, JNU Delhi, March 9-10, 2016.  
**Novel Cationic surfactant assisted graphene oxide polyaniline nanofibres(SGOP) composite for supercapacitor application**  
Deepika Jain, Amarjeet Kaur
- National seminar on advances in polymer sciences and technology 2016, JNU Delhi, March 9-10, 2016.  
**Synthesis of chemically assisted reduced graphene oxide nanosheets for ammonia gas sensing application**  
Deepika Jain, AmarjeetKaur
- 3rd International Conference on Nanostructured Materials and Nanocomposites (ICNM 2015), Hindustan College of Science and Technology, farah (mathura) U.P. India, December 12-14, 2015.  
**Highly stable surfactant assisted polyaniline nanostructures with enhanced electroactivity**  
Monika Jamdegni, AmarjeetKaur  
International conference on condensed matter and applied physics 2015, Govt. Engineering College, Bikaner, Rajasthan, October 30-31, 2015.
- **Study of selective and enhanced sensing response at room temperature by reduced graphene oxide based chemoresistive sensor**  
Ramesh Kumar, AmarjeetKaur  
International conference on condensed matter and applied physics 2015, Govt. Engineering College, Bikaner, Rajasthan, October 30-31, 2015.
- **Experimental facilities at university of Delhi**  
Vishal Chaudhary, AmarjeetKaur  
INUP meet, 2015, IISc, Bangalore, India, January 27-30, 2015.
- **Study of Charge Transport Mechanism in Reduced Graphene Oxide**  
Ramesh Kumar, AmarjeetKaur  
Transport Properties in Low Dimensional Systems: Experiment and Simulation, 2014, Indian Institute of Advanced studies, Guwahati, Assam, India, December, 11-13, 2014.
- **Charge transport and selective ethanol sensing behavior of Polyaniline-Ag-AgCl nanocomposite**  
Vishal Chaudhary, AmarjeetKaur  
Transport Properties in Low Dimensional Systems: Experiment and Simulation, 2014, Indian Institute of Advanced studies, Guwahati, Assam, India, December, 11-13, 2014.
- **Recent trends in nanoscience**  
Ramesh Kumar, AmarjeetKaur  
Nanoscience and Nanotechnology, 2014, University of Delhi, Delhi, India, March 14, 2014.
- **Chemiresistors based on conducting polymer nanofibres for ammonia detection (Poster)**  
Vishal Chaudhary, IshpalRawal, Amarjeetkaur  
Nanoscience and Nanotechnology, 2014, University of Delhi, Delhi, India, March 14, 2014.
- **Synthesis and Characterization of nanocomposite of PPy-SnO<sub>2</sub> for gas sensing application(Oral)**  
Ramesh Kumar, AmarjeetKaur  
NCSCAAN, 2014, Hindustan College of Science and technology, Matura, U.P, India, January 17-19, 2014.
- **Study of Electrochromic characteristics of polyaniline thin film prepared by galvanostatic method**  
Monika Jamdegni, AmarjeetKaur  
NCSCAAN, 2014, Hindustan College of Science and technology, Matura, U.P, India, January 17-19, 2014.
- **Fabrication of chemiresistor based on polyaniline nanograins for detection of nitrogen dioxide at room temperature**  
Vishal Chaudhary, Amarjeet Kaur  
NCSCAAN, 2014, Hindustan College of Science and technology, Matura, U.P, India, January 17-19, 2014.
- **PPy-SnO<sub>2</sub> for gas sensing application**  
Ramesh Kumar, AmarjeetKaur  
Workshop on frontiers of condensed matter physicist, 2013, University of Delhi, Delhi, April 12-14, 2013.
- **Enhancement in ammonia gas sensing behavior and inert environment stability of poly (py co-ani)**  
Vishal Chaudhary, Amarjeetkaur  
Workshop on frontiers of condensed matter physicist, 2013, University of Delhi, Delhi, April 12-14, 2013.
- **Growth of polypyrrole nanospheres for EMI shielding applications,**  
Amarjeet Kaur and Ishpal  
*The 2<sup>nd</sup> International Conference on Advanced Materials, Energy and*

*Environments (ICMEE' 13), Kanto Gakuin University, Yokohama, Japan, August 8-9, 2013.*

- **Spectroscopic and electrical ammonia gas sensing mechanism in oxidant mediated polypyrrole nanoparticles/nanofibers**  
Ishpal and **Amarjeet Kaur**,  
*XI<sup>th</sup> International Conference on Nanostructured materials (NANO2012) Rodos, Greece, August 26-31, 2012.*
- **Understanding of ammonia gas sensing mechanism in polypyrrole nanofibers,**  
Ishpal Rawal and Amarjeet Kaur  
*The 2<sup>nd</sup> International Conference on Advanced Materials, Energy and Environments (ICMEE' 13), Kanto Gakuin University, Yokohama, Japan, August 8-9, 2013*
- **Surfactant mediated Synthesis of polypyrrole nanoparticles for gas sensing application,**  
Ishpal and Amarjeet Kaur,  
*International conference of nanoscience and nanotechnology (NanoSciTech-2012) at Panjab University, Chandigarh February. 16-18, 2012.*

#### Research Projects (Major Grants/Research Collaboration)

Completed : Four

Running : One : DST SERB sponsored "Low Cost Energy Saving Electrochromic Devices Based on Nanostructured Conducting Polymers for Energy Storing Smart Windows"

Small Annual Projects sponsored by University of Delhi –Finished :05;

#### Research Collaboration with various institutes (Past and Present):

- University of Massachusetts, Lowell, USA
- University of Kiel, Germany
- National Physical Laboratory, New Delhi, India
- Inter University Accelerator Center, New Delhi, India

#### Awards and Distinctions

- Invited by committee of Nobel Laureates to attend Meeting with Nobel Laureates, as a guest at Lindau, Germany July 8,2009
- Recipient of BOYSCAST fellowship of Department of Science and Technology, New Delhi(pursued research in University of Massachusetts, USA in field of polymeric LEDs , in the year 2000).
- Invited by committee of Nobel Laureates to attend Meeting with Nobel Laureates in Physics at Lindau, Germany, 2001
- Recipient of the award of "VISITING ASSOCIATE of CSIR" by Council of Scientific and Industrial Research, New Delhi, India in 1998.
- Qualified UGC-CSIR joint entrance test(NET), held in December 1991
- Award of Senior Research Fellowship (September 1994)
- Award of Junior Research Fellowship (September 1992)

#### Association With Professional Bodies

- Life Member, Material Research Society of India (MRSI)
- Life Member, National Environmental Science Academy (NESA)
- Life Member of Nano and Molecular Society

#### Other Activities

*Organised Workshop on Advanced Materials for Future Energy Requirements (WAMFER 2012)* during Nov. 29-Dec.1, 2012 at University of Delhi in collaboration with Max Planck Institute for Polymer Research, Mainz, Germany

Motivate young students of various schools in Delhi for inculcating Scientific Temperament and taking Science as a career option through interactive presentations (Program run under flagship of Lindau Alumni)

Co-ordinating Summer School for undergraduate students since 2014